

General Purpose Standing Committee No. 5

Coal seam gas

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Terms of reference

That General Purpose Standing Committee No. 5 inquire into and report on the environmental, economic and social impacts of coal seam gas (CSG) activities, including exploration and commercial extraction activities, allowable under the NSW Petroleum (Onshore) Act 1991 (the Act), and in particular:

1. The environmental and health impact of CSG activities including the:
 - a. Effect on ground and surface water systems,
 - b. Effects related to the use of chemicals,
 - c. Effects related to hydraulic fracturing,
 - d. Effect on Crown Lands including travelling stock routes and State forests,
 - e. Nature and effectiveness of remediation required under the Act,
 - f. Effect on greenhouse gas and other emissions,
 - g. Relative air quality and environmental impacts compared to alternative fossil fuels.
2. The economic and social implications of CSG activities including those which affect:
 - a. Legal rights of property owners and property values,
 - b. Food security and agricultural activity,
 - c. Regional development, investment and employment, and State competitiveness,
 - d. Royalties payable to the State,
 - e. Local Government including provision of local/regional infrastructure and local planning control mechanisms.
3. The role of CSG in meeting the future energy needs of NSW including the:
 - a. Nature and extent of CSG demand and supply,
 - b. Relative whole-of-lifecycle emission intensity of CSG versus other energy sources,
 - c. Dependence of industry on CSG for non-energy needs (eg. chemical manufacture),
 - d. Installed and availability costs of CSG versus other stationary energy sources,
 - e. Proportion of NSW energy needs which should be base load or peaking supply and the extent to which CSG is needed for that purpose,
 - f. Contribution of CSG to energy security and as a transport fuel.
4. The interaction of the Act with other legislation and regulations, including the Land Acquisition (Just Terms Compensation) Act 1991.
5. The impact similar industries have had in other jurisdictions.¹

¹ *LC Minutes* No. 29 (9/8/2011) Item 8, 325.

Committee membership

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The Hon Jeremy Buckingham MLC	The Greens	<i>(Deputy Chair)</i>
The Hon Rick Colless MLC	The Nationals	
The Hon Greg Donnelly MLC	Australian Labor Party	
The Hon Scot MacDonald MLC	Liberal Party	
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Chair's foreword

I am pleased to present the Committee's report on coal seam gas, which contains 35 recommendations. I urge the Government to implement all of the Committee's recommendations.

This Inquiry received nearly 1,000 submissions and took evidence from approximately 130 witnesses. The evidence highlights a number of recurrent themes. With particular reference to property rights, there is a marked lack of equity between landholders and mining companies with regard to land access. The Committee therefore recommends that the *Petroleum (Onshore) Act 1991* be reviewed with a view to strengthening landholder rights and achieving a fair balance between the rights of landholders and coal seam gas operators. The practices of coal seam gas companies are variable at best, and on the whole have been less than acceptable. This was the case not only with regard to negotiating land access, but also with regard to community consultation.

The actions of successive NSW governments also leave room for improvement. Governments have not done enough to provide accessible and factual information about the development of the industry, which has contributed to a high level of alarm amongst communities affected by coal seam gas exploration. In addition, it is clear that the industry's development has outpaced the ability of governments to regulate it, particularly in relation to technical practices such as the storage and disposal of 'produced' water and fracking fluids. To address the concerns around fracking, the Committee recommends that the ban on fracking remain in place until the National Industrial Chemicals Notification and Assessment Scheme assesses the safety of fracking chemicals. The Government also needs to do more to monitor the industry and ensure compliance with the regulatory regime. The Committee makes a number of recommendations in this regard including the establishment of a new Industry Unit, Compliance Unit and Complaints Hotline, as well as a Petroleum Ombudsman, with the attendant requirement for more resources that would flow from these recommendations. In addition, the Committee recommends that the NSW Government implement a domestic gas reservation policy, under which a proportion of the coal seam gas produced in New South Wales would be reserved for domestic use. Such a policy could assist to contain price increases, enhance energy security, and reduce the State's dependence on coal for power generation.

On behalf of the Committee, I extend my gratitude to the people who made written submissions to the Inquiry. I also acknowledge the efforts taken by the individuals who attended the public hearings and site visits across the State. We appreciate your efforts to provide the Committee with the benefit of your knowledge, as well as to share your concerns and experiences.

In particular, I wish to thank Mr John Whitehouse, Solicitor and Fellow in Environmental Studies at Macquarie University, who briefed the Committee at the beginning of the Inquiry and gave us the benefit of his experience as an expert in mining and environmental law.

Finally, I wish to thank each of my fellow Committee members for their constructive approach to this complex Inquiry.

Hon Robert Brown MLC
Committee Chair

Summary of key issues

A key theme throughout this report is the level of uncertainty surrounding the potential impacts of the coal seam gas industry. The many unanswered questions include: will the industry threaten the quality and quantity of water resources? How dangerous is fracking? Are there other potential health and environmental impacts? Is coal seam gas a cleaner energy source than other fossil fuels? And what are the economic benefits for New South Wales?

More data needs to be gathered to assess the potential impacts of the coal seam gas industry. In order to do this, we need to allow the exploration phase to proceed. Exploration necessarily involves drilling. While exploration and drilling are of great concern to many community members, they are unavoidable if we are to assess whether it is safe for the industry to proceed to production. For example, without drilling, we cannot assess the industry's potential to contaminate or deplete water resources.

The key issues considered in this report, and the Committee's recommendations, are summarised in the following pages.

Water

A key question faced during this Inquiry was whether coal seam gas activities could contaminate or deplete water resources. The scientific evidence on this question is contested. The Committee considers that the uncertainty about the likelihood of these impacts occurring underscores the need for more data to be gathered and analysed in regions where exploration is taking place. To this end the NSW Government should actively engage with the Commonwealth's Independent Expert Scientific Committee, and request that regional-scale water assessments be finalised as a matter of urgency in regions where exploration is taking place (Recommendation 1). In addition, some of the data needed to assess cumulative water impacts is held by coal seam gas companies and is considered by some coal seam gas companies to be commercial in confidence. Gaining access to this data should be a priority for the Commonwealth's Independent Expert Scientific Committee (see also Recommendation 1).

Fracking

Inquiry participants expressed particular concerns about fracking and its potential to heighten the risks of water contamination and depletion. It would be premature for the Government to lift its moratorium on fracking before the chemicals used are tested, and a stringent regulatory framework is put in place. The Committee recommends that the moratorium on fracking remain in place until the National Industrial Chemicals Notification and Assessment Scheme concludes its assessment and the NSW Government considers any findings (Recommendation 9). The Committee is also concerned that any leaks or spills of fracking fluids or produced water could contaminate water resources. The Committee therefore recommends that the open storage of fracking fluids and produced water be banned (Recommendations 8 and 10).

Remediation

Coal seam gas companies must be held accountable for remediation in the event of deleterious environmental impacts. The Committee recommends that an effective model be developed to hold coal seam gas companies to account for the full costs of remediating any potential environmental impacts, such as water contamination or depletion, even if such impacts occur decades into the future (Recommendation 11). The Committee also suggests that the Government consider expanding the

monitoring of decommissioned wells, such as by conducting inspections at intervals of five years up to 20 years (Recommendation 7).

Community engagement

A number of Inquiry participants, and key stakeholders such as local councils and indigenous communities, are disgruntled about the lack of genuine community engagement in relation to the coal seam gas industry in New South Wales. In many instances community consultation appears to have been inconsistent, poorly timed and restrictive. As one means to improve its engagement with regional communities, the Committee recommends that the NSW Government establish regional 'shop fronts' (Recommendation 13). The 'shop fronts' should be staffed by Government officers who would educate landholders on their rights and responsibilities when dealing with coal seam gas operators (Recommendation 20), as well as regionally-based compliance officers (Recommendation 33).

Land access and compensation

Many Inquiry participants are concerned that coal seam gas companies will take an aggressive approach to enforcing their access rights. Despite evidence to the contrary from several coal seam gas companies, the Committee cannot dismiss the evidence that some operators have attempted to pressure landholders for access, nor the possibility that companies may force access in the future. As such, the Committee believes that the *Petroleum (Onshore) Act 1991* must to be reviewed with a view to strengthening landholder rights (Recommendation 16).

Many Inquiry participants expressed concern about the access agreements that landholders must sign before any exploration activity can be undertaken. An important step forward in redressing the unequal bargaining positions of landholders and licence holders, is for the Government to lead the development of a template access agreement to cover both the exploration and production phases (Recommendations 17 and 18). Landholders should also be given the opportunity to seek legal advice on access agreements and be reimbursed for reasonable costs of seeking this advice (Recommendation 19). In addition, if a landholder is required, or requests, to engage in arbitration over access, the reasonable costs of this process should be reimbursed by the relevant coal seam gas company (Recommendation 21).

There appears to be limited guidance for landholders when determining appropriate compensation for hosting coal seam gas activities on their properties. The Committee therefore recommends that the template access agreement for exploration and production take a default position whereby the landholder be compensated in the sum of \$5,000 per well head per annum (Recommendation 22).

Agriculture

Numerous Inquiry participants said that coal seam gas development cannot coexist with agriculture and food production in many areas across the State, and called for 'no go' zones to be established. However other Inquiry participants, such as the NSW Government, called for 'balanced coexistence' between resource development, agricultural production and environmental protection. To achieve 'balanced coexistence' the Government has developed Strategic Regional Land Use Plans. The Committee is concerned that only two Plans have been completed to date, and recommends that the development of the remaining Plans, including for coastal areas, be expedited (Recommendation 24).

Economic benefits

The evidence on the economic benefits of the coal seam gas industry is contested. Some Inquiry participants suggested that the coal seam gas industry could deliver thousands of new jobs and billions of dollars in investment to regional areas, and generate billions of dollars in royalties. However, other Inquiry participants countered that the industry's economic benefits have been overstated. In order to maximise the industry's economic benefits for New South Wales, the Committee recommends that the five-year royalty holiday for coal seam gas production should be abolished (Recommendation 27), and regional areas where most coal seam gas activity is occurring should have a greater share of royalties (Recommendation 28).

Energy security, prices and greenhouse gas emissions

Opinions differed on the potential for coal seam gas to provide a cheap, secure and relatively clean energy source. To ensure that any coal seam gas development in the State assists in containing price increases and enhancing energy security, the Committee recommends that a portion of the coal seam gas produced in New South Wales be reserved for domestic use (Recommendation 29).

The evidence on the greenhouse gas emissions of coal seam gas is also contested, particularly when fugitive emissions are taken into account. While it is impossible to reach a definitive conclusion, the Committee considers that *at worst* the greenhouse gas emissions of energy produced from coal seam gas are likely to be equal to those from coal. The Committee believes that the dispute around greenhouse gas emissions should not prevent the development of the industry in New South Wales.

Breaches of environmental regulations

A number of Inquiry participants alleged environmental pollution by coal seam gas companies. While the Committee is mindful that many of these allegations are anecdotal and unproven, they are nevertheless alarming. It has been revealed that a previously-dismissed concern, namely the pollution of the Pilliga Forest by Eastern Star Gas, was ultimately proven correct. The Committee considers it inexcusable that this pollution went undetected by NSW Government authorities. Given this example of the NSW Government's failure to adequately police the industry, the Committee is sceptical that all coal seam gas companies are meeting their licence conditions, particularly given the large geographic area in which exploration activity is occurring.

Regulation

Inquiry participants identified a number of claimed deficiencies in the regulatory regime including fragmentation across government agencies, inadequate monitoring and enforcement, ineffective complaints handling, and insufficient resourcing. In addition, there is a potential conflict of interest in the role played by the Department of Trade and Investment, Regional Infrastructure and Services (DTIRIS). To address these deficiencies, the Committee has therefore made several recommendations, drawing on Queensland's experience of regulating the coal seam gas industry.

The Committee recommends that a new Industry Unit be established within the Division of Resources and Energy, DTIRIS (Recommendation 32). The Unit should function as a 'one-stop-shop' on coal seam gas issues responsible for issuing licences, driving policy development and acting as a 'knowledge bank' within Government. In addition, a new Compliance Unit should be established in the Environment Protection Authority with responsibility for monitoring coal seam gas activities, investigating incidents, and taking enforcement action where required (Recommendation 33). The Unit

should be staffed by specialist officers including hydrogeologists and geologists. The establishment of a Compliance Unit would address the potential conflict of interest in the role of DTIRIS by removing the monitoring, enforcement and complaints functions. A dedicated Complaints Hotline should also be established to answer calls from community members seeking to report concerns, and refer complaints to the Compliance Unit for possible investigation and enforcement action if necessary (Recommendation 34). In addition, a Petroleum Ombudsman should be established to oversee the industry, which could potentially improve community confidence in the industry (Recommendation 31).

Moratorium on production approvals

The Committee believes that New South Wales has a unique opportunity to get things right before allowing the industry to develop further. Because the coal seam gas industry is in its infancy in New South Wales, an effective regulatory regime can be implemented before the industry is allowed to proceed to full-scale production. The Committee recommends that no further production approvals are issued until the deficiencies in the regulatory framework are addressed and a comprehensive, effective and transparent regulatory regime is put in place (Recommendation 35).

Summary of recommendations

- Recommendation 1** **27**
That the NSW Government request the Commonwealth Government’s Independent Expert Scientific Committee to:
- work closely with the coal seam gas industry to overcome barriers to data-sharing, and
 - fund the conduct of regional-scale water assessments in New South Wales and the development of models of cumulative water impacts as a matter of priority.
- Recommendation 2** **27**
That the NSW Government consider tightening the *Draft Code of Practice for Coal Seam Gas Exploration* so that the suggested measures around water testing and monitoring, including documenting existing water bores, drilling monitoring bores, regularly monitoring water impacts and paying for independent water testing, are *required* rather than *optional*.
- Recommendation 3** **28**
That the NSW Government amend the *Draft Code of Practice for Coal Seam Gas Exploration* to require information on baseline data to be made publically available.
- Recommendation 4** **60**
That the NSW Government progress as a priority the project being undertaken by the Office of Water to assess the potential volume of produced water from the coal seam gas industry.
- Recommendation 5** **60**
That the NSW Government not approve any coal seam gas activity without a solid waste management plan included in the relevant approval.
- Recommendation 6** **62**
That the NSW Government ensure that aquifer interference requirements are introduced for any wells drilled into coal seams, including exploration wells.
- Recommendation 7** **63**
That the NSW Government consider expanding the monitoring of decommissioned wells. This could extend to inspections at intervals of five years up to twenty years.
- Recommendation 8** **63**
That the NSW Government ban the open storage of produced water.
- Recommendation 9** **76**
That the NSW Government continue the current ban on fracking until the National Industrial Chemicals Notification and Assessment Scheme assesses fracking chemicals for their intended use and toxicity according to international standards, and the NSW Government considers any findings of this assessment.
- Recommendation 10** **76**
That the NSW Government ban the open storage of fracking fluids, and require coal seam gas companies to store fracking fluids securely prior to treatment and disposal.

- Recommendation 11** 87
That the NSW Government develop an effective model to ensure that coal seam gas companies are held responsible for covering the full costs of remediating any environmental impacts, particularly any long-term environmental damage.
- Recommendation 12** 91
That the NSW Government require, in the preparation of a Review of Environmental Factors, referral to the Office of Environment and Heritage.
- Recommendation 13** 127
That the NSW Government establish ‘shop fronts’ to provide information and advice in the regions most affected by coal seam gas development.
- Recommendation 14** 128
That the NSW Government require the Department of Trade and Investment, Regional Infrastructure and Services to notify relevant local councils as soon as a petroleum exploration licence application is made over their local government areas.
- Recommendation 15** 128
That the NSW Government implement the community consultation process as outlined in the *Draft Code of Practice for Coal Seam Gas Exploration* at the point of exploration licence application and on renewal.
- Recommendation 16** 137
That the NSW Government review the *Petroleum (Onshore) Act 1991* with a view to strengthening landholder rights and achieving a fair balance between the rights of landholders and coal seam gas operators in relation to land access, and considering harmonisation with the *Mining Act 1992* if possible.
- Recommendation 17** 145
That the NSW Government amend the *Petroleum (Onshore) Act 1991* to require a licence holder to enter into an access agreement with a landholder for coal seam gas production.
- Recommendation 18** 146
That the NSW Government lead the development of a template access agreement in conjunction with the NSW Farmers’ Association and the Australian Petroleum Production and Exploration Association, as a matter of priority. The template access agreement should:
- be comprehensive and cover both the exploration and production of coal seam gas, and
 - include a clear statement about the right of landholders to seek legal advice.
- Recommendation 19** 146
That the NSW Government require coal seam gas operators to reimburse landholders for reasonable legal costs incurred in the review of an access agreement.
- Recommendation 20** 146
That the NSW Government recruit officers to inform landholders of their rights and responsibilities when dealing with coal seam gas companies and locate these officers in regional ‘shop fronts’.

- Recommendation 21** 149
That the NSW Government require coal seam gas companies to reimburse landholders for the reasonable costs of arbitration to resolve disputes about access agreements.
- Recommendation 22** 155
That the NSW Government ensure that the template access agreement for exploration and production take a default position whereby the landholder be compensated in the sum of \$5,000 per well head per annum.
- Recommendation 23** 170
That the NSW Government require an Agricultural Impact Statement to be prepared for all exploration licence applications.
- Recommendation 24** 171
That the NSW Government expedite the development of the remaining strategic regional land use plans for the Central West, Southern Highlands, Murrumbidgee, Alpine, Western and coastal regions.
- Recommendation 25** 182
That the NSW Government prepare and publish projections of the employment opportunities that could be created by the coal seam gas industry in regional areas.
- Recommendation 26** 187
That the NSW Government continue to publish forward estimates of the royalties expected to be paid by the coal seam gas industry.
- Recommendation 27** 188
That should the coal seam gas industry proceed in New South Wales, the NSW Government should require coal seam gas companies to pay the full royalty rate from the first date of production under a petroleum title, and that coal seam gas companies be advised of this at the time of their exploration licence application or renewal.
- Recommendation 28** 188
That should the coal seam gas industry proceed in New South Wales, the NSW Government should collaborate with the Local Government and Shires Associations of NSW to develop a 'Royalties for Regions' program similar to that operating in Western Australia.
- Recommendation 29** 194
That should the coal seam gas industry proceed in New South Wales, the NSW Government should implement a domestic gas reservation policy, under which a proportion of the coal seam gas produced in New South Wales would be reserved for domestic use, similar to the policy in Western Australia.
- Recommendation 30** 203
That the NSW Government include in all conditions of consent a requirement for petroleum production to minimise fugitive emissions and to comply with an upper limit of 0.1 per cent fugitive emissions.
- Recommendation 31** 221
That the NSW Government establish a position for a Petroleum Ombudsman.

Recommendation 32**221**

That the NSW Government establish an Industry Unit within the Division of Resources and Energy in the Department of Trade and Investment, Regional Infrastructure and Services to provide a coordinated response to coal seam gas developments in New South Wales. The Unit should:

- issue licences for coal seam gas development,
- drive policy development on the coal seam gas industry, and
- provide a repository of knowledge within Government about coal seam gas issues.

Recommendation 33**222**

That the NSW Government establish a Compliance Unit within the Environment Protection Authority. The Unit should:

- undertake regular monitoring of coal seam gas operations,
- address community complaints, investigate incidents and take enforcement action where required, and
- be comprised of specialist compliance officers, as many of whom as possible should be located in regional 'shop fronts'.

Recommendation 34**222**

That the NSW Government establish a dedicated Complaints Hotline within the Compliance Unit. The Hotline should:

- answer calls from community members seeking to report concerns about potential environmental pollution or the behaviour of coal seam gas companies, and
- refer complaints to the Compliance Unit for investigation and possible action.

Recommendation 35**223**

That the NSW Government issue no further production licences until a comprehensive framework for the regulation of the coal seam gas industry is implemented.

Chapter 1 Introduction

This Chapter provides an overview of the inquiry process, including the methods the Committee used to facilitate participation by members of the public, government agencies and relevant organisations. It also includes a brief outline of the report structure.

Conduct of the Inquiry

Terms of reference

- 1.1 The Inquiry's terms of reference were adopted on 5 August 2011 under the Committee's power to make a self-reference.
- 1.2 The terms of reference required the Committee to examine the environmental, health, economic and social impacts of coal seam gas activities, as well as the role of coal seam gas in meeting the future energy needs of New South Wales.
- 1.3 Issues for consideration included the impact of coal seam gas activities on ground and surface water systems, greenhouse gas and other emissions, air quality, food security and agricultural activity. Regulatory issues were also considered, including the legal rights of property owners, and the capacity of current legislation, notably the *Petroleum (Onshore) Act 1991*, to provide adequate regulation for the coal seam gas industry.
- 1.4 The terms of reference are reproduced in full on page iv.

Submissions

- 1.5 The Committee invited submissions by advertising in the *Sydney Morning Herald*, the *Daily Telegraph* and the *Newcastle Herald* on 10 August 2011, and *The Land* on 11 August 2011. The Committee also advertised in regional publications including the *Southern Highlands News*, the *Illawarra Mercury*, the *Hunter Valley Town and Country Magazine*, the *Byron Echo*, the *Casino Richmond River Express*, the *Lismore Northern Star* and the *Country Leader Magazine*. A media release announcing the Inquiry was also sent to all New South Wales media outlets. In addition the Committee wrote to key stakeholders inviting them to make a submission to the Inquiry. The closing date for submissions was 7 September 2011, but the Committee continued to accept submissions after this date.
- 1.6 The Committee received a total of 911 submissions and 29 supplementary submissions from a range of stakeholders including the State and local governments, community and environmental groups, the coal seam gas industry, farmers and other landholders. The Committee received hundreds of submissions from individuals, a good majority of who were concerned about the impact of coal seam gas on their communities, and their health and wellbeing.
- 1.7 A list of submissions is available at Appendix 1.

Proformas

- 1.8** The Committee received 184 identical statements from individuals. While each of the five proformas used differed in content, all relayed concerns about the development of the coal seam gas industry and its impact.
- 1.9** A list of people who sent pro-forma submissions is available at Appendix 2.

Hearings

- 1.10** The Committee held seven public hearings. Hearings were held at Parliament House on 17 November 2011, 8 December 2011 and 12 December 2011. Other hearings were held at Alstonville on 21 September 2011, Taree on 31 October 2011, Narrabri on 16 November 2011 and Mittagong on 9 December 2011.
- 1.11** The Committee heard evidence from a range of interested people and organisations, including the NSW Government, several local councils, various community groups, industry associations, coal seam gas companies, and many landholders and local residents.
- 1.12** A list of witnesses who appeared at hearings is available at Appendix 3. Transcripts of the hearings are available on the Committee's website www.parliament.nsw.gov.au/gpsc5.
- 1.13** The Committee is grateful to the hundreds of individuals and organisations that participated in the Inquiry and who provided such valuable evidence to the Committee.

Site visits

- 1.14** On 20 September 2011 the Committee travelled to Chinchilla, Queensland. During this visit, the Committee took an aerial tour of coal seam gas fields and inspected a coal seam gas development operated by the Queensland Gas Company. The Committee also met with Chinchilla residents affected by coal seam gas development.
- 1.15** On 21 September 2011 the Committee travelled to Casino and met representatives from Metgasco who accompanied Committee members on an inspection of a well site. From Casino the Committee travelled to Kyogle and attended a morning tea with concerned local residents organised by the Group Against Gas Kyogle.
- 1.16** Prior to the public hearing in Taree on 31 October 2011, the Committee hosted a morning tea attended by several community organisations that are opposed to coal seam gas activity on the Mid North Coast and in the Gloucester Valley.
- 1.17** On 15 November 2011 the Committee travelled to Gunnedah and visited the Santos Kahlua pilot site, located North West of Gunnedah. Following this, the Committee flew to Narrabri and undertook an aerial tour of the Eastern Star Gas operations in the Pilliga Forest.
- 1.18** On 9 December 2011, the Committee travelled to the Camden gas field with representatives from AGL Energy. The Committee was shown examples of coal seam gas development coexisting alongside the farming industry and housing development.

- 1.19 The Committee would like to thank the organisations and individuals who contributed to the success of these visits.

Briefings

- 1.20 On 7 October 2011 Mr John Whitehouse, Solicitor and Fellow in Environmental Studies at Macquarie University and expert in mining and environmental law, provided a briefing to the Committee on the legislative and regulatory framework applying to the coal seam gas industry.
- 1.21 On 15 October 2011 the Committee received a briefing from two Narrabri landholders, Mr Owen Lane and Mr Peter Gett, who described their personal experience of having an access agreement enabling coal seam gas development to take place on their land.
- 1.22 Transcripts of both briefings are available on the Committee's website www.parliament.nsw.gov.au/gpsc5

Key stakeholders

- 1.23 A number of key stakeholder groups have emerged as the coal seam gas industry has developed within New South Wales.
- 1.24 As a principal stakeholder the NSW Government is responsible for regulating the coal seam gas industry. Several agencies are directly involved in providing regulation, planning, environment protection, energy and investment, including: Department of Planning and Infrastructure, Department of Trade and Investment, Regional Infrastructure and Services (including the Department of Primary Industries and the Division of Resources and Energy) and the Office of Environment and Heritage.
- 1.25 The local government sector was represented during the inquiry by the Local Government and Shires Associations of NSW, the peak bodies for local government within New South Wales. The Associations represent 152 general-purpose councils, the special-purpose county councils and the regions of the NSW Aboriginal Land Council. In addition several regional councils who have experienced the presence of the coal seam gas industry presented the views of their local community.
- 1.26 There are five major gas companies that have been involved in the exploration or production of coal seam gas in New South Wales: Metgasco, Eastern Star Gas, Dart Energy Limited, AGL Energy Limited and Santos. The Committee received evidence from these companies and the peak national body representing the oil and gas exploration and production industry, the Australian Petroleum Production and Exploration Association (APPEA).
- 1.27 Several community groups provided submissions to the Committee and attended hearings as witnesses or members of the public gallery. Those who made formal representations included: Stop Coal Seam Gas (Sydney and Illawarra), Lock the Gate Alliance, Richmond Wilson Combined Water Users' Association, Scenic Hills Association, Keerong Gas Squad, Barrington-Gloucester-Stroud Preservation Alliance, Group Against Gas Kyogle and Friends of the Pilliga. In addition, the Committee received submissions from several recognised environmental groups.

- 1.28** The farming community was also mobilised by the emergence of the coal seam gas industry and the Committee received submissions from many individual landholders. The NSW Farmers' Association, the state farming organisation representing the interests of commercial farmers in New South Wales, also provided evidence, along with the Country Women's Association of New South Wales.

Report structure

- 1.29** Chapter 2 provides an overview of what coal seam gas is, what it can be used for, where it is found and how it is extracted. The regulatory framework for the exploration and extraction of coal seam gas is also briefly outlined, along with a summary of recent government announcements.
- 1.30** Chapter 3 examines the scientific evidence considered by the Committee in their efforts to determine whether coal seam gas development could jeopardise the quality and quantity of our water resources. The Chapter highlights the need for further investigation to enable fully informed decisions to be made on future of the coal seam gas industry.
- 1.31** Chapter 4 continues to examine water related concerns including the interconnectivity of aquifers, well integrity, depletion of water resources and the proper disposal of produced water and solid waste.
- 1.32** Chapter 5 addresses hydraulic fracturing (fracking) a technique that has caused great concern in the community, particularly in relation to the chemicals used in fracking fluids and the impact these may have on the health of humans and livestock.
- 1.33** Chapter 6 explores the potential impacts of coal seam gas activities on the natural environment, including placement of infrastructure and wells on crown lands. The Chapter raises the concerns of Inquiry participants about the adequacy of the approvals process, including the environmental assessment of coal seam gas projects.
- 1.34** Chapter 7 outlines the views of the community around the coal seam gas industry. This Chapter explores some of the reasons for these concerns but also outlines the views of those that support the development of the coal seam gas industry.
- 1.35** Chapter 8 discusses the level of engagement the coal seam gas industry has had with the community and suggests methods the industry could adopt to improve consultation with the community and other key stakeholders, including local government and indigenous communities.
- 1.36** Chapter 9 considers the legal rights of landholders, including the Government's authority to approve prospecting on their land, and the development of access agreements with coal seam gas operators. Other landholder issues are also discussed including compensation, the process of arbitration, and the impact of coal seam gas development on property values.
- 1.37** Chapter 10 examines the potential consequences of coal seam gas development on agriculture and food production. The Chapter looks at the feasibility of the coal seam gas industry coexisting alongside the agricultural industry. It also explores the practicality of implementing 'no go' zones that are off limit to the coal seam gas industry.

- 1.38** Chapter 11 explores the significance of the predicted economic benefits provided by the coal seam gas industry in New South Wales, particularly its job creation potential in regional areas. The Chapter also examines the current scheme of providing royalties to the State.
- 1.39** Chapter 12 considers the role of coal seam gas in meeting our energy needs into the future while maintaining energy affordability. This Chapter also examines the claims of industry proponents that coal seam gas is a clean green energy source that is capable of decreasing greenhouse gas emissions.
- 1.40** The final Chapter, Chapter 13, examines various regulatory issues including the robustness of the regulatory framework and the adequacy of monitoring, compliance and complaints measures.

Chapter 2 Background

This Chapter provides background information on coal seam gas, including what it is, where it is located and how it is extracted. The Chapter also includes a brief overview of the regulatory framework for the exploration and extraction of coal seam gas.

What is coal seam gas?

- 2.1** Coal seam gas, also referred to as coal seam methane or coal bed methane, is an unconventional natural gas that occurs naturally within the pores or fractures of coal seams.² Coal seams can be found at depths ranging from 300 to 1,000 metres.³ While coal seam gas is generally at least 95 percent methane,⁴ it can also contain other gases including carbon dioxide, carbon monoxide, nitrogen, and other hydrocarbons other than methane (for example, ethane, propane and butane).⁵ Coal seam gas is used for industrial and domestic uses, as well as in gas turbines to generate electricity.⁶
- 2.2** The main difference between conventional or unconventional gas is the geology of the reservoirs from which they are extracted. Conventional gas is obtained from underground reservoirs, largely comprised of porous sandstone, and can be released through a well without the need to pump.⁷ Unconventional gas, including coal seam gas, shale gas and tight gas, is contained in complex geological systems that limit the migration of the gas without technological intervention.⁸
- 2.3** When coal seam gas is discovered, the scale, quantity and recoverability of the resource is estimated and categorised based on the level of certainty associated with its recovery.⁹ In August 2011, Australia's proved and probable (2P) coal seam gas reserves were estimated to be 38,000 PJ of which 2,910 PJ are located in New South Wales.¹⁰

² CSIRO, *What is coal seam gas?*, 2 November 2011, accessed 29 February 2012, <www.csiro.au/news/coal-seam-gas>

³ CSIRO *What is coal seam gas?*, 2 November 2011, accessed 29 February 2012, <www.csiro.au/news/coal-seam-gas>

⁴ CSIRO *What is coal seam gas?*, 2 November 2011, accessed 29 February 2012, <www.csiro.au/news/coal-seam-gas>

⁵ Parliament of Australia, *The development of Australia's coal seam gas resources*, Parliamentary Library Background Note, 28 July 2011, p 1.

⁶ Parliament of Australia, *The development of Australia's coal seam gas resources*, Parliamentary Library Background Note, 28 July 2011, p 1.

⁷ CSIRO *What is coal seam gas?*, 2 November 2011, accessed 26 March 2012, <www.csiro.au/news/coal-seam-gas>

⁸ CSIRO *What is coal seam gas?*, 2 November 2011, accessed 29 February 2012, <www.csiro.au/news/coal-seam-gas>

⁹ Society of Petroleum Engineers, *SPE Petroleum Resources Management System Guide for Non-Technical Users*, accessed 26 March 2012, <www.spe.org/industry/docs/PRMS_guide_non_tech.pdf>

¹⁰ Australian Competition and Consumer Commission, *State of the Energy Market 2011*, 9 December 2011, p 77-79.

2.4 Coal seam gas production is relatively new in Australia and the first coal seam gas was produced commercially in Queensland in 1996.¹¹ The rate of growth of coal seam gas production is expected to increase substantially in the coming years.

How is coal seam gas extracted?

2.5 Coal seam gas is held in place within coal seams by water pressure. To release the gas, the water must be extracted by drilling a well that reaches down into the coal seam, reducing the pressure and allowing the gas to flow.¹² The gas is then processed to remove water and piped to compression plants for injection into gas transmission pipelines.¹³ Once operational, a coal seam gas well may produce gas for between 10 to 20 years.¹⁴

2.6 Individual wells can take from three days to three weeks to set up, drill and complete. The time required will vary, depending on well depth, the geology of the area and the rig used.¹⁵ Drilling for petroleum is not a new technology, with the first exploratory oil well drilled in Australia over 150 years ago.¹⁶

2.7 Coal seam gas wells are lined with two layers of steel casing and cement is pumped between the layers.¹⁷ A well is designed to isolate aquifers¹⁸ and prevent water and gas from moving from one sub-strata to another.¹⁹ The following diagram illustrates a basic coal seam gas well²⁰:

¹¹ Geoscience Australia, Australian Mines Atlas, accessed 1 March 2012, <www.australianminesatlas.gov.au/education/fact_sheets/coal_seam_gas.html>.

¹² CSIRO, *What is coal seam gas?*, accessed 29 February 2012, <www.csiro.au/news/coal-seam-gas>

¹³ Australian Petroleum Production and Exploration Association (APPEA) *Coal Seam Gas – industry introduction*, accessed 1 March 2012, <www.appea.com.au/csg/industry-facts/fact-sheets/969-csg-industry.html>

¹⁴ APPEA, *Coal Seam Gas – industry introduction*, accessed 1 March 2012, <www.appea.com.au/csg/industry-facts/fact-sheets/969-csg-industry.html>.

¹⁵ APPEA, *Coal Seam Gas – industry introduction*, accessed, 1 March 2012, <www.appea.com.au>

¹⁶ <www.appea.com.au/oil-a-gas-in-australia/history/1800-1958.html> (accessed 12 April 2012)

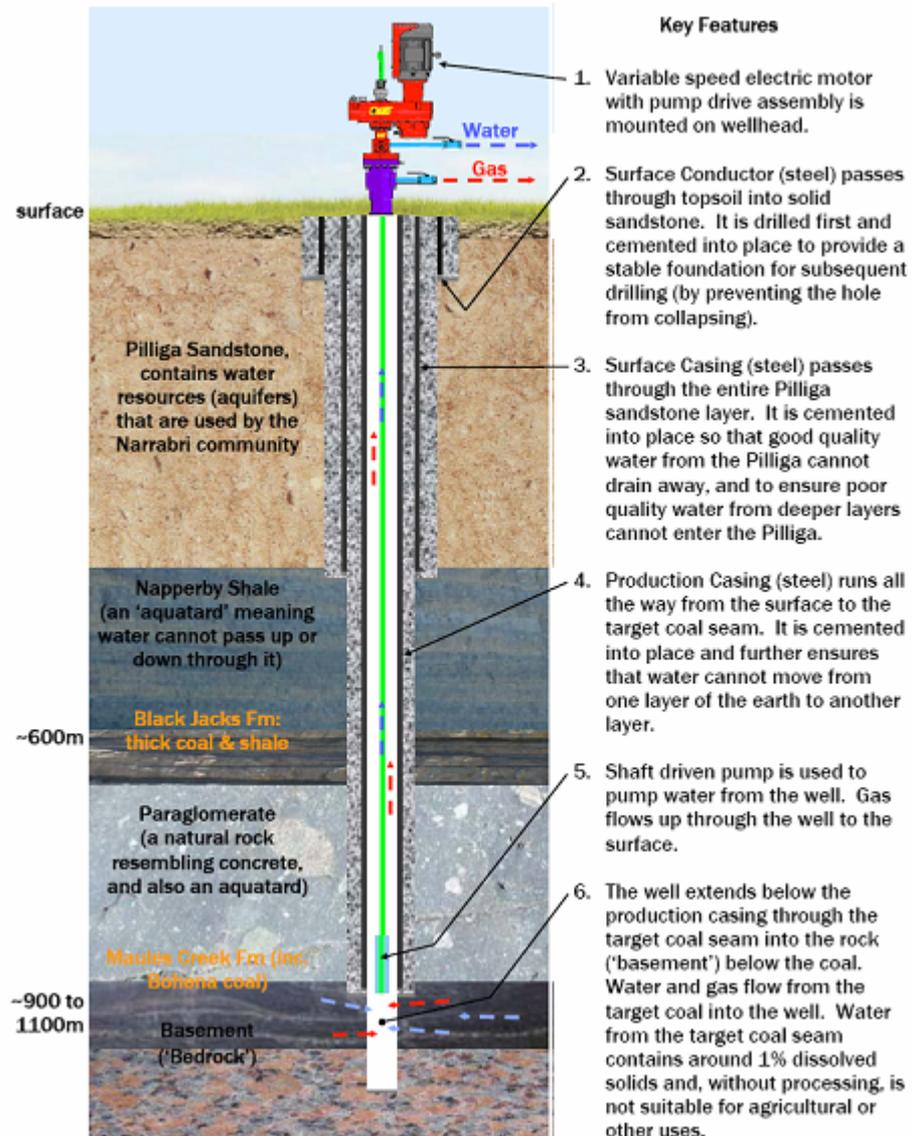
¹⁷ NSW Government, *Draft Code of Practice for Coal Seam Gas (CSG) Exploration*, March 2012, p 15.

¹⁸ NSW Government, *Draft NSW Aquifer Interference Policy – Stage 1*, March 2012. Note: The Draft Policy defines an aquifer as a geological structure or formation, or an artificial landfill that is permeated with water or is capable of being permeated with water.

¹⁹ APPEA, *Coal Seam Gas – industry introduction*, accessed 1 March 2012, <www.appea.com.au>

²⁰ Submission 447, Australian Petroleum Production and Exploration Association (APPEA), p 3.

Figure 1 Basic schematic of a coal seam gas well



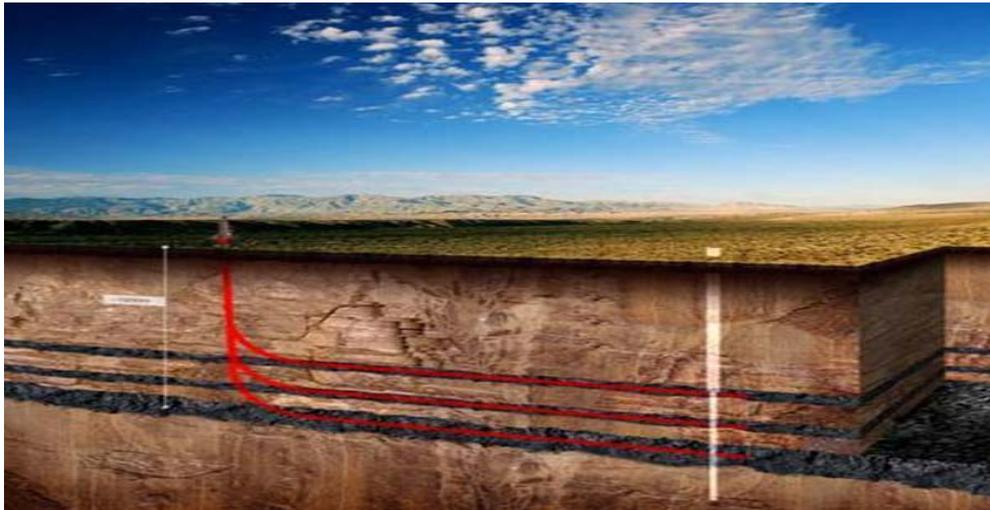
2.8 Different drilling techniques are used to extract coal seam gas, depending on the geological setting of the coal seams as well as the ease of the gas flow.²¹ The technique of hydraulic fracturing (fracking) may be used to increase the permeability of a coal seam and improve gas flow. This process involves high pressure injection of a sand/water slurry, which may include chemicals, into the coal seams to fracture the seam and hold the fractures open, enabling the gas to be released.²²

²¹ Parliament of Australia, *The development of Australia's coal seam gas resources*, Parliamentary Library Background Note, 28 July 2011, p 2.

²² Parliament of Australia, *The development of Australia's coal seam gas resources*, Parliamentary Library Background Note, 28 July 2011, p 2.

2.9 Another method used to extract coal seam gas is multi-lateral, in-seam drilling. This technique can be used to target several coal seams from a single well head on the surface. Horizontal legs are drilled laterally within each seam for a distance of several kilometres, allowing for greater production from fewer surface installations, minimising the need for fracking. The following diagram illustrates multi-lateral or in-seam drilling:²³

Figure 2 Multi lateral surface to in-seam (SIS) well accessing several streams



Where is coal seam gas in New South Wales?

2.10 There has been a dramatic increase in petroleum title applications in the State over the past few years, representing exploration work programs valued at up to \$30 million per year.²⁴ The number of petroleum exploration licences in New South Wales has risen from 11 in 1993²⁵ to 47 in December 2011,²⁶ and there are currently 7 petroleum exploration licence applications under consideration.²⁷ More than 20 companies currently hold exploration licences.²⁸ Over the period 2010 to 2031, reserves for coal seam gas in New South Wales are projected to increase to 16,718 PJ, of which 13,785 PJ will be from the Gunnedah Basin.²⁹

²³ Submission 406, Dart Energy Ltd, p 5.

²⁴ NSW Government, Trade and Investment, Resources and Energy, accessed 13 March 2012, <www.dpi.nsw.gov.au/minerals/resources/petroleum/activity-in-nsw>.

²⁵ NSW Government, Trade and Investment, Resources and Energy, accessed 13 March 2012, <www.dpi.nsw.gov.au/minerals/resources/petroleum/activity-in-nsw>.

²⁶ Answers to supplementary questions, received 13 December 2011, Mr Mark Paterson, Director-General, Department of Trade and Investment, Resources and Energy, Question 4, p 4.

²⁷ NSW Government Resources & Energy, accessed 14 March 2012 <www.dpi.nsw.gov.au/minerals/titles/status-reports/Petroleum-TitlesCurrent2012-03.pdf>.

²⁸ Answers to supplementary questions, received 13 December 2011, Mr Paterson, Director-General, Department of Trade and Investment, Resources and Energy, Question 4, p 4.

²⁹ Australian Energy Market Operator, Gas Statement of Opportunities (GSOO) 2011, Chapter 6, page 6-6.

- 2.11** The most active coal seam gas exploration activity to date has taken place in the Hunter Region, Gloucester Basin, Gunnedah Basin, Southern Coalfield (near Camden) and the Clarence Moreton Basin in north eastern New South Wales.³⁰ Petroleum exploration licences have been issued in several other regions, including the Illawarra, Central Coast and Sydney where there has been more limited exploration activity.
- 2.12** Technological advancements, including improved techniques to identify and drill for coal targets, have stimulated the emergence of the coal seam gas industry in New South Wales.³¹ However, industry activity has been mostly limited to exploration, with only a small number of coal seam gas projects given approval to commence production, including:
- Camden Gas Project (Stages 1 and 2) - AGL Energy Limited
 - Gloucester Gas Project - AGL Energy Limited
 - Narrabri Gas Project - Santos
 - Richmond Valley Power Station and Casino Gas Project - Metgasco.³²
- 2.13** Only two these developments, Camden and Narrabri, are currently producing coal seam gas.
- 2.14** The AGL-owned Camden Gas Project is the largest producer of coal seam gas in New South Wales. In 2009, it produced 5.6 PJ³³ and is aiming to supply around six percent of the New South Wales domestic gas market.³⁴ The Narrabri Gas Project, operated by Santos, is also producing small amounts (0.2 PJ) of coal bed methane which is being used to power the Wilga Park Power Station.³⁵

Regulation

- 2.15** State governments are primarily responsible for assessing and approving coal seam gas projects. The Commonwealth Government may play a role in certain limited circumstances (outlined below), while local governments have virtually no role to play.
- 2.16** The Crown owns the oil and gas under the surface of all land in New South Wales, and the NSW Government on behalf of the Crown licenses explorers to prospect for that oil and gas. The primary Act of Parliament governing coal seam gas exploration is the *Petroleum (Onshore) Act 1991* (the Act). It provides the legislative framework under which explorers obtain petroleum exploration licences and other petroleum titles, namely assessment leases, production leases and special prospecting authorities.

³⁰ Submission 642, New South Wales Government, p 6.

³¹ Australian Energy Market Operator, GSOO 2011, Chapter 3, page 3-18.

³² NSW Department of Primary Industries, *What is coal seam gas?*, accessed 7 March 2012, <www.dpi.nsw.gov.au/minerals/community-information/coal-seam-gas/what-is-coal-seam-gas>

³³ Geoscience Australia, *Australia's Identified Mineral Resources 2010*, p 23, accessed 1 March 2012, <www.ga.gov.au/image_cache/GA19253.pdf>.

³⁴ Submission 344, AGL Energy Limited, p 1.

³⁵ Department of Primary Industries, Coal seam methane in NSW, accessed 20 January 2012, <dpi.nsw.gov.au/minerals/geological/overview/regional/sedimentary-basins/methanensw>.

- 2.17** The Act is administered by the Department of Trade and Investment, Regional Infrastructure and Services. Several other agencies are responsible for oversight of the industry including the Department of Planning and Infrastructure, Department of Primary Industries, Division of Resources and Energy, and the Office of Environment and Heritage.
- 2.18** The Commonwealth Government is only required to assess and approve a coal seam gas project if it is considered to involve a matter of national environmental significance, defined under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth). The Department of Sustainability, Environment, Water, Population and Communities administers this Act. Matters of national environmental significance include threatened species and ecological communities, migratory species, wetlands of international importance (RAMSAR wetlands), the values of declared World Heritage properties, and the value of National Heritage places. The Committee notes that the role of the Commonwealth Government's new Independent Expert Scientific Committee on Coal Seam Gas and Coal Mining is considered in Chapter 3.
- 2.19** While certain councils recognise coal seam gas activity in their Local Environmental Plans, the NSW Government, as the regulatory authority for coal seam gas, can overrule council decisions about whether to allow coal seam gas development in their Local Environmental Plans.

Petroleum titles

- 2.20** Petroleum activities in New South Wales must be conducted under a petroleum title. In making an application for a petroleum title, a potential explorer must provide supporting information of the proposed work program, and evidence of their financial standing and technical qualifications. There are three types of petroleum title specified under the *Act*:
- Petroleum exploration licence (PEL)
 - Petroleum assessment lease (PAL)
 - Petroleum production licence (PPL)³⁶
- 2.21** Each licence requires a separate approval process and the granting of an exploration licence does not guarantee that a production licence will be granted.

Exploration

- 2.22** A petroleum exploration licence, issued by the Department of Trade and Investment, Regional Infrastructure and Services, provides the explorer with the exclusive right to prospect for petroleum. A petroleum exploration licence can cost up to \$15,000,³⁷ and may be issued for a period of up to six years,³⁸ after which it may be renewed. A petroleum exploration licence can be given for one and up to 140 blocks which are defined by

³⁶ Parliament of NSW, NSW Parliamentary Library Research Service e-brief 1/2011, *Regulation of the coal seam gas industry in Australia* by Lenny Roth, January 2011, p 2.

³⁷ NSW Government, Minerals & petroleum titles – Fees under the *Petroleum (Onshore) Act 1991*.

³⁸ *Petroleum (Onshore) Act 1991*, s 31.

longitudinal and latitudinal boundary lines.³⁹ Petroleum exploration licences are granted with conditions which include requirements relating to reporting, environmental protection, rehabilitation and security deposits.⁴⁰

- 2.23** Once an explorer has been granted an exploration lease, the explorer will conduct a ‘desktop’ analysis to develop their strategy and identify areas for potential activity. This may be followed by seismic studies to model the sub-surface. Core holes may also be drilled to determine how much coal is present and where it is located. If the exploration process is proving successful, the explorer may move to drilling pilot test wells to determine if there is enough coal seam gas to proceed to production. A pilot test well may operate for over a year and several wells may be needed to prove the existence of petroleum.⁴¹
- 2.24** If petroleum is discovered, the explorer must immediately inform the Minister.⁴² Following this the Minister may require the licence holder to apply for an assessment or production lease within a specified time frame.⁴³
- 2.25** Exploration activities identified as having a minimal impact do not require specific approval. Higher impact activities, activities in sensitive areas, and activities that have the potential to affect threatened species or ecological communities require additional approval and coal seam gas companies are required to prepare a Review of Environmental Factors.⁴⁴ If the Division of Resources and Energy considers that the environmental impacts are likely to be significant, they may request that an Environmental Impact Statement be prepared.⁴⁵
- 2.26** In addition, some petroleum exploration activities may be declared State Significant Development and require approval by the Minister for Planning and Infrastructure.⁴⁶

Assessment

- 2.27** A petroleum assessment lease is an interim stage title midway between a petroleum exploration lease and a petroleum production lease. A petroleum assessment lease provides approval for the explorer to continue exploration on the land covered by the lease and provides retention of rights where petroleum has been discovered and is expected to be commercially viable in the future. The holder is allowed to recover petroleum in the course of

³⁹ Mr John Whitehouse, Solicitor and Fellow in Environmental Studies, Macquarie University, Evidence, 7 October 2011, p 1.

⁴⁰ Department of Primary Industries, *Approval Process and conditions for CSG exploration*, accessed 7 March 2012, <www.dpi.nsw.gov.au/minerals/community-information/coal-seam-gas/how-is-csg-regulated>.

⁴¹ NSW Government, *Draft Code of Practice for Coal Seam Gas*, March 2012, p 5.

⁴² *Petroleum (Onshore) Act 1991*, s 27.

⁴³ *Petroleum (Onshore) Act 1991*, s 32.

⁴⁴ Department of Primary Industries, *Petroleum Exploration (incl. CSG) – Requirements for an exploration project under the Petroleum (Onshore) Act 1991*, accessed 15 March 2012, <www.dpi.nsw.gov.au/minerals/environment/petroleum#For-Petroleum-Assessment-Leases>.

⁴⁵ Department of Primary Industries, *ESG2: Environmental Impact Assessment Guidelines for exploration, mining and petroleum production activities subject to Part 5 of the Environmental Planning and Assessment Act 1979*, March 2012, p 3.

⁴⁶ *State Environmental Planning Policy (State and Regional Development) 2011*, Schedule 1, Clause 6.

assessing the viability of commercial mining.⁴⁷ Petroleum assessment leases cost between \$10,000 to \$15,000⁴⁸ and can be issued for up to six years.⁴⁹ It is limited however to only four blocks.⁵⁰

Production

- 2.28** A petroleum production lease provides the lease holder with the exclusive right to conduct petroleum mining operations on the land included in the lease, along with the right to construct and maintain the required infrastructure, including buildings, dams, pipelines, telephone lines, electricity power lines, tanks, pumping stations, tramways, railways and other structures and equipment.⁵¹ The coal seam gas operator must place a notice in a State-wide newspaper that they have lodged or intend to lodge an application for petroleum production.⁵² The area covered by the lease is limited to four blocks⁵³ and the lease will have a term not exceeding 21 years.⁵⁴
- 2.29** Prior to obtaining a petroleum production lease, a coal seam gas operator must receive planning approval for the proposed development under the *Environmental Assessment Act 1979* through the Department of Planning and Infrastructure.⁵⁵ Unlike the exploration phase where an Environmental Impact Assessment may or may not be required, an Environmental Impact Statement must always be obtained for petroleum production.⁵⁶
- 2.30** The coal seam gas operator may also need to include an Agricultural Impact Statement if the development has the potential to affect agricultural resources or industries. The Agricultural Impact Statement will be assessed by the Department of Planning and Infrastructure to determine the value of the agricultural resources and associated enterprises affected, the agricultural impact of the project, and whether the impacts are unacceptable and should be avoided.⁵⁷

⁴⁷ *Petroleum (Onshore) Act 1991*, s 33.

⁴⁸ NSW Government, Minerals & petroleum titles – Fees under the *Petroleum (Onshore) Act 1991*.

⁴⁹ *Petroleum (Onshore) Act 1991*, s 35.

⁵⁰ *Petroleum (Onshore) Act 1991*, s 34.

⁵¹ *Petroleum (Onshore) Act 1991*, s 41.

⁵² *Petroleum (Onshore) Act 1991*, s 43.

⁵³ *Petroleum (Onshore) Act 1991*, s 44.

⁵⁴ *Petroleum (Onshore) Act 1991*, s 45.

⁵⁵ Department of Primary Industries, *How is coal seam gas regulated?*, accessed 7 March 2012, <www.dpi.nsw.gov.au/minerals/community-information/coal-seam-gas/how-is-coal-seam-gas-regulated>.

⁵⁶ Department of Primary Industries, *Petroleum Production*, accessed 14 March 2012, <www.dpi.nsw.gov.au/minerals/community-information/petroleum-production>.

⁵⁷ NSW Government, *Guideline for agricultural impact statements*, March 2012.

- 2.31** If development consent is provided, conditions will be imposed to minimise potential environmental impacts. In addition, rehabilitation and environmental performance conditions will be attached to the petroleum production lease as prescribed under the *Petroleum (Onshore) Act 1991*.⁵⁸

Recent State and Commonwealth announcements

- 2.32** The NSW Government announced in May 2011 that it intended to implement a Strategic Regional Land Use Policy to ‘...strike the right balance between our important agricultural, mining and energy sectors – while ensuring the protection of high value conservation lands’.⁵⁹ Transitional arrangements were announced that were effective immediately, including a 60 day moratorium on the approval of new petroleum exploration licences to allow for stakeholder consultation. As at 12 December 2011, the NSW Government had not issued any new licences for production or exploration,⁶⁰ or renewed any existing licences.⁶¹ The Government announced further changes in July 2011 which included a ban on the use of BTEX chemicals during coal seam gas drilling, a ban on the use of evaporation ponds relating to coal seam gas, a moratorium on fracking until 31 December 2011 and new water licencing requirements.⁶²
- 2.33** In December 2011, the Government extended the moratorium on fracking until April 2012, allowing for the completion of an independent review process of fracking standards and well design.⁶³ This moratorium only applies to new fracking approvals. The Committee notes that no fracking operations have been undertaken since the ban came into place. The review of fracking standards and well design is due for release in April 2012.
- 2.34** On 6 March 2012, the NSW Government released several documents under the banner of the Strategic Regional Land Use Policy. This Policy is intended to strengthen the regulation of the coal seam gas industry.⁶⁴ The documents released included:
- *Draft Code of Practice for Coal Seam Gas Exploration*
 - *Guideline for community consultation requirements for the exploration of coal and petroleum, including coal seam gas*
 - *Guideline for agricultural impact statements*
 - *Draft NSW Aquifer Interference Policy – Stage 1*

⁵⁸ Department of Primary Industries, Petroleum Production, accessed 14 March 2012 <www.dpi.nsw.gov.au/minerals/community-information/petroleum-production.

⁵⁹ Hon Brad Hazzard MP, Minister for Planning and Infrastructure, ‘NSW Government adopts rigorous strategic approach to regional land use planning’, *Media Release*, 21 May 2011.

⁶⁰ Mr Paterson, Evidence, 12 December 2011, p 21.

⁶¹ Mr Brad Mullard, Executive Director, Mineral Resources and Energy, Department of Trade and Investment, Regional Infrastructure and Services, Evidence, 12 December 2011, p 13.

⁶² Hon Chris Hartcher MP, Minister for Resources and Energy, ‘NSW Government has listened and acted: Tough new conditions for coal and coal seam gas’, *Media Release*, 21 July 2011.

⁶³ Hon Chris Hartcher MP, Minister for Resources and Energy, ‘NSW Government extends fracking moratorium’, *Media Release*, 2 December 2011.

⁶⁴ Hon Chris Hartcher MP, Minister for Resources and Energy, ‘Tougher controls on CSG’, *Media Release*, 6 March 2012.

- Draft Strategic Regional Land Use Plans (Upper Hunter and New England North West regions).

- 2.35** The Government has allowed a period of eight weeks until 3 May 2012 for stakeholders, including members of the community, to comment on all draft documentation. In addition, the Government has scheduled several public forums and ‘drop in’ sessions throughout the State.⁶⁵
- 2.36** In relation to Strategic Regional Land Use Plans, the Government intends to develop plans for all regions in New South Wales where there is high value agricultural land and increasing activity in the coal and coal seam gas industries.
- 2.37** In addition to the above instruments, the Government also announced details of a new assessment process, called the ‘Gateway’, which aims to protect high-value agricultural land. Applications for coal seam gas development on or within two kilometres of property that has been identified as strategic agricultural land will be assessed by an independent panel of experts through a Gateway assessment process before they can proceed.⁶⁶
- 2.38** Federally, the Commonwealth Government announced in November 2011 that it would provide funding of \$150 million to establish an Independent Expert Scientific Committee that will provide advice and research on coal seam gas, with particular emphasis on water resources. An Interim Committee was appointed in January 2012 which will remain in place until the permanent Committee is formally established.⁶⁷ In addition, the Commonwealth established a new National Partnership Agreement with the States, requiring them to take into account the advice of the Independent Expert Scientific Committee in assessment and approval processes, along with \$50 million in incentive payments to deliver on this outcome.⁶⁸ In March 2012, the NSW Government signed up to the National Partnership Agreement, which will entitle New South Wales to \$17.5 million in incentive payments.⁶⁹
- 2.39** In December 2011, the Standing Council on Energy and Resources, comprising Australia’s energy and resources Ministers, convened for the first time. Ministers agreed to a work program for developing a national harmonised regulatory framework for coal seam gas based on key areas of community concern, including water management and monitoring, well integrity and aquifer protection, and monitoring of hydraulic fracturing and chemical use. The framework is due for completion in September 2012.⁷⁰

⁶⁵ NSW Government, Strategic Regional Land Use Policy Delivery, accessed 27 March 2012, <<http://haveyoursay.nsw.gov.au/regionallanduse>>.

⁶⁶ NSW Government, *Strategic Regional Land Use Policy: Frequently Asked Questions*, March 2012. <<http://haveyoursay.nsw.gov.au/document/index/23>>.

⁶⁷ Hon Tony Burke MP, Minister for Sustainability, Environment, Water, Population and Communities, ‘Interim committee to advise on coal seam gas and large coal mining’, *Media Release*, 27 January 2012.

⁶⁸ Hon Julia Gillard MP, Prime Minister, and the Hon Wayne Swan MP, Deputy Prime Minister and Treasurer, ‘New focus on scientific evidence to build community confidence in coal seam gas and coal mining’, *Joint Media Release*, 21 November 2011.

⁶⁹ Hon Julia Gillard MP, Prime Minister, ‘NSW signs up to coal seam gas agreement’, *Media Release*, 7 March 2012.

⁷⁰ Standing Council on Energy and Resources, *Meeting Communiqué*, 9 December 2011, accessed 21 March 2012, <www.scer.gov.au/files/2011/12/SCER-Communique-9-Dec-2011.pdf>.

Chapter 3 Scientific evidence

This Chapter examines a key question facing this Inquiry: whether coal seam gas development will endanger our water resources. The scientific evidence on this issue is contested. Inquiry participants disagree about the likelihood of the industry leading to contamination of water resources or depletion of water supplies. Many Inquiry participants also hold grave fears about the fracking process and whether it exacerbates the risks to water supplies. The industry's track record in other jurisdictions does not help to answer these questions, as it is difficult to make direct comparisons.

What is clear is that more work needs to be done to answer these fundamental questions. Some Inquiry participants, including the coal seam gas companies and the Government, argue that we need the exploration phase to gather the data we need to answer these questions. Large sections of the community, however, are unconvinced; they are skeptical of the exploration process, which can have the look and feel of fully-fledged production, and argue that exploration poses too high a risk to proceed. Many of these Inquiry participants called for a moratorium on exploration so we can fully assess the potential impacts of the industry before proceeding. The calls for a moratorium highlight two different approaches to managing the risks posed by the coal seam gas industry: the precautionary and adaptive management approaches. The thinking behind these two approaches underpins much of the debate on whether to allow the industry's development to proceed.

The scientific evidence on water impacts

- 3.1** The Committee heard conflicting evidence on a key question posed by the coal seam gas debate, which is: what is the likely impact of coal seam gas activities on water resources? Many Inquiry participants fear that coal seam gas activities could 'crack' aquifers, resulting in aquifer cross-contamination. They also worry that many of the impacts on our water systems will not be evident until decades later, when it is too late to take preventative measures. The fracking process has heightened community concerns around the coal seam gas industry, and the Committee heard a wealth of evidence on the potential dangers posed by the fracking process. This section examines the evidence from Inquiry participants on the science underlying much of the coal seam gas debate.
- 3.2** The Committee notes that if some of the risks to water resources posed by coal seam gas development were realised, the consequences may be disastrous – such as the contamination of water used for drinking and agricultural purposes, as well as the potential to deplete the water supplies available to all water users. These risks, including the possible impacts of fracking, are considered in the next chapter.

Operation of ground and surface water systems

- 3.3** Inquiry participants hold very different views on whether we have a good understanding of ground and surface water systems. This understanding is critical if we are to accurately model the potential impacts of coal seam gas activities. Supporters of the industry, such as the coal seam gas companies, tend to claim that we have a good understanding of water systems. When questioned on whether we have a good understanding of what happens below ground, such as ground water systems, Mr Jason Needham, Exploration Operations Manager, Dart Energy, said: 'There is good science behind it [the workings of the subsurface]; the science is

well-established ... There is definitely a really good understanding of the subsurface'.⁷¹This point was supported by Mr Peter Henderson, Managing Director, Metgasco: 'The industry and its science are already well understood...'.⁷²

3.4 On the other hand, numerous Inquiry participants insist that more work needs to be done to understand the workings of our water systems. The NSW Farmers' Association expressed their concern at the 'paucity of groundwater data' and described our ability to manage the impacts of the coal seam gas industry as 'grossly inadequate'.⁷³In relation to groundwater, NSW Farmers' Association observed that 'being largely inaccessible to direct observation, groundwater mapping only can be achieved through modeling processes involving bore data, remote sensing and geological study'.⁷⁴

3.5 Some Inquiry participants said that while we may have a good understanding of the principles underpinning the operation of ground and surface water systems, more work needs to be done around specific issues such as aquifer interconnectivity. According to Ms Jon-Maree Baker, Executive Officer, Namoi Water:

The aquifers are well understood at alluvium level. The interconnectivity that you are talking about between alluvial and coal seam gas areas I do not believe is well understood. Nor do I believe that it is well researched. In our endeavours to establish concrete scientific independent information, we certainly are not turning up a significant amount of studies.⁷⁵

3.6 The Committee also heard that our understanding of aquifer connectivity has changed in recent years as new data has emerged. According to Associate Professor Willem Vervoort and Dr Floris van Ogtrop, Hydrology Research Laboratory, Faculty of Agriculture, Food and Natural Resources, The University of Sydney:

... almost every underground rock layer is connected to other layers. Sometimes this connection is only slight, but in many cases the connections are significant ... Initially it was thought that connections were very limited, for example the Great Artesian Basin was seen as totally separate from the overlying aquifers in the Namoi. However, work in the 1990's and the 2000's has shown that extraction of water from the overlying production (irrigation aquifers) has caused a slow mixing with Great Artesian Basin water.⁷⁶

3.7 They recommended that the NSW Government pursue a 'very cautious approach' to granting further licences until 'more understanding can be gained about the connectivity of different underground aquifers in NSW ...'.⁷⁷

⁷¹ Mr Jason Needham, Exploration Operations Manager, Dart Energy Limited, Evidence, 8 December 2011, p 62.

⁷² Mr Peter Henderson, Managing Director, Metgasco, Evidence, 8 December 2011, p 37.

⁷³ Submission 335, NSW Farmers' Association, p 13.

⁷⁴ Submission 335, pp 13-14.

⁷⁵ Ms Jon-Maree Baker, Executive Officer, Namoi Water, Evidence, 16 November 2011, p 60.

⁷⁶ Submission 553, Faculty of Food, Agriculture and Natural Resources, University of Sydney, p 1.

⁷⁷ Submission 553, p 1.

- 3.8** In relation to aquifer connectivity, Dr Stuart Khan, Senior Lecturer, Water Research Centre, University of New South Wales, said that ‘a major data gap is understanding the hydraulic data and the interconnectedness between much of Australia’s aquifers’.⁷⁸ He called for detailed study of the individual aquifers affected by coal seam gas development:
- ... I think that what at least we could be doing is taking a very close look at particular aquifers on a case-by-case basis ... and trying to understand the interconnectivities of those aquifers as best as possible.⁷⁹
- 3.9** Dr Khan cautioned that before proceeding with coal seam gas development, we should attempt to fill our ‘knowledge gaps’, particularly those around water resources.⁸⁰
- 3.10** Many Inquiry participants highlighted the need to do more work to understand the operation of the specific water systems in the areas where coal seam gas development is planned. Dr Francesca Andreoni, Strategic Planning Manager, Namoi Catchment Management Authority, said that unanswered questions remain even in the well-studied Namoi region:
- ... the geology and the hydrology of the Namoi catchment is complex. Whilst it is one of the better studied catchments in Australia, there are still some real challenges in understanding the relationships between aquifers, how the groundwater is interacting and also the interactions between surface and groundwater, which are quite complex.⁸¹
- 3.11** The NSW Government acknowledged the need to study the workings of specific water systems, observing that potential water impacts ‘... cannot be generalised across the landscape. It is therefore very important that site specific data be used to assess the likely impacts of a CSG extraction ...’.⁸²
- 3.12** The Committee was informed of initiatives that are underfoot to address the ‘data gaps’ in understanding the workings of water systems. For example, in calling for groundwater modelling on a national scale, NSW Farmers referred to the National Groundwater Information System being developed by the Water Division of the Australian Bureau of Meteorology. NSW Farmers called on the NSW Government to seek an urgent briefing on the applicability of this project to New South Wales.⁸³
- 3.13** In addition, the National Water Commission is undertaking a project to assess potential local and cumulative impacts of coal seam gas on groundwater resources. The Commission noted that these this project is ‘... intended to assist in the management of CSG’.⁸⁴

⁷⁸ Dr Stuart Khan, Water Research Centre, University of New South Wales, Evidence, 8 December 2011, p 27.

⁷⁹ Dr Khan, Evidence, 8 December 2011, p 31.

⁸⁰ Dr Khan, Evidence, 8 December 2011, p 27.

⁸¹ Dr Francesca Andreoni, Strategic Planning Officer, Namoi Catchment Management Authority, Evidence, 16 November 2011, p 69.

⁸² Submission 642, NSW Government, p 20.

⁸³ Submission 335, pp 13-14.

⁸⁴ Submission 100, National Water Commission p 2.

3.14 On many occasions Inquiry participants referred to the Namoi Water Study being undertaken by the Namoi Catchment Management Authority. Dr Andreoni noted that the aim of the Namoi Water Study is to fill the data gaps regarding aquifers and groundwater in the Namoi catchment:

The idea of the Namoi Water Study, which ends in March, is that it will give us 3D modelling of the aquifers and the groundwater across the catchment. That is why we see that as a really important piece of information to inform the sorts of decisions we might be making around coal seam gas. Ideally, we want to have as good a handle as possible on some of the relationships between aquifers and aquitards and where there are restriction points in the catchment et cetera.⁸⁵

3.15 Coal seam gas companies indicated that they are aware of the need to gather further data to underpin the development of the coal seam gas industry. For example, Santos noted that it is undertaking an ‘extensive scientific program’ in the area around Gunnedah/Narrabri including initial assessment of the groundwater system, a baseline study of water bores, and a comprehensive water management study.⁸⁶ Santos advised that it will seek ‘independent scientific peer review of these studies and their conclusions’. In addition, Santos is also contributing \$500,000 to the Namoi Water Study.⁸⁷

3.16 Santos also advised that it has entered into a partnership with the University of Queensland to develop the industry’s knowledge base:

Santos, in partnership with the University of Queensland and QGC have committed up to \$20 million to create a Centre for Coal Seam Gas to further increase the knowledge and skills base of the growing coal seam gas industry. The Centre for Coal Seam Gas aims to be the pre-eminent global authority on the industry ...⁸⁸

3.17 Some sections of the industry appear to accept that they are responsible for ensuring that the key scientific questions are settled. This view was encapsulated by Mr James Baulderstone, Vice President, Eastern Australia, Santos: ‘Our job is to continue to act reasonably and put the data out there and, at the end of the day, we believe the science will prevail’.⁸⁹

3.18 As noted in Chapter 1, the Commonwealth Government has established a new Independent Expert Scientific Committee on Coal Seam Gas and Coal Mining. Its aim is to ‘fill the gaps in scientific understanding’ about the impacts on water resources of coal seam gas and large coal mining developments.⁹⁰ The Independent Expert Scientific Committee is tasked with commissioning and coordinating:

- “no regrets” research that leverages existing research work and capabilities’ to address ‘key scientific questions’ about the impact of coal seam gas

⁸⁵ Dr Andreoni, Evidence, 16 November 2011, p 69.

⁸⁶ Submission 337, Santos, p 6.

⁸⁷ Submission 337, p 28.

⁸⁸ Answers to supplementary questions, received 31 January 2012, Mr James Baulderstone, Vice President Eastern Australia, Santos, p 6.

⁸⁹ Mr James Baulderstone, Vice President Eastern Australia, Santos, Evidence, 17 November 2011, p 3.

⁹⁰ Hon Julia Gillard MP, Prime Minister, ‘NSW signs up to coal seam gas agreement’, *Media release*, 7 March 2012.

- ‘regional scale water assessments’ in areas where there is coal seam gas extraction and coal mining, which will assist in assessing the cumulative impacts of multiple projects
- research to support the Committee in providing ‘advice on specific projects’ that are being considered by the States.⁹¹

3.19 At the Committee’s December hearing the NSW Government did not appear receptive to the idea of Commonwealth Government involvement in coal seam gas research, with Mr Mark Paterson, Director General, Department of Trade and Investment, Regional Infrastructure and Services, indicating that he viewed the Commonwealth measures as ‘interference’:

We do not know all of the detail of what has been announced at the national level but certainly it appears to be a duplication of effort and an additional overlay in mechanisms ... I do not know what hand of power the Commonwealth proposes to use to underpin its interference in these mechanisms.⁹²

3.20 Subsequent to this evidence the NSW Government signed up to the National Partnership Agreement on Coal Seam Gas and Large Coal Mining which is the mechanism for establishing the Independent Expert Scientific Committee.⁹³ Under the agreement the NSW Government agreed to take the Independent Expert Scientific Committee’s views into account in their assessment and approval decisions,⁹⁴ and as a result is entitled to \$17.5 million in incentive payments. The NSW Government has announced that it will ask the Independent Expert Scientific Committee to provide advice on applications that affect strategic agricultural land.⁹⁵

Cumulative impacts

3.21 In addition to the need for further research on water systems, with particular reference to the systems in specific regions, Inquiry participants called for further research on the cumulative environmental impacts of the industry. One of the most compelling pieces of evidence on this issue came from Geoscience Australia, which was contracted by the Commonwealth Government to provide advice on the potential groundwater impacts of three separate coal seam gas proposals in the Surat and Bowen Basins, Queensland. The advice from Geoscience Australia concluded that ‘... the overriding issue in CSG development is the uncertainty surrounding the potential cumulative, regional scale impacts of multiple developments’.⁹⁶

⁹¹ Commonwealth Government, Independent Expert Scientific Committee on Coal Seam Gas and Coal Mining, Terms of Reference, Appendix A: Guidelines for research in 2011-12, p 3, accessed 10 April 2012, <www.environment.gov.au/epbc/about/pubs/coal-seam-interim-committee-tor.pdf>

⁹² Mr Mark Paterson, Evidence, 12 December 2011, p 11.

⁹³ Hon Julia Gillard MP, Prime Minister, ‘NSW signs up to coal seam gas agreement’, *Media release*, 7 March 2012.

⁹⁴ Department of Sustainability, Environment, Water, Population and Communities, accessed 13 March 2012, <www.environment.gov.au/epbc/about/coal-seam-interim-committee.html>

⁹⁵ NSW Government, *Strategic Regional Land Use Policy Delivery: Frequently Asked Questions*, March 2012, p 8.

⁹⁶ Habermehl MA and Geoscience Australia, *Summary of advice in relation to the potential impacts of coal seam gas extraction in the Surat and Bowen Basins, Queensland: For Australian Government Department of Sustainability, Environment, Water, Population and Communities*, 29 Sept 2010, p 1.

3.22 In support of this view, the National Water Commission cautioned that the ‘potential impacts of CSG developments, particularly the cumulative effects of multiple projects, are not well understood’.⁹⁷

3.23 The Local Government and Shires Associations of NSW also expressed concern that cumulative impacts are not being assessed:

Many communities in NSW have more than one exploration or mining project occurring at the same time. However, with each proposal being received, processed and considered in relative isolation of the others, it is the concern of Local Government that the collective impact of such proposals is not assessed ...⁹⁸

3.24 To address the need to assess cumulative impacts, Geoscience Australia recommended the development of a ‘... regional-scale, multilayer groundwater flow model which incorporates data from both private and public sector sources’.⁹⁹

3.25 The Committee notes that some work is already being undertaken to assess potential cumulative impacts. For example, the Committee heard of work being undertaken by the Namoi Catchment Management Authority, to enable assessment of cumulative risks in relation to extractive industries. Dr Andreoni described how the Authority’s cumulative risk assessment framework for extractive industries would work in assessing multiple resource industry proposals:

The framework is consistent with the Australian standard for risk assessment based on those four broad steps of establishing the context, identifying the risk, analysing the risk and evaluating the risk. The idea is that it is spatially represented and you could run and rerun different scenarios. So if you have three open cuts, four coal seam gases and one longwall, or whatever it is you choose to test, you could run that scenario based on all these underpinning layers that describe the natural resources assets of the catchment and the associated risks with a range of types and sizes of mining or extractive industry developments. The output of that would be a statement of cumulative risk for each scenario that one chooses to test as well as for each individual development and an associated map. So it is taking advantage of all the spatial data, modelling and technology that nowadays we can use.¹⁰⁰

3.26 The Namoi Catchment Management Authority noted that they need the data gathered through the Namoi Water Study to underpin this type of tool.

3.27 The Commonwealth’s Independent Expert Scientific Committee on Coal Seam Gas and Coal Mining was established in part to address the need to assess cumulative impacts. One of the Committee’s core responsibilities is to commission regional scale water assessments on the cumulative impacts of multiple projects within an area.¹⁰¹

⁹⁷ Submission 100, p 1.

⁹⁸ Submission 587, Local Government & Shires Associations of NSW, p 4.

⁹⁹ Geoscience Australia, *Summary of advice*, p 1.

¹⁰⁰ Dr Andreoni, Evidence, 16 November 2011, p 66.

¹⁰¹ Interim Expert Scientific Committee, *Terms of Reference: Appendix A: Guidelines for research in 2011-12*, p 4, accessed 13 April 2012, <www.environment.gov.au/coal-seam-gas-mining/pubs/coal-seam-interim-committee-tor.pdf>.

3.28 In relation to the Commonwealth initiative, Mr Neil Dobbin of Rabobank said that:

Since our submission was made to this Inquiry it has been pleasing to see that a number of safeguards and recommendations have been adopted. These safeguards include bioregional scientific assessments as overseen by an independent scientific committee. In our view it is an important step in building the scientific knowledge and identifying impacts on water resources ...¹⁰²

Access to data held by coal seam gas companies

3.29 One of the barriers to assessing the impacts of multiple coal seam gas projects is that much of the data is collected and held by coal seam gas companies. Some Inquiry participants suggested that as this data is seen as commercial in confidence, coal seam gas companies are reluctant to share it.

3.30 Geoscience Australia concluded that individual coal seam gas companies cannot be expected to adequately assess cumulative assessments, because they cannot access the necessary data. According to the Geoscience Australia advice, cumulative impact assessments by project proponents ‘... are unavoidably inadequate because of the inability of individual proponents to access commercial-in-confidence data from a number of sources. We do not consider that individual proponents can be in a position to develop regional scale models which incorporate confidential drilling and production data from other sources’.¹⁰³ Geoscience Australia concluded that in relation to a regional-scale, multi-state and multi-layer model of the cumulative effects of multiple developments, ‘...concerted Commonwealth and State action will be necessary to develop such a model as a high priority’.¹⁰⁴

3.31 Ms Baker of Namoi Water took the view that a lack of data-sharing hinders the development of high-quality science on the environmental impacts of the coal seam gas industry:

A majority of the data rests with the coal seam gas companies. That will be included in the Namoi Water Study, but the data is actually lacking because there are so many gaps between the science and where the data is held.¹⁰⁵

3.32 In addition, the NSW Farmers’ Association noted that the Government does not have access to the data collected by the coal seam gas companies when making decisions on the industry:

The most detailed study of hydrogeology is currently undertaken by mining/CSG/exploration companies, but NSW Farmers understands that this data is treated as proprietary and is not currently made available to Government for planning and management purposes.¹⁰⁶

¹⁰² Mr Neil Dobbin, Group Executive, Rural Banking, Rabobank Australia Group, Evidence, 12 December 2011, p 75.

¹⁰³ Geoscience Australia, *Summary of advice*, p 6.

¹⁰⁴ Geoscience Australia, *Summary of advice*, p 7.

¹⁰⁵ Ms Baker, Evidence, 16 November 2011, p 60.

¹⁰⁶ Submission 335, p 14.

- 3.33** NSW Farmers recommended that proponents be required ‘to submit hydrogeological data collected in relation to their projects’ for inclusion in groundwater modelling systems.¹⁰⁷ On this issue, they said that:

Proponents may resist such proposals, arguing that such data is commercial in confidence, since the hydrogeology affects the economic viability of projects ... NSW Farmers believe that the commercial in confidence argument is tenuous and that interference with a critical strategic national resource demands the highest level of transparency.¹⁰⁸

- 3.34** Santos indicated that they are willing to share their data with those conducting the Namoi Water Study: ‘... Santos will share information gathered during its exploration and appraisal program with the study. The comprehensive groundwater sampling regime that Santos is undertaking in the Gunnedah Basin will be vital to the [Study]...’¹⁰⁹

Baseline monitoring

- 3.35** Baseline data is essential for building our understanding of the impacts of the coal seam gas industry on water resources. Baseline data is measurements of water quality and quantity that is collected prior to the commencement of a coal seam gas activity, which may be exploration and/or production. When coal seam gas activities commence, water resources will be monitored against the baseline measurement to identify any impacts of coal seam gas activity on water resources. The NSW Government highlighted the importance of baseline monitoring, noting that it is very important to ‘... incorporate appropriate monitoring programs and establish reporting mechanisms to enable rapid responses to address any unforeseen impacts...’¹¹⁰

- 3.36** Inquiry participants across the board agree on the importance of baseline modeling as a yardstick against which to identify, and respond to, any unacceptable impacts. For example, Dr Andreoni said:

Baseline information is critical not just when you are assessing or deciding what to do. More importantly, once you have decided to proceed with a particular activity ... it is then monitoring going forward through time that will tell you whether things are proceeding as you expect them to and will allow you to adaptively manage that situation. Without establishing a baseline, you cannot then tell what has changed or not and thus what might be driving that change.¹¹¹

- 3.37** Other witnesses also pointed to the importance of baseline monitoring but for a different reason: that is, to prove that damage to a landholder’s property was caused by coal seam gas activities. Ms Marylou Potts, a legal practitioner who has experience in dealing with coal seam gas issues, said that:

¹⁰⁷ Submission 335, p 14.

¹⁰⁸ Submission 335, p 14.

¹⁰⁹ Submission 337, p 28.

¹¹⁰ Submission 642, p 20.

¹¹¹ Dr Andreoni, Evidence, 16 November 2011, p 69.

... before any activity goes on with the miner a baseline study is done. That baseline study would be hydrogeological; hydrochemical; interconnectivity between the coal seam aquifer and any overlying aquifers, but not just for water; an agronomist to determine what cultivated land there is on the property before the activities begin; a vet to look at animal health for air and water pollution issues; and a doctor, because in order to establish an evidentiary basis from which a landholder can take any action for negligence or nuisance they need evidence. That evidence needs to be able to establish damage. Damage can only be established if you have a baseline and monitoring.¹¹²

3.38 The NSW Farmers' Association called for baseline monitoring to apply not just to individual properties where wells are being drilled but also to neighbouring properties. NSW Farmers recommended 'that the NSW Government require all CSG companies to fund independent, forensic water testing for landholders and neighbouring landholders before, during and after the exploration and/or extraction/production activities'.¹¹³

3.39 However, it is impossible to conduct a baseline assessment without adequate, reliable data to provide a clear picture of the situation prior to any coal seam gas activity being undertaken. In the words of the Environmental Defender's Office: 'Without sufficient baseline data on environmental systems, it is impossible to accurately ascertain the true impact of processes associated with CSG extraction'.¹¹⁴

3.40 There is uncertainty about whether there is enough reliable data at present to conduct baseline assessments. In a written response to a question on the extent of baseline data on alluvial water supplies, the NSW Government advised that in some areas, there is good quality data available now:

There is reliable groundwater level and water quality data dating back to the 1980s for many alluvial aquifers.

Private bores constructed in the Great Artesian Basin have been monitored for a much longer period, some extending back to the early 1900s.¹¹⁵

3.41 When questioned on the adequacy of the existing water monitoring data, Ms Baker informed the Committee that significant data was held by the NSW Office of Water, and that work would need to be done to look into whether more data is needed for a baseline assessment.¹¹⁶

Measures to gather data on water impacts

3.42 The NSW Government has taken steps towards requiring explorers to conduct more rigorous testing and monitoring of potential impacts on water resources during the exploration phase. The *Draft Code of Practice for Coal Seam Gas Exploration* states that:

¹¹² Ms Marylou Potts, Marylou Potts Pty Limited, Evidence, 8 December 2011, p 73.

¹¹³ Submission 335, p 4.

¹¹⁴ Submission 359, p 6.

¹¹⁵ Answers to questions on notice taken during evidence 17 November, 2011, NSW Government, Question 1, p 1.

¹¹⁶ Ms Baker, Evidence, 16 November 2011, p 62.

- ‘The explorer should offer to document the state of existing water bores and test the quality and quantity of shallow groundwater on the property before pilot production (or any other activity that will involve moving or removing groundwater). Laboratory results from these surveys plus other groundwater monitoring data collected during the exploration program should be made available to the landholder’.
- ‘Some explorers drill their own monitoring bores to obtain a good baseline of groundwater characteristics underlying a property ... Regular water monitoring should continue during the lifetime of the project (including production should it occur)’.
- ‘Some explorers may agree to reimburse landholders for engaging an independent water expert to undertake testing to provide baseline data should problems arise in the future’.¹¹⁷

3.43 Further, the Draft Code states that before project approval and development, which the Committee interprets to mean before proceeding to production, coal seam gas companies are ‘required to undertake baseline assessment of aquifers and the potential impacts of CSG development on water resources’.¹¹⁸

3.44 The NSW Government has also announced that it is instituting measures to address concerns around cumulative impacts. The Government has said that it is ‘developing a cumulative impact methodology within six months which will address the cumulative health and amenity impacts of resource proposals’.¹¹⁹

Committee comment

3.45 The evidence to the Committee indicates that more data needs to be gathered, and more studies need to be done to analyse this data, in order to understand the science underpinning our water systems. In particular, we need more data on specific water systems and the interconnectivity of aquifers, if any, in these systems, and the potential cumulative impacts of multiple coal seam gas projects. The Committee supports further data-gathering as a priority in regions where coal seam gas exploration is taking place. This is particularly important in those areas where exploration is at an advanced stage, or indeed where applications have been made to move to production.

3.46 There seems to be a dearth of information on the potential cumulative impacts of multiple coal seam gas projects. The Committee draws attention to the advice of Geoscience Australia that the ‘overriding’ issue with the coal seam gas industry is assessment of its cumulative impacts. However, the Committee notes that access to data on cumulative impacts is considered by some coal seam gas companies to be commercial in confidence and comes from multiple sources. The Committee agrees with the conclusion reached by Geoscience Australia that the Commonwealth and State Governments must take concerted action as a matter of urgency to develop models of cumulative impacts.

¹¹⁷ NSW Government, *Draft Code of Practice for Coal Seam Gas Exploration*, March 2012, p 10.

¹¹⁸ NSW Government, *Draft Code of Practice for Coal Seam Gas Exploration*, March 2012, p 3.

¹¹⁹ NSW Government, *Strategic Regional Land Use Policy Delivery: Frequently Asked Questions*, March 2012, p 8.

- 3.47** The Committee encourages the NSW Government to actively engage with the Independent Expert Scientific Committee in setting its research priorities. In particular, the Committee should request that regional-scale water assessments be finalised as a matter of urgency in those regions of New South Wales where exploration is taking place or where applications have been made to move to production, and where detailed catchment-wide studies of water systems have not been conducted. In addition, the NSW Government should request that research on cumulative impacts be accorded a high priority.
- 3.48** The Committee notes that much of the data needed to answer key questions on potential water impacts is held by coal seam gas companies. It appears that some companies consider this data to be commercial in confidence and are unwilling to share it. The Committee believes that access to this data is crucial to assessing the cumulative impacts of the coal seam gas industry. The information provided on the Commonwealth's Independent Expert Scientific Committee has not addressed this issue of data-sharing. The Committee considers that the Independent Expert Scientific Committee should deal with this issue up-front, given that the data held by coal seam gas companies should assist in filling the knowledge gaps around coal seam gas activities, and in particular build our understanding of the cumulative impacts of multiple coal seam gas projects.

Recommendation 1

That the NSW Government request the Commonwealth Government's Independent Expert Scientific Committee to:

- work closely with the coal seam gas industry to overcome barriers to data-sharing, and
- fund the conduct of regional-scale water assessments in New South Wales and the development of models of cumulative water impacts as a matter of priority.

-
- 3.49** The Committee welcomes the steps taken by the NSW Government in the *Draft Code of Practice for Coal Seam Gas Exploration* to encourage coal seam gas companies to undertake more rigorous testing and monitoring of potential impacts on water resources. The Committee is concerned, however, that the Draft Code may set the bar too low. The NSW Government should consider tightening the *Draft Code of Practice for Coal Seam Gas Exploration* so that the suggested measures around water testing and monitoring, including documenting existing water bores, drilling monitoring bores, regularly monitoring water impacts and paying for independent water testing, are *required* rather than *optional*. In addition, the Committee considers that rather than simply providing for baseline data on water testing to be made available to individual landholders, this information should be made publically available.

Recommendation 2

That the NSW Government consider tightening the *Draft Code of Practice for Coal Seam Gas Exploration* so that the suggested measures around water testing and monitoring, including documenting existing water bores, drilling monitoring bores, regularly monitoring water impacts and paying for independent water testing, are *required* rather than *optional*.

Recommendation 3

That the NSW Government amend the *Draft Code of Practice for Coal Seam Gas Exploration* to require information on baseline data to be made publically available.

Impact of similar industries in other jurisdictions

- 3.50** The impact of coal seam gas in other jurisdictions, such as Queensland and the USA, is an obvious starting point in assessing the potential impact of the industry in New South Wales.
- 3.51** One way to answer the question of whether the coal seam gas industry is a safe industry is to look at the industry's track record in other jurisdictions, namely Queensland or the USA. However, there are two main caveats on how much we can learn from these jurisdictions. First, some of the most severe potential impacts of coal seam gas activities, such as impacts on water quality or quantity, may not be apparent for decades, and the industry might not have existed for long enough for these impacts to have appeared. Second, coal seam gas extraction is often compared to shale gas extraction in the USA, but there are significant differences between the two types of gas extraction that may lead to different risk profiles.

Track record in other jurisdictions

- 3.52** There is a widespread view among many Inquiry participants that the coal seam gas industry is a new industry. They argue that it should not be permitted to commence operations until it has proved its safety. The coal seam gas industry, however, counters that it is in fact a well-established industry. For example, Metgasco indicated that coal seam gas technology is 'not new' and that coal seam gas '... has been produced internationally for more than 30 years and for 16 years in Australia'.¹²⁰ Metgasco pointed to the US experience of the gas industry as demonstrating the safety of the technology:

Let us recognise that wells have been drilled through aquifers for hundreds of years for a range of reasons, including for water bores, oil and gas production, mining exploration and geothermal requirements. The technology is clearly not new. We should recognise that the United States of America has had more than four million onshore gas wells drilled and that is the world's third biggest food producer. Clearly, it is possible to have coal seam gas operations and for them to co-exist with other land uses and to achieve both food and energy security.¹²¹

- 3.53** In relation the industry's history in Australia, Santos informed the Committee that they had been operating in Queensland for nearly 20 years, and that in that time '... there has been no adverse impact to the environment, humans or animals'.¹²²
- 3.54** The NSW Government also rejected concerns that the coal seam gas industry is a new industry, and that the science is not well understood. In rejecting these concerns Mr Paterson pointed to the industry's history in Queensland:

¹²⁰ Mr Henderson, Evidence, 8 December 2011, p 36.

¹²¹ Mr Henderson, Evidence, 8 December 2011, p 37.

¹²² Answers to supplementary questions, received 30 January 2012, Mr Baulderstone, p 1.

The evidence given immediately prior to our coming to this table suggests that the industry, certainly in Australia, has existed for 15 or so years. So is it a new industry? Is it new to New South Wales? Has the science changed since it came across the border?¹²³

- 3.55** Mr Paterson contended that many of the community's fears about coal seam gas development are based on circumstances in other jurisdictions that cannot be translated to New South Wales:

It is unfortunate that much of the anxiety in the community has been generated by ill-informed speculation, people watching movies that speculate on circumstances that may have occurred in entirely different situations in other countries and trying to translate that to New South Wales...¹²⁴

- 3.56** Another Inquiry participant, Dr Khan, was questioned on whether he was aware of coal seam gas activity in Australia ever resulting in severe environmental impacts, namely cross-contamination of aquifers. Dr Khan responded by referring to the principles of risk assessment, and observed the industry had not been operating in Australia for long enough to assess the potential for it to result in 'low-frequency, high-consequence events':

When we talk about risk assessment, coming again from experience in the water industry, what we pay close attention to are the low-frequency, high-consequence events. You might have had a number of experienced people attend the inquiry and say: Never in my 15-year career have I heard of this happening. It does not mean that we should not pay careful attention to it.¹²⁵

- 3.57** Dr Khan went on to highlight the importance of managing the potential risks posed by such 'low-frequency, high-consequence events':

If you had asked me one year ago had I ever heard of a tsunami damaging a nuclear power plant I would have said no, that has never happened in my career. It is important to understand that some of the biggest and most important risks to manage are incidents which occur every 50 or 100 years – not every 15 years – and they are the things we need to not lose focus on.¹²⁶

- 3.58** A number of Inquiry participants said that they looked to the industry's track record in other jurisdictions in order to inform their views on coal seam gas development, because of the difficulty in obtaining reliable information on the coal seam gas industry in Australia. When questioned on why the submission from Stop CSG Sydney had not drawn on Australian data, the group's representative Ms Jacinta Green responded that:

I asked our local mining company and I tried to ask the Government ... If the data in our submission is from overseas that is the only place I could find answers. That is one of the problems. I have been asking questions to the best of my ability ... but it is incredibly hard to get answers.¹²⁷

¹²³ Mr Paterson, Evidence, 17 November 2011, p 39.

¹²⁴ Mr Paterson, Evidence, 17 November 2011.

¹²⁵ Dr Khan, Evidence, 8 December 2011, p 31.

¹²⁶ Dr Khan, Evidence, 8 December 2011, pp 31-32.

¹²⁷ Ms Jacinta Green, Stop CSG Sydney, Evidence, 8 December 2011, p 51.

- 3.59** Ms Green acknowledged that in the absence of reliable data from Australia, many people in the community rely on anecdotal evidence, especially in media articles, to form their views on the coal seam gas industry: ‘There is a lot of fear in the community and a lot of it is because it is hard to find the real documents. It is anecdotal evidence but it is anecdotal evidence of why people are scared ...’.¹²⁸
- 3.60** Similar evidence was given by Wollongong City Council, which had experienced difficulty in finding reliable evidence on the impacts of the coal seam gas industry. The Council remarked that the lack of reliable information heightens community concerns:

Council has searched extensively for reliable, peer reviewed literature on the environmental impacts of CSG activity in Australia, or elsewhere. Very little information of this type has been found. Many anecdotal and interest group reports can be found, but much of this information cannot always be independently verified. The relevance of reports of the situation overseas, or indeed in other parts of Australia, to the potential impacts in NSW must also be questioned. The lack of credible, independent information about this industry in NSW does not help in allaying the community’s concerns.¹²⁹

Differences between the extraction of coal seam gas and shale gas

- 3.61** The coal seam gas industry claims that it is unhelpful to attempt to gauge the safety of the coal seam gas industry in Australia by comparing it to the shale gas industry. This is because of differences between the processes for extracting coal seam gas and shale gas. The industry contends that much of the community concern about coal seam gas development has arisen due to misinformation and erroneous comparisons with the extraction shale gas. This viewpoint was typified by comments from Mr Henderson of Metgasco: ‘We want decisions made on fact, not rumours and misrepresentation. We would like to see some balance in the debate’.¹³⁰ Mr Henderson noted that: ‘The industry started on the back foot and did not anticipate the effect of movies such as Gasland and so forth. We are on the back foot now in terms of trying to explain to the community that we are a safe industry and that there are benefits to everybody in our proceeding’.¹³¹
- 3.62** Mr Robbert de Weijer, Chief Executive Officer, Australia, Dart Energy, was also concerned about the misinformation circulating in the community. He observed that the industry needs to do more to explain itself:

... some of the responses pushed by certain groups are somewhat misleading, not telling the full story or sometimes even plain wrong... I also realise that the industry needs to explain more to build trust and earn its social licence to operate and, as a company, we are very much committed to achieving exactly that ...¹³²

- 3.63** Of particular concern to the industry are erroneous comparisons between the extraction of coal seam gas and the extraction of shale gas in the USA. Mr Rick Wilkinson, Chief Operating

¹²⁸ Ms Green, Evidence, 8 December 2011, p 52.

¹²⁹ Submission 901, Wollongong City Council, p 2.

¹³⁰ Mr Henderson, Evidence, 8 December 2011, p 37.

¹³¹ Mr Henderson, Evidence, 8 December 2011, p 44.

¹³² Mr De Weijer, CEO Australia, Dart Energy Ltd, Evidence, 8 December 2011, p 61.

Officer, Eastern Australia of the Australian Petroleum Production and Exploration Association (APPEA), noted that:

The coal seam gas industry has to contend with the constant problem that examples are taken, not from Australia where there are very few shale gas wells, but from America where it is a different technology at different depths ... So, as an industry we are constantly pointing out areas where facts from shale gas have been held up as examples of coal seam gas and there has been at least one example I am aware of where testimony has been put forward where the words “shale gas” have been replaced by “coal seam gas”, and I think that is misleading.¹³³

- 3.64** There are a number of key differences between the extraction of coal seam gas and shale gas. Shale is harder than coal, which tends to be soft. Shale is located at depths of 3,000-5,000m¹³⁴ while coal seams are much shallower at depths of 700-900m.¹³⁵ Because shale is harder and located deeper than coal, approximately 5-10 times more horsepower is required to fracture a shale well than to fracture a coal seam gas well.¹³⁶
- 3.65** Mr Mike Roy is a technical expert who was nominated by the industry association, APPEA, to give evidence on the technical aspects of the coal seam gas industry. Mr Roy explained that shale wells can be fractured as many as 20 times, over up to 30 days, with a ‘massive’ amount of horsepower used to stimulate a fracture (between 25,000-30,000 horsepower).¹³⁷ A much larger amount of water is used in the fracturing process for shale: up to 1.6 megalitres of water per fracture. For a coal seam gas well, it takes less horsepower to fracture a well (6,000 horsepower) and less water (200,000-600,000 litres) over a much shorter period of up to three days.
- 3.66** When comparing the risks of coal seam gas extraction to the extraction of other sources of oil and gas, Mr Henderson of Metgasco advised that ‘in a lot of cases, coal seam methane is a very simple form of the oil and gas industry. That is why, for someone in the oil and gas industry, we see the risks, in comparison, as low or modest’.¹³⁸

Committee comment

- 3.67** Notwithstanding the industry’s assurances that it has not caused any detrimental environmental impacts in Australia, the Committee considers that the industry has not been operating for long enough in Queensland to determine the potential for such impacts to emerge. This is particularly the case when we are talking about long term impacts on water resources which may not appear for decades. However, the Committee notes that an hydrogeologist and other experts who appeared before the Committee were, despite their

¹³³ Mr Rick Wilkinson, Chief Operating Officer, Eastern Australia, Australian Petroleum Production and Exploration Association (APPEA), Evidence, 12 December 2011, pp 34-35.

¹³⁴ Mr Wilkinson, Evidence, 12 December 2011, p 34: 36.

¹³⁵ Mr Mike Roy, Drilling expert, Evidence, 17 November 2011, p 36.

¹³⁶ Mr Wilkinson, Evidence, 12 December 2011, p 36.

¹³⁷ Mr Roy, Evidence, 17 November 2011, p 36.

¹³⁸ Mr Henderson, Evidence, 8 December 2011, p 43.

extensive experience over many years, unaware of any instance of cross-contamination of aquifers in Australia due to coal seam gas drilling for exploration or production.¹³⁹

- 3.68** The Committee wishes to highlight the significant differences between extraction of coal seam gas and shale gas, particularly with regard to the fracking process. The Committee urges all stakeholders in the debate to refrain from using emotive language and making unsubstantiated claims, and to base their representations on the science.

Calls for a moratorium on coal seam gas

- 3.69** Many of the submissions to this Inquiry called for the Government to implement a moratorium on coal seam gas activity in this State, including exploration activity. These calls are driven by the fear that it is too risky to proceed at present, given the unknowns surrounding the industry. These Inquiry participants argued that a moratorium will provide the breathing space we need to get things right: that is, to gather the data required to properly assess potential impacts, and to get the right regulatory framework in place. They argue that the exploration phase presents unacceptable risks, and in addition, that it is particularly important to get things right before the industry proceeds from its current, largely exploratory phase to full-scale production.
- 3.70** On the other hand, coal seam gas companies and the Government advised that the risks of the exploration phase are minimal. They, and indeed a number of community representatives, say that the exploration phase must proceed so we can gather the data needed to assess potential environmental impacts, and in particular to answer the key question of water impacts. The industry also argued that the exploration phase will enable coal seam gas companies to do more detailed project planning, and to find out important things the community wants to know before considering whether to support a coal seam gas development in their area, such as the number of proposed gas wells.
- 3.71** This section outlines the arguments for and against proceeding with the exploration phase.

Support for a moratorium

- 3.72** Many of the hundreds of submissions to this Inquiry called for a moratorium on coal seam gas activity in New South Wales. These calls centred on a moratorium on exploration, given that most of the coal seam gas activity in New South Wales is still at the exploratory phase. However in some cases it is not clear if these Inquiry participants would support coal seam gas exploration or production under any circumstances.

¹³⁹ Mr Robert O'Neill, Director, Water Policy and Planning, NSW Office of Water, Department of Trade and Investment, Regional Infrastructures and Services, Evidence, 17 November 2011, p 43; Mr Needham, Evidence, 8 December 2011, p 61; Mr Ross Naumann, Drilling expert, Evidence, 17 November 2011, p 33, Mr Mike Roy, Technical expert for well construction and fracturing, 17 November 2011, p33; Mr Baulderstone, Evidence, 17 November 2011, p 6; Mr Mark Harris, Acting Director for Water Policy, New South Wales Office of Water, Evidence, 12 December 2011, p 10; Mr Brad Mullard, Executive Director, Mineral Resources and Energy, Department of Trade and Investment, Regional Infrastructure and Services, Evidence, 12 December 2011, p 10.

3.73 Inquiry participants who support a moratorium believe that the industry is developing too quickly, and that we need to ‘take a breath’ before allowing the industry to proceed. In the words of Dr Mariann Lloyd-Smith, Senior Adviser, National Toxics Network:

We need time to draw breath, to think about what we are going to do, how we are going to manage this industry if it is to go ahead and to look at those areas where the industry just should not go ahead.¹⁴⁰

3.74 A crucial issue for many Inquiry participants is the need to obtain reliable scientific evidence on the potential impacts of the industry before proceeding. This point was made by Ms Fiona Simson, President of the NSW Farmers’ Association:

We are waiting with bated breath to see whether the framework to be delivered in New South Wales will require the industry to prove its claims against stringent scientific scrutiny, even if that proof takes time and money to piece together. From our perspective we have only one chance to get this right. Without that proof, proceeding to jeopardise our water and some of our best agricultural and food producing lands is irresponsible at best and complicit at worst.¹⁴¹

3.75 Mr Drew Hutton, President of the Lock the Gate Alliance, argued that it is only through a moratorium that we will have the time to gather much-needed scientific data on potential coal seam gas impacts:

... you cannot get the precautionary principle enacted with proper science and with independent science without a moratorium. A moratorium has to be placed now so that governments can set up truly independent bodies, like the National Water Commission and State Water commissions, that are properly resourced to do this job well. Underground water is the key issue here.¹⁴²

3.76 Other Inquiry participants raised concerns not just about environmental impacts, but impacts on the health of the community. For example, Doctors for the Environment recommended a moratorium ‘for the protection of human health...’ until health risk assessments have been undertaken.¹⁴³

3.77 A number of the individuals who made submissions to the Inquiry also supported a moratorium. For example, 53 Inquiry participants submitted identical statements that supported ‘a full moratorium on all forms of coal seam gas drilling until the environmental, social and health impacts have been rigorously and independently assessed’.¹⁴⁴ Another thirteen participants submitted identical statements calling for ‘a Royal Commission into all aspects of coal seam gas mining’ and ‘a moratorium on coal seam gas mining pending the outcome of the Royal Commission’.¹⁴⁵ A typical view is that encapsulated by Mrs Judith Deucker, who said:

¹⁴⁰ Dr Mariann Lloyd-Smith, Senior Advisor, National Toxics Network Inc, Evidence, 21 September 2011, p 14.

¹⁴¹ Ms Fiona Simson, President, NSW Farmers’ Association, Evidence, 17 November 2011, p 14.

¹⁴² Mr Drew Hutton, President, Lock the Gate Alliance, Evidence, 17 November 2011, p 23.

¹⁴³ Submission 412, Doctors for the Environment, p 5.

¹⁴⁴ Submissions, Proforma D, 53 signatories.

¹⁴⁵ Submissions, Proforma E, 13 signatories.

The expansion of the CSG industry is so uncontrolled as to cause alarm to all Australians. There has been no consideration of the impact of engineering on this scale on landholders and communities. Please declare a moratorium on all these developments ...¹⁴⁶

- 3.78** The Committee was told by the NSW Irrigators' Council that the risks associated with the exploration phase, particularly the risks from drilling into aquifers, are too great to proceed at present, and that we should wait until such time as the technology allows us to avoid the risks associated with drilling. Mr Andrew Gregson, Chief Executive Officer, said:

At the moment in order to understand what is happening particularly in an aquifer ... you actually need to drill a hole into it ... there is a risk associated with that.

Our argument in most circumstances would be that the risk is too great. As my colleague alluded to earlier, what is the rush? Coal seam gas or the coal seam itself or any other mineral deposit is not going anywhere ... let us wait until such time as the technological constraints are broken through and we can analyse what the impacts will be without having to risk those impacts in the first place.¹⁴⁷

- 3.79** In March 2012 the NSW Legislative Council completed its consideration of the 'Coal Seam Gas Moratorium Bill 2011'. The Bill proposed to prohibit exploration and production of coal seam gas in the Sydney metropolitan area, and to impose a 12-month moratorium on exploration and production in the rest of the State. The Bill was defeated.¹⁴⁸

Support for the exploration phase to proceed

- 3.80** However, as noted previously, the coal seam gas companies describe their industry as a well-established industry, backed up by solid and well-understood science. They argue that it is therefore safe to allow industry development to proceed, particularly because they believe that the initial exploration phase involves minimal environmental impact.
- 3.81** The NSW Government concurred that with the view that the exploration phase poses minimal risk to the environment. Mr Brad Mullard, Executive Director, Mineral Resources and Energy, Department of Trade and Investment, Regional Infrastructure and Services, noted that 'it is recognised that very small test production has minimal environmental impact'.¹⁴⁹
- 3.82** On the key question of whether exploration poses a risk to aquifers, Mr Wilkinson of the industry body APPEA said that exploration 'cannot and will not' damage aquifers:

In my view exploration cannot and will not damage aquifers because the exploration wells are single, isolated wells, two or three at the most in area, and their purpose is to produce water, to produce gas and to make the measurements.¹⁵⁰

¹⁴⁶ Submission 656, Mrs Judith Deucker, p 1.

¹⁴⁷ Mr Andrew Gregson, Chief Executive Officer, NSW Irrigators' Council, Evidence, 12 December 2011, p 59.

¹⁴⁸ *LC Minutes* (15/3/2012) pp 815-816.

¹⁴⁹ Mr Mullard, Evidence, 12 December 2011, p 17.

¹⁵⁰ Mr Wilkinson, Evidence, 12 December 2011, p 35.

3.83 While many Inquiry participants support a moratorium, a number of other Inquiry participants, including community representatives, acknowledge that we need the exploration phase to proceed in order to determine the potential impacts of the industry.

3.84 The NSW Government believes that it would be a mistake to limit exploration on the grounds that the purpose of exploration is not just to assess potential coal seam gas reserves, but also to assess potential environmental impacts, and in particular the impacts on the hydrology of a region. According to Mr Mullard:

A lot of people misunderstand what exploration is about. It is actually about two aspects. One is about assessing the resource. Just as importantly, if not more importantly, it is about assessing environmental impacts ... what you actually end up with if you suddenly say certain land is quarantined from exploration is an inability to actually assess the issues that you are actually concerned about, which is what is the impact of extraction of gas on the hydrology.¹⁵¹

3.85 Further, Mr Mullard declared that giving farmers a right of veto over exploration would have deleterious environmental consequences, as it would limit the area for studying potential environmental impacts: ‘... if you cannot undertake exploration within this broader zone you potentially are having a detrimental impact in not being able to assess the full environmental impacts’.¹⁵²

3.86 On the issue of calls for a moratorium on coal seam gas activity, the NSW Government took the view that a moratorium ‘is not considered to be appropriate and would have a significant impact on the economic viability of the industry’.¹⁵³

3.87 Cr Robyn Faber, Mayor of Narrabri Shire Council, said that the data gathered from exploration, and in particular pilot wells, was essential to develop models of potential water impacts:

I do not support a moratorium because if you do not do anything you will not find anything out. The problem we have is that we have people doing all these lovely models of water aquifers with inadequate information. Even the Namoi Water Study is relying on information being fed into it from exploration wells and monitoring of those wells in terms of aquifers... We should be using the exploration phase of coal seam gas with requirements that data must be monitored and fed back into studies to ensure that we can get accurate assessment.¹⁵⁴

3.88 Cr Keith Rhoades, State President, Local Government Association of NSW and Mayor of Coffs Harbour, acknowledged the importance of the exploration phase in gathering data, and said that in order to determine the potential impacts of the coal seam gas industry, we need ‘to be able to drill, to explore, to find out and get the accurate data that is required ... You cannot take it out of a book...’.¹⁵⁵

¹⁵¹ Mr Mullard, Evidence, 12 December 2011, p 12.

¹⁵² Mr Mullard, Evidence, 12 December 2011, p 12.

¹⁵³ Answers to supplementary questions, received 13 December 2011, Department of Trade and Investment, Regional Infrastructure and Services, Question 7.

¹⁵⁴ Cr Robyn Faber, Mayor, Narrabri Shire Council, Evidence, 16 November 2011, p 8.

¹⁵⁵ Cr Keith Rhoades, President, Local Government Association of New South Wales, Evidence, 8 December 2011, p 6.

3.89 When appearing as Mayor of Gunnedah Shire Council, Cr Adam Marshall said that in regard to gathering data on water impacts: ‘Critical to getting that data is to test what is under the ground... there will need to be ultimately some drilling’.¹⁵⁶ Cr Marshall described it as ‘ironic’ that some people were in favour of Government drilling but were opposed to drilling by coal seam gas companies, given that they often use the same drilling contractors. He remarked that:

The same people are drilling holes under the same guidelines but we tend to have this impression that if a company drills it is bad and if government drills it is okay. What is critical is it does not matter who drills, it is important that we have the right regulations in place and that they are policed.¹⁵⁷

3.90 Mr Henderson of Metgasco opposed a moratorium because ‘one area is not like another and it is through the drilling of exploration wells we collect data to develop the specific knowledge required’.¹⁵⁸ He said that a moratorium will ‘... simply put the industry on hold for the period it is in place. It will not increase knowledge’.¹⁵⁹

3.91 Santos took a similar view, advising that we need exploration, and in particular pilot testing, if we are to understand the science of the coal seam gas industry. According to Mr Baulderstone:

What is now needed to provide the data necessary is the aquifer systems that underlie the surface aquifers within the coal seams that we are targeting, and that is the next phase of work that needs to be done. That is why our pilot tests are so important.¹⁶⁰

3.92 Santos advised that its ‘exploration and appraisal program in NSW will take three years to complete. It involves drilling just 50 wells with a capital expense for this program of \$500 million. Without that investment the science available to regulators will be incomplete’.¹⁶¹

3.93 The National Water Commission agreed that pilot testing is a vital part of the exploration phase, because exploration alone tends to involve drilling to collect core samples of rock or coal and test them to see if they are suitable for commercial production. This type of data is unlikely to answer the key question of whether depressurisation resulting from coal seam gas activity will have an impact on adjoining aquifers. The Commission noted that ‘it is only at [the pilot testing] stage that water is pumped off the coal seams, resulting in depressurisation’.¹⁶²

3.94 In addition, APPEA claimed that a moratorium would be counterproductive because the data gathered through the exploration phase is needed to answer the community’s questions about proposed coal seam gas projects, such as the number of wells involved, the location of pipelines and the volume of produced water:

¹⁵⁶ Cr Adam Marshall, Mayor, Gunnedah Shire Council, Evidence, 16 November 2011, pp 8-9.

¹⁵⁷ Cr Marshall, Evidence, 16 November 2011, p 9.

¹⁵⁸ Mr Henderson, Evidence, 8 December 2011, p 37.

¹⁵⁹ Mr Henderson, Evidence, 8 December 2011, p 44.

¹⁶⁰ Mr Baulderstone, Evidence, 17 November 2011, p 4.

¹⁶¹ Answers to supplementary questions received 30 January 2012, Mr Baulderstone, Santos, p 2.

¹⁶² Answers to supplementary questions, received 9 February 2012, Mr James Cameron, Chief Executive Officer, National Water Commission, p 1.

... more often than not the exploration phase is about fact gathering and data. So when the community asks what I think are reasonable questions: How many wells? Where are the pipelines? How much water is being produced? In fact, the answers come from the exploration phase, where the rocks are tested and the gas and water is flowed, in order to collect that data.

So a moratorium is actually very counterproductive because a moratorium which is waiting for answers which can only be collected from exploration, gets you into a situation where you cannot move forward.¹⁶³

- 3.95** Coal seam gas companies were also questioned on the likely costs if a moratorium was imposed. APPEA noted that a moratorium would increase industry costs because rigs would be stood down, and it would also lead to uncertainty, making New South Wales less attractive as an investment destination:

... it increases the cost because now we have to stand down rigs and put them aside ... it creates uncertainty and with an overseas investor, uncertainty is considered to be an important issue... If we [NSW] are seen as high risk, too hard, too much trouble, that capital will go to another State or another country. It is easy for global capital to do that.¹⁶⁴

Precautionary and adaptive management approaches

- 3.96** The discussion about the need for a moratorium draws on two different approaches to scientific risk: the precautionary and adaptive management approaches. In the coal seam gas debate, these approaches are particularly relevant to managing the industry's potential environmental impacts. The evidence to the Committee included discussion about the merits of the precautionary and adaptive management approaches, which approach we should be pursuing in New South Wales, and indeed if these approaches are mutually exclusive.
- 3.97** The precautionary approach is enshrined in the New South Wales environmental protection framework through the *Protection of the Environment Administration Act 1991*. The Act provides that:

In the application of the precautionary principle, public and private decisions should be guided by:

- (i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment, and
- (ii) an assessment of the risk-weighted consequences of various options...¹⁶⁵

- 3.98** A number of Inquiry participants suggested that the application of the precautionary approach in relation to the coal seam gas industry requires undertaking a sound scientific assessment of potential impacts before allowing the industry to go ahead, including thorough research and evidence-gathering, to gain a clear picture of the level of risk involved.

¹⁶³ Mr Wilkinson, Evidence, 12 December 2011, p 35.

¹⁶⁴ Mr Wilkinson, Evidence, 12 December 2011, p 35.

¹⁶⁵ *Protection of the Environment Administration Act 1991*, Part 3, s 6, cl 2 a.

- 3.99** Under the adaptive management approach, policies and practices are continually improved by learning from the outcomes of previous work.¹⁶⁶ The process is iterative, and the management approach evolves as new knowledge comes to hand, and indeed as community expectations may change.
- 3.100** The adaptive management approach has guided the development of the coal seam gas industry in Queensland. The adaptive management approach is incorporated in legislation including the *Environmental Protection Act 1994* (Qld) and the *Water Act 2000* (Qld). According to the Queensland Government, adaptive management ‘... is a system to monitor and instigate change where required’ as ‘technologies develop over time’.¹⁶⁷ The Queensland Government states that ‘adaptive management frameworks are widely used to address unknown and unintended impacts ...’.
- 3.101** Adaptive management was much-maligned by many Inquiry participants due its close connection with the Queensland experience. Many Inquiry participants see what has happened in Queensland as synonymous with the perils of allowing the industry to develop too fast in the absence of sufficient Government regulation. Indeed, many Inquiry participants perceived the adaptive management approach as confirmation that the Government is ‘playing catch-up’ in its approach to the coal seam gas industry.
- 3.102** Mr Drew Hutton, President of the Lock the Gate Alliance, described the pitfalls of the adaptive management approach in Queensland:
- In Queensland’s case the environmental approvals combined with the system of adaptive management, which basically means “if you make mistakes we will change the regulatory system to accommodate you.” They also arranged to fill the enormous gaps in their knowledge by asking the companies to do the basic research as they went ...¹⁶⁸
- 3.103** Ms Simson of the NSW Farmers’ Association, also criticised what she described as the ‘suck it and see’ mentality that she claimed underpins the adaptive management approach:
- Instead they are continuing to advocate adaptive management, commonly known as the “suck it and see” approach. They want to press ahead, as they have done in Queensland, on the basis that they will be able to mitigate effects after or as they happen.¹⁶⁹
- 3.104** When questioned on whether the NSW Government believes that the precautionary principle should guide the development of the coal seam gas industry in New South Wales, Mr Paterson did not refer to the definition of the precautionary principle as set out in the Act. Instead,

¹⁶⁶ Commonwealth Government, *Connected Water: Managing the linkages between surface water and ground water*, accessed 20 March 2012, <www.connectedwater.gov.au/framework/adaptive_management.html>.

¹⁶⁷ Queensland Government, ‘Adaptive environmental management regime for the coal seam gas industry’, *Fact sheet*, 23 June 2011, accessed 17 February 2012 <www.derm.qld.gov.au/factsheets/pdf/environment/en7.pdf>.

¹⁶⁸ Mr Hutton, Evidence, 17 November 2011, p 22.

¹⁶⁹ Ms Simson, Evidence, 17 November 2011, p 14.

Mr Paterson said: 'We do not sit with a definition called the precautionary principle as defined as X in relation to how we deal with issues'.¹⁷⁰

- 3.105** Mr Paterson would not commit as to whether the Government is being guided by the precautionary principle: 'I do not think that I am here in a position to articulate on behalf of the New South Wales Government whether it adopts a precautionary principle in relation to its considerations. There are many potential definitions of the precautionary principle so I am not being obtuse ...'¹⁷¹ However, Mr Paterson did 'emphatically' confirm that the Government is adopting a 'cautious approach'.¹⁷²
- 3.106** A number of Inquiry participants, such as Mr Hutton, strongly argued that coal seam gas development should be guided by the precautionary principle: 'It [the precautionary principle] is a very strong principle and one that should underpin certainly all major development'.¹⁷³
- 3.107** However, it was pointed out that the precautionary and adaptive management approaches need not be mutually exclusive. In relation to the approach that should be pursued in New South Wales, the National Water Commission recommended both a precautionary and adaptive management approach to the coal seam gas industry. That is, based on the precautionary principle, that projects only be allowed to proceed after careful consideration of the risks involved, and that '... the onus of the burden should be on the developer to provide a level of confidence that development can occur without any unacceptable impacts'.¹⁷⁴
- 3.108** If a proponent can demonstrate that a project presents an acceptable level of risk, Mr Cameron said that in accordance with the adaptive management approach, that project should be allowed to proceed, provided there are clear mechanisms that can be activated if undesirable impacts emerge:

The Commission has argued that a precautionary and adaptive management approach should be adopted ... where exploration approvals are made, they are to be made on the basis of careful consideration of the likely impact of those developments and activities, with appropriate decision points and thresholds identified about the circumstances in which, if those activities create outcomes that were unanticipated, management arrangements can be adapted to address those concerns.¹⁷⁵

- 3.109** The Environmental Defender's Office observed that an adaptive management approach can only work if the NSW Government applies the lessons learned during the industry's roll-out to all coal seam gas activities: 'Protections applied to new CSG applications should also apply to existing operations, reflecting a clear, consistent approach that requires adaptive management by industry'.¹⁷⁶

¹⁷⁰ Mr Paterson, Evidence, 17 November 2011, p 39.

¹⁷¹ Mr Paterson, Evidence, 17 November 2011, p 38.

¹⁷² Mr Paterson, Evidence, 17 November 2011, p 38.

¹⁷³ Mr Hutton, Evidence, 17 November 2011, p 22.

¹⁷⁴ Mr James Cameron, Acting Chief Executive Officer, National Water Commission, Evidence, 12 December 2011, p 53.

¹⁷⁵ Mr Cameron, Evidence, 8 December 2011, p 51.

¹⁷⁶ Submission 359, p 10.

- 3.110** When he announced the delivery of the Strategic Regional Land Use package, the Hon Chris Hartcher MP, Minister for Resources and Energy, advised that ‘... there is no “business as usual” with new controls applying to all current and future exploration licences’.¹⁷⁷ This means that when the Strategic Regional Land Use package is finalised, the new measures will be applied to all applications to conduct coal seam gas activities such as fracking, water extraction, or drilling wells.

Committee comment

- 3.111** The Committee acknowledges the hundreds of Inquiry participants who called for a moratorium on coal seam gas development in New South Wales. These calls are motivated by a fear of the potential impacts of the coal seam gas industry, particularly on water resources, and the concern that we do not have sufficient scientific evidence on some aspects of the coal seam gas industry.
- 3.112** The Committee supports a combination of the precautionary and adaptive management approaches in mitigating the impacts of the coal seam gas industry in New South Wales. We believe that the industry cannot proceed to production in the absence of robust scientific evidence that it poses an acceptable level of risk, and that if undesirable impacts do emerge, that we have measures to mitigate these impacts.
- 3.113** The exploration phase, however, is crucial to gathering data on hydrogeology and geology. The Committee therefore believes that exploration should continue in order to gather the necessary data, and that this will involve drilling through aquifers, subject to any aquifer interference assessment (see Chapter 4, Recommendation 6). While drilling is of great concern to many community members, it is unavoidable if we are to assess whether it is safe for the industry to proceed to production.

¹⁷⁷ Hon Chris Hartcher MP, Minister for Resources and Energy, ‘More stringent controls apply to all CSG licences’, *Media release*, 6 March 2012.

Chapter 4 Water

Many Inquiry participants urged the Government to take all possible steps to prevent the coal seam gas industry from threatening water resources. Their concerns include the industry's potential to contaminate water supplies; whether the water extracted by the industry will reduce the amount of water available to other users; and how to dispose of the significant volume of saline water and solid waste produced by coal seam gas operations. This Chapter examines these concerns and the response of the NSW Government and industry to these issues.

Risks to water resources

- 4.1 Inquiry participants raised three main concerns about the possible impacts of coal seam gas development on water resources. First, that coal seam gas activity could contaminate water used for drinking or agricultural purposes. Contamination could potentially occur through the injection of chemicals into aquifers during drilling or fracking, or due to drilling or fracking causing previously unconnected aquifers to 'crack', leading to aquifer cross contamination. Water quality could also be compromised by depressurisation of aquifers. Other risks include surface accidents such as spills or leaks of drilling or fracking fluids, or of produced water, which could then flow into surface water or leach into groundwater. Another concern is the potential for coal seam gas activities in drinking water catchments, especially those catchments that supply drinking water to Sydney, to contaminate drinking water supplies.
- 4.2 Second, Inquiry participants raised concerns that coal seam gas activities could deplete the amount of water available for other users. A decrease in the amount of available water could occur due to the large volume of water to be extracted by the industry or through depletion of aquifers and consequent lowering of the water table.
- 4.3 The third concern regarding the impact of coal seam gas development on water resources is how to dispose of produced water. The term 'produced water' refers to the low-quality salty or brackish water extracted from coal seams, and is also referred to as 'coal seam water'. A further issue is how to deal with the solid waste (or 'brine') that is generated when contaminants are removed from produced water in the process of treating it for re-use.
- 4.4 Underscoring these concerns is the fact that, as the National Water Commission suggests, the industry may have the potential to result in 'significant, long-term, and adverse impacts' on water resources.¹⁷⁸ In its assessment of the risks to groundwater, the National Water Commission said that the industry represents a 'substantial risk to sustainable water management given the combination of material uncertainty about water impacts, the significance of potential impacts, and the long time period over which they may emerge...'.¹⁷⁹

¹⁷⁸ Submission 100, National Water Commission, p 1.

¹⁷⁹ Submission 100, p 1.

Impact of coal seam gas activities on water quality and quantity

- 4.5 Inquiry participants raised a number of concerns about the potential impact of coal seam gas activities on the quality and quantity of water resources. On the issue of water quality, Inquiry participants agree that there is at least some degree of connection between aquifers, although there is no consensus on the extent of this connectivity. Because aquifers are connected, Inquiry participants are concerned that water resources could be contaminated due to chemicals introduced by, or naturally-occurring chemicals disturbed by, coal seam gas activities. Contamination could also occur due to the mixing of salty coal seam water with water from other aquifers. In addition, there are concerns that coal seam gas activities, such as fracking, could ‘crack’ aquifers, and this could heighten the risk of cross-contamination occurring. Concerns were also raised about well integrity, and whether the design and construction of coal seam gas wells are of a high enough standard to protect water resources from contamination.
- 4.6 In relation to the issue of water quantity, participants raised concerns that the substantial volume of water to be extracted by the coal seam gas industry could deplete water resources. It was also suggested that depressurisation of aquifers could lead to a lowering of the water table and cross-contamination of aquifers. A number of Inquiry participants insisted that to prevent the coal seam gas industry from taking more than its fair share of water, the water extracted by the industry must be accounted for in water licensing frameworks.

Aquifer connectivity and potential water contamination

- 4.7 As outlined in the previous Chapter, several Inquiry participants asserted that there is some degree of connection between coal seams and other aquifers, but argued that the extent of these connections is unknown. Inquiry participants raised concerns that the connections between the coal seams and other aquifers could lead to contamination of water sources. Contamination could occur due to the chemicals involved in drilling and fracking, and indeed the saline water in the coal seam itself, mixing with the water in other aquifers. Ms Judi Sheedy, a Gunnedah representative of the NSW Farmers’ Association, expressed her fears that coal seam gas activities could contaminate water resources given the connectivity between coal seams and other aquifers:

The risk of interconnectivity and contamination of all water sources is significantly too high to allow this industry to proceed without appropriate scientific and objective research. Even APPEA admits that there will be interconnectivity.¹⁸⁰

- 4.8 In addition to the potential for aquifer contamination to occur as a result of the chemicals introduced during drilling or fracking, or the mixing of salty coal seam water, it was suggested that the introduced chemicals might mobilise naturally-occurring toxic chemicals within an aquifer. According to Dr Stuart Khan, Senior Lecturer, Water Research Centre, University of New South Wales:

¹⁸⁰ Ms Judi Sheedy, Executive Councillor and Chair of Gunnedah District Council, NSW Farmers’ Association (Boggabri, Gunnedah, Pottinger District Councils), Evidence, 16 November 2011, p 39.

I think that some of the things that you are injecting are there to change the water quality within the aquifer ... When you start to adjust the pH and also the oxidation reduction conditions within an aquifer you start to mobilise natural chemicals within the aquifer, so you can have minerals, things like arsenic, fluoride, cadmium, mercury ... Things that have been precipitated and are in a solid form for thousands of years may actually end up within the watertable or within the aquifer.¹⁸¹

- 4.9 Dr Khan noted that the mobilisation of naturally-occurring toxic chemicals could contaminate presently 'pristine' aquifers.¹⁸²

Increased risk of aquifer connectivity

- 4.10 Inquiry participants expressed concern that coal seam gas operations could 'crack' aquifers, increasing the risk of greater aquifer connectivity and potential contamination of water resources. One means by which coal seam gas activities could 'crack' aquifers is through the drilling of coal seam gas wells. In relation to the risks involved in drilling wells, Dr Khan noted that:

Drilling through aquifers, impervious rock and coal seams risks 'interconnecting' otherwise confined aquifers. In such circumstances, aquifers holding large volumes of pristine water can be contaminated by mixing with other contaminated waters ...¹⁸³

- 4.11 It was also suggested that the risk of aquifer cross-contamination may be heightened by the fracking process. According to the National Water Commission: 'The practice of hydraulic fracturing, or fracking, to increase gas output, has the potential to induce cross-contamination between aquifers, with impacts on groundwater quality'.¹⁸⁴
- 4.12 The evidence to the Committee indicated that while it is possible for drilling or fracking to create connections between previously unconnected aquifers, and thus to result in cross-contamination of aquifers, this was unlikely to occur for two main reasons. First, increased connectivity is not in the interests of coal seam gas companies, and they have instituted monitoring processes to prevent this from occurring. Second, the drilling of coal seam gas wells is not dissimilar to the common practice of drilling water bores, although the drilling of coal seam gas wells involves a greater level of risk.
- 4.13 The Committee was told that it is in the best interests of coal seam gas companies to avoid cross contamination of aquifers, because rapid aquifer recharge would stop gas from flowing from the coal seams and make a well unviable for gas extraction. This point was made by Mr James Baulderstone, Vice President, Eastern Australia, Santos, who also indicated that there had been no instances of aquifer cross-contamination in Santos' Queensland operations:

¹⁸¹ Dr Stuart Khan, Senior Lecturer, Water Research Centre, University of New South Wales, Evidence, 8 December 2011, p 29.

¹⁸² Submission 330, Dr Stuart Khan, Senior Lecturer, Water Research Centre, University of New South Wales, p 2.

¹⁸³ Submission 330, pp 2-3, emphasis as per original.

¹⁸⁴ Submission 100, p 1.

Clearly, if there are connections [between aquifers] our business does not work. If there are cross connections then water will continue to flow, there will not be pressure to coal, gas will not flow.

So in some ways we are self interested in ensuring that our development does not hook into any ongoing aquifers, otherwise we do not have a business.... I can say that on Santos properties and in our business over the last 40 years, and 15 years in Queensland, no examples of cross-contamination have occurred.¹⁸⁵

- 4.14** When questioned on this evidence, Dr Khan observed that while rapid aquifer recharge due to interconnectivity would be undesirable, it could happen due to ‘unanticipated’ water movements:

The point is that we need to think about not just what is anticipated but what is unanticipated. I acknowledge that coal seam gas companies do not want things that are going to minimise or reduce the efficiency of coal seam gas extraction to occur.¹⁸⁶

- 4.15** The Committee notes an hydrogeologist and other experts who appeared before the Committee were, despite their extensive experience over many years, unaware of any instance of cross-contamination of aquifers in Australia due to coal seam gas drilling for exploration or production.¹⁸⁷

- 4.16** On the potential for fracking to ‘crack’ aquitards, Santos claimed that if fracking is conducted properly, it does not lead to cross contamination:

Fracturing techniques are highly localized and designed to only affect the targeted coal seams. Properly conducted the fracturing techniques do not cause cross contamination of aquifers and especially not those which are separated from the coal seams by several hundred metres of rock, as is the case with Santos’ NSW acreage.¹⁸⁸

- 4.17** Mr Baulderstone also said that because fracking is taking place in coal, which is a relatively soft material, less force is required and there is less risk of ‘cracking’ an aquitard: ‘...there is no violent fracturing, so there is no risk to cross-contamination of different aquifers that are often hundreds of metres apart....’¹⁸⁹

- 4.18** The Committee received evidence on the issue of fracking from two technical experts nominated by the industry association, namely the Australian Petroleum, Production and

¹⁸⁵ Mr James Baulderstone, Vice President, Eastern Australia, Santos, Evidence, 17 November 2011, p 6.

¹⁸⁶ Dr Khan, Evidence, 8 December 2011, p 33.

¹⁸⁷ Mr Robert O’Neill, Director, Water Policy and Planning, NSW Office of Water, Department of Trade and Investment, Regional Infrastructures and Services, Evidence, 17 November 2011, p 43; Mr Jason Needham, Exploration Operations Manager, Dart Energy Limited, Evidence, 8 December 2011, p 61; Mr Ross Naumann, drilling expert, Evidence, 17 November 2011, p 33, Mr Mike Roy, technical expert for well construction and fracturing, 17 November 2011, p33; Mr Baulderstone, Evidence, 17 November 2011, p 6; Mr Mark Andrew Harris, Acting Director for Water Policy, New South Wales Office of Water, Evidence, 12 December 2011, p 10; Mr Brad Mullard, Executive Director, Mineral Resources and Energy, Department of Trade and Investment, Regional Infrastructure and Services, Evidence, 12 December 2011, p 10.

¹⁸⁸ Submission 337, Santos, p 6.

¹⁸⁹ Mr Baulderstone, Evidence, 17 November 2011, p 7.

Exploration Association (APPEA): Mr Mike Roy, a technical expert for well construction and fracing, and Mr Ross Naumann, a drilling expert. Mr Roy acknowledged that a fracing operation could inadvertently shatter an overlying formation, particularly if it was sandstone, on the basis that ‘...where the rock stresses are very similar to that of the coal seams...you can fracture’.¹⁹⁰ However, the Committee was told that if such an incident occurred there are monitoring processes in place to allow a fracing operation to be terminated immediately. Mr Naumann said of the monitoring process:

When you are pumping the frack you have real-time monitoring and you will have surface and down-hole pressure gauges and everyone sits back in what is called the frack van and watches their little computer screens and sees what is going on. If you see a variation to your expected profile – say, for instance, a sudden dive in pressure that was indicating you were having additional fluid loss, which would say you were maybe breaking out of the zone, you can terminate your job immediately.¹⁹¹

4.19 In addition, Mr Naumann observed that if an operator was required to terminate a fracture, ‘...there is really a very small chance of sending any frack proppant up into an overlying zone’ because the ‘pad, which is the part of the frack fluid does not have any sand in it’ and this would prevent the proppant from entering the overlying formation.¹⁹²

4.20 It was also suggested that the drilling of gas wells is unlikely to ‘crack’ aquitards because it is similar to the drilling of water bores through aquifers, which is a commonplace and widely accepted practice. According to Mr Peter Henderson, Managing Director, Metgasco:

The drilling of wells through aquifers is not new and certainly not unique to the coal seam gas industry. Millions of water bores and minerals and gas wells have been drilled around the world. There are decades of experience and standard practices in place to protect aquifers.¹⁹³

4.21 Mr Henderson said that he had confidence that ‘... our coal seam gas operations can be managed safely without impact on other ground or surface water applications’.¹⁹⁴

4.22 Dr Khan acknowledged that some of the same considerations apply to drilling water bores as to drilling coal seam gas wells. However he argued that the risks involved in drilling a coal seam gas well are heightened due to the greater volume of water involved, the depth of the aquifers and the need to drill through multiple layers of aquifer and rock, as well as the potential involvement of activities such as fracing.¹⁹⁵

4.23 Witnesses were asked if they were aware of any instances in Australia of coal seam gas activities causing aquifers to ‘crack’. Several witnesses informed the Committee that they were not aware of any examples of this occurring. For example, in relation to the AGL Energy site at Camden, the only coal seam gas project in production in New South Wales, Mr Brad Mullard, Executive Director, Mineral Resources and Energy, Department of Trade and

¹⁹⁰ Mr Mike Roy, Evidence, 17 November 2011, p 36.

¹⁹¹ Mr Naumann, Evidence, 17 November 2011, p 36.

¹⁹² Mr Naumann, Evidence, 17 November 2011, p 37.

¹⁹³ Mr Peter Henderson, Managing Director, Metgasco, Evidence, 8 December 2011, p 36.

¹⁹⁴ Mr Henderson, Evidence, 8 December 2011, p 36.

¹⁹⁵ Dr Khan, Evidence, 8 December 2011, p 32.

Investment, Regional Infrastructures and Services (DTIRIS), advised that there had been no cross contamination of aquifers.¹⁹⁶

4.24 Under questioning Mr Mullard said that he was aware of a report by the US Environment Protection Agency which suggested that in the USA, aquifers had been contaminated by coal seam gas development. However Mr Mullard observed that it was an interim report and the conclusions were not final.¹⁹⁷

4.25 The view that the coal seam gas industry is unlikely to cause connections between previously unconnected aquifers was supported by Geoscience Australia. Advice prepared by Geoscience Australia in relation to proposed projects in Queensland's Surat Basin concluded that in terms of the potential impact on aquifers as a result of groundwater extraction, 'there is a low likelihood of cross-contamination, as the majority of inter-aquifer transfer will involve the migration of higher quality water from adjacent underlying and overlying sandstone aquifers into coal measures containing lower quality water'.¹⁹⁸

Well integrity and protecting water resources

4.26 Well integrity is crucial to protecting water resources from contamination, and also plays a role in preventing aquifer depletion. In New South Wales 'every gas well is encased in two or more layers of steel tube with cement pumped between the layers to remove the risk of aquifer interconnectivity'.¹⁹⁹ Well integrity is about ensuring that well design and construction is sufficiently robust to ensure that wells retain their integrity not just for the present, but into the future. Even when coal seam gas wells reach the end of their productive life and are decommissioned, they are sealed off and remain in the ground. Therefore rigorous standards need to be in place to ensure that the steel does not corrode, and the cement does not break down, which would potentially lead to water contamination by enabling water to move from one strata to another.

4.27 Giving evidence on the steps that the Government is taking to protect water resources, Mr Mullard said: '... the most important thing ensuring that you are not contaminating aquifers is to ensure you have well integrity'.²⁰⁰ The NSW Government advised that well integrity plays an important role in ensuring that 'shallow groundwater resources are not contaminated in any way by CSG drilling/fracture stimulation practices or depleted by being drained into the coal seam'.²⁰¹

4.28 A number of witnesses raised concerns about well integrity. Ms Rosemary Nankivell, from the Caroon Coal Action Group and Mullaley Gas Pipeline Accord, stated that:

¹⁹⁶ Mr Mullard, Evidence, 12 December 2011, p 14.

¹⁹⁷ Mr Mullard, Evidence, 12 Dec 2011, p 15.

¹⁹⁸ Habermehl MA and Geoscience Australia, *Summary of advice in relation to the potential impacts of coal seam gas extraction in the Surat and Bowen Basins, Queensland: For Australian Government Department of Sustainability, Environment, Water, Population and Communities*, 29 Sept 2010, p 3.

¹⁹⁹ NSW Government, *Draft Code of Practice for Coal Seam Gas Exploration*, March 2012, p 15.

²⁰⁰ Mr Mullard, Evidence, 17 November 2011, p 51

²⁰¹ NSW Government, *Draft Code of Practice for Coal Seam Gas Exploration*, March 2012, p 15.

Another emerging issue is the maintenance of wells. Steel rusts, cement deteriorates and the integrity of these wells is compromised by the natural movements of the earth. Long after the gas companies have gone, New South Wales will be left with the maintenance of these wells at considerable ongoing expense.²⁰²

4.29 Namoi Water also highlighted the importance of well construction standards:

The variable core hold casing techniques in use are being questioned overseas ... Is the Government assured that industry best practice is enough to prevent interference and will not degrade over time 500-100 years resulting in contamination of the overlying aquifers?²⁰³

4.30 Mr Milton Judd, representing Friends of the Pilliga, raised concerns that poor-quality cement is being used to construct the wells, and that it may degrade over time, especially if there is any earth movement:

The other thing I am worried about is the integrity of the cement. I have samples. I did not bring them here. The cement they are using to plug the wells is very poor. Even though it might be cemented all the way down, what I am worried about is the long-term integrity of it, particularly if they start fracturing. Even so, we do get earth movements around here from time to time.²⁰⁴

4.31 Despite the concerns of Inquiry participants, the coal seam gas industry insists that wells are constructed to the highest standards. APPEA advised that:

CSG wells are the lifeblood of the CSG industry and represent a major investment by CSG companies. A great deal of effort goes into their construction... Relative to water bores CSG wells are constructed and completed to a significantly higher standard to ensure well isolation and control.²⁰⁵

4.32 In relation to the requirements for rehabilitating discontinued wells, the NSW Government advised that 'discontinued wells must be sealed completely from bottom to top using cement plugs to prevent leakage of gas or water, both underground and at the surface'.²⁰⁶

4.33 Mr Michael O'Brien, Chief Operations Officer, Metgasco observed that the industry's history demonstrated that wells could be decommissioned without any future risks to groundwater:

The oil and gas industry has been operating for more than 150 years. So there is extensive history of decommissioned wells and the industry is not seeing a lot of historical failures of the decommissioned wells ...²⁰⁷

²⁰² Ms Rosemary Nankivell, Caroon Coal Action Group and Mullaley Gas Pipeline Accord, Evidence, 16 November 2011, p 30.

²⁰³ Submission 351, Namoi Water, p 8.

²⁰⁴ Mr Milton Judd, Friends of the Pilliga, Evidence, 16 November 2011, p 24.

²⁰⁵ Submission 447, Australian Petroleum, Production and Exploration Association, p 2.

²⁰⁶ NSW Government, *Draft Code of Practice for Coal Seam Gas Exploration*, March 2012, p 15.

²⁰⁷ Mr Michael O'Brien, Chief Operations Officer, Metgasco, Evidence, 9 December 2011, p 39.

4.34 This view was supported by AGL Energy. AGL observed that coal seam gas is a type of ‘sweet’ gas, and noted that for ‘sweet’ gas, ‘wells dating back many decades have confirmed that cement integrity and casing integrity has minimal degradation...’.²⁰⁸

4.35 When questioned on well integrity and remediation, Santos explained that its wells are constructed according to ‘best practice’ standards:

CSG wells should be constructed and ultimately remediated in accordance with best practice engineering standards developed over many decades in the oil and gas industry. This involves the use of proven steel and cement protective barriers during the productive phase and the sinking of high-grade cement plugs through the full well depth up to 1.5 metres below the surface when the wells are ultimately abandoned. This process has been undertaken many thousands of times around the world and is recognised as safe and sustainable.²⁰⁹

4.36 AGL Energy also emphasised that when a well is decommissioned the entire well is filled with cement, ‘... greatly reducing any potential for water cross flow or gas migration back to surface’.²¹⁰

4.37 Mr O’Brien was questioned about the potential for degradation of the steel and concrete used to construct wells. Mr O’Brien advised that the steel casing in a well should not corrode for an ‘extensive’ time period, particularly because when a well is sealed there is limited opportunity for oxygen to enter the well. However, he noted that if there was corrosion due to oxygen coming from adjacent waters, the corroded steel would expand and that this could actually assist the rehabilitation.²¹¹ In relation to the quality of cement used in wells, he indicated that it is a particular grade of impermeable concrete that would ‘flow and fill all the voids’ in a well.

4.38 Commenting on the requirements in New South Wales for the decommissioning of a coal seam gas well, AGL Energy observed that these requirements are ‘... at a standard that exceeds other Australian States and in general most other international regulatory agencies’.²¹²

4.39 The NSW Government advised that it has commissioned an independent review into the standards and design of coal seam gas wells.²¹³ Mr Mullard told the Committee that:

There has been a series of activities undertaken, the most important of which is really developing standards for well integrity ... Guidelines and specifications are being developed for government which will apply to ensure well integrity. New guidelines for fracking are being developed by technical experts. The idea behind that is that when the moratorium is lifted there is much greater regulation and controls to ensure that we do have appropriate standards for well integrity and fracking.²¹⁴

²⁰⁸ Answers to questions on notice taken during evidence 17 November 2011, Mr Mike Moraza, Group General Manager, Upstream Gas, AGL Energy Limited, p 8.

²⁰⁹ Answers to supplementary questions, received 31 January 2012, Mr James Baulderstone, Vice President Eastern Australia, Santos Limited, pp 1-2.

²¹⁰ Answers to questions on notice taken during evidence 17 November 2011, Mr Moraza, p 7.

²¹¹ Mr O’Brien, Evidence, 9 December 2011, p 39.

²¹² Answers to questions on notice taken during evidence, 17 November 2011, Mr Moraza, p 7.

²¹³ NSW Government, *Strategic Regional Land Use Policy Delivery: Frequently Asked Questions*, March 2012, p 6.

²¹⁴ Mr Mullard, Evidence, 17 November 2011, p 51.

- 4.40 Further detail on the review of standards for well integrity and fracking is provided later in this Chapter.

Depressurisation of aquifers

- 4.41 The depressurisation of aquifers has the potential to impact on both water quality and quantity. Depressurisation involves the lowering of water levels, and consequently pressure levels, within an aquifer. During the Inquiry the Committee heard that coal seam gas activities, namely the drilling of wells and the extraction of water from the coal seams, may result in the depressurisation of aquifers.
- 4.42 According to the National Water Commission, aquifer depressurisation can lead to changes in the pressure of adjacent aquifers with resultant reductions in water availability and surface water flows, as well as land subsidence affecting surface water systems.²¹⁵
- 4.43 Depressurisation can also have a deleterious impact on water quality within an aquifer. According to Dr Khan, depressurisation can lead to changes in flow within an aquifer, causing changes in chemistry and potential contamination:

Extracting large quantities of water will lead to depressurisation of groundwater systems ... The extraction of large volumes of water will significantly impact pressure gradients ... In some cases, the underground direction of flow may be altered, which can lead to changes in water chemistry ... In this way, pristine aquifers can quickly become contaminated ...²¹⁶

- 4.44 Extracting water from within an aquifer may also lead to depressurisation in shallower aquifers or surface water systems. According to the National Water Commission:

... it is generally accepted that deep groundwater pumping can induce downward leakage from upper aquifers in most cases. The resultant drawdown in shallow aquifers depends on the degree of connection between them and the deeper aquifers and the period of time over which pumping occurs.²¹⁷

- 4.45 Dr Khan observed that depressurisation of aquifers may allow contaminated surface waters to flow into deeper aquifers:

Could depressurisation of a groundwater aquifer result in rapid movement of surface waters and potentially contaminated surface waters into an aquifer? Yes, it can occur where there are extraction wells and movement under the ground ... Changing pressures will change directions of flow. If you depressurise one area, water will flow towards that area.²¹⁸

²¹⁵ Submission 100, p 1.

²¹⁶ Submission 330, pp 2-3, emphasis as per original.

²¹⁷ Answers to questions on notice taken during evidence 12 December 2011, Mr James Cameron, Chief Executive Officer, Australian Government National Water Commission, p 2.

²¹⁸ Dr Khan, Evidence, 8 December 2011, p 33.

4.46 Witnesses were questioned on whether there is any evidence to show that extracting water from a deep aquifer, such as a coal seam, has led to depressurisation and lowering of water levels in shallower aquifers. The National Water Commission advised the Committee that several studies in irrigation areas, including a study conducted by the Commonwealth Scientific and Industrial Research Organisation (CSIRO), ‘... have shown that vertical leakage does occur as a result of deep groundwater pumping...’.²¹⁹ The Commission noted that the degree of drawdown in the shallower aquifers depends on factors including the extent of connectivity between aquifers.

4.47 In addition to depressurisation, Dr Khan advised that the lowering of water levels can lead to increased salination and mobilisation of naturally-occurring toxic chemicals within an aquifer:

Lowering of water levels in adjacent aquifers may affect water quality in those aquifers. Exposure of naturally-occurring chemicals to an oxygen-rich environment may cause chemical change to the minerals that affect solubility and mobility. Increased solubility will lead to increased salination of the water, and may also involve the mobilisation of toxic chemicals such as chromium, strontium, lead, iron, arsenic, fluoride and selenium.²²⁰

4.48 The Committee heard that in some instances the water in aquifers can be centuries old, and that it is not known when, or if, these aquifers may recharge if they are depleted by coal seam gas activities. Ms Jon-Maree Baker, Executive Officer, Namoi Water, observed that:

Those old water sources do not recharge the same way that the alluvial aquifers do. It takes hundreds of years for them to recharge and they may not recharge at all.²²¹

4.49 In support of this point, Associate Professor Willem Vervoort and Dr Floris van Ogtrop from the Hydrology Research Laboratory at The University of Sydney observed that:

Groundwater is extremely slow moving, can be very deep underground, and is often under pressure. There is increasing understanding that impacts on groundwater take a long time to become evidence. Deeper groundwater often moves slower (to millions of years old in the GAB [Great Artesian Basin]).²²²

4.50 Despite the significant concerns raised by Inquiry participants, in relation to the potential impact of groundwater extraction on both the quantity and quality of groundwater, Geoscience Australia concluded that any impacts are ‘... likely to be reversible over medium to long term timeframes (decades to centuries), depending on the specific aquifer and the management strategies applied’.²²³

²¹⁹ Answers to questions on notice taken during evidence 12 December 2011, Mr Cameron, p 2.

²²⁰ Submission 330, pp 2-3, emphasis as per original.

²²¹ Ms Jon-Maree Baker, Executive Officer, Namoi Water, Evidence, 16 November 2011, p 64.

²²² Submission 553, Hydrology Research Laboratory, The University of Sydney, p 1.

²²³ Habermehl MA and Geoscience Australia, *Summary of advice*, p 2.

Drinking water catchments

- 4.51** Some Inquiry participants, particularly those in the areas around Wollongong and the Southern Highlands, insisted that drinking water catchments must be off-limits to coal seam gas activities, especially those catchments that supply drinking water to Sydney, due to the potential for coal seam gas activities to contaminate drinking water supplies. According to Dr Peter Turner of the Northern Illawarra Sustainability Alliance:

With respect to the threat to key catchment areas ... Apex Energy holds petroleum exploration licences that overly the metropolitan, Woronora and Warragamba special areas that supply high-quality water to Greater Sydney so probably approximately five million people depend on the quality of water coming out of those catchment areas ... it seems reasonable to suggest we should not be gambling with our water security or that of our children.²²⁴

- 4.52** Ms Caroline Graham of Rivers SOS supported this view, and remarked on the irony of exploration being allowed in the restricted-access Special Areas controlled by the Sydney Catchment Authority:

We have Special Areas, which are gated and have padlocks and you and I get fined \$11,000 or more if we set foot in them, but they are apparently being approved for coal seam gas extraction It is being protected because it filters water flowing into rivers and into the catchment... Drinking water catchments should be protected. Because Sydney has by far the biggest population of course our Special Areas in the metropolitan catchment should be protected.²²⁵

- 4.53** The Sydney Catchment Authority has statutory responsibility for the protection of the drinking water catchments that supply Sydney, the Blue Mountains, Illawarra, Shoalhaven and Southern Highlands.²²⁶ The Catchment Authority has developed a set of principles designed to protect drinking water supplies from any adverse impacts of coal seam gas activity. These principles include that mining and coal seam gas activities:

- must not reduce the quantity or quality of ground or surface water
- must not compromise water supply infrastructure
- must not increase risks to human health as a result of using water from the drinking water catchments
- must not compromise the ecological integrity of Special Areas
- must provide environmental impact assessments that are detailed, thorough, scientifically robust and holistic and address cumulative impacts.²²⁷

²²⁴ Dr Turner, Evidence, 8 December 2011, p 18.

²²⁵ Ms Caroline Graham, Rivers SOS, Evidence, 9 December 2011, p 21.

²²⁶ Mr Michael Bullen, Chief Executive Officer, Sydney Catchment Authority, Evidence, 12 December 2011, p 24.

²²⁷ Submission 642, NSW Government, pp 29-30.

- 4.54 Mr Michael Bullen, Chief Executive Officer, Sydney Catchment Authority, advised that there is a 'low risk' of water contamination during the exploration phase. In relation to the exploratory activities that Apex Energy proposed to undertake on catchment lands, Mr Bullen said that as part of the assessment of that application '... we have provided advice in relation to those so that the potential impact on water quality is low'.²²⁸

Water extraction and depletion of water resources

- 4.55 During the Inquiry, questions were raised about whether the substantial volume of water required for coal seam gas development will deplete the quantity of water. The coal seam gas industry is a thirsty industry: the National Water Commission estimated that it could extract 7,500 gigalitres of water from groundwater systems over the next 25 years. This is equivalent to 300 gigalitres per year. To put this in perspective, the yearly extraction from the Great Artesian Basin is 540 gigalitres per year.²²⁹ In addition to extracting substantial amounts of water from the coal seams, substantial amounts of water may need to be pumped into the coal seams during processes such as fracking.

- 4.56 The coal seam gas companies told the Committee that the water they are taking from the coal seams is brackish and salty, and it is not of sufficient quality to be put to any other use. They therefore argued that their water extraction would not impact on other water users. In addition, the Committee heard that rather than depleting the amount of available water, the coal seam gas industry could increase the water available for all users, because the industry takes low-quality water that would not otherwise be used and treats it to a sufficient standard that it can be put to beneficial use, such as for agriculture or drinking. For example, Santos argued that:

The extracted coal seam gas water will be treated in reverse osmosis plants that will produce water that can be utilised for irrigation, town water and other uses in the area. In other words, Santos' CSG operations will produce – not reduce – water available for agriculture in the areas in which we operate.²³⁰

- 4.57 Santos commissioned modelling that found that its extraction and subsequent treatment of coal seam gas water could result in an annual 5GL increase in the water available in northwestern New South Wales, and that this has the potential to increase agricultural production in the area by 1 per cent.²³¹
- 4.58 The NSW Government agreed with the view that water extraction by the coal seam gas industry would not impact on other water users. According to the NSW Government, '...coal seam water may have little beneficial use without treatment' because 'coal seams are typically minor aquifers, the water from which is generally not used by other industries both because of their depth and because they often contain brackish to saline groundwater'.²³²

²²⁸ Mr Bullen, Evidence, 12 December 2011, p 24.

²²⁹ Submission 100, p 1.

²³⁰ Submission 337, p 6. .

²³¹ Answers to supplementary questions, received 31 January 2012, Mr Baulderstone, p 4.

²³² Submission 642, p 21.

- 4.59** However, the claim that the coal seam gas industry has the potential to increase the amount of available water was disputed by Mr James Cameron, Chief Executive Officer, National Water Commission, due to the potential for depressurisation to impact on other aquifers:

It should be noted that the process of extracting that water will depressurise those systems and has the potential to impact on other aquifers so there may not be a gross increase in the amount of water available.²³³

- 4.60** The evidence that coal seam water is not used by other industries was also disputed. Gunnedah cattle farmer Mr Tim Duffy informed the Committee that he owns the farm adjacent to Kahlua, the Gunnedah property where Santos is exploring for coal seam gas, and that his cattle drink coal seam water:

... being a neighbour of Kahlua I have one bore on my property which is at 500 feet that is in a coal seam. We draw on coal seam water. We reticulate the water over the entire property. My cattle are drinking off that as we speak. It is salty. If you put it on open ground it will kill the grass... You cannot put it on the garden, you cannot water a lawn with it but cattle will drink it. They will walk past a dam to get to this water source. This is the water source that is for Santos a waste product.²³⁴

Regulation of water extraction by coal seam gas companies

- 4.61** Several Inquiry participants declared that the coal seam gas industry should not be treated any differently from other water users, and should be subject to same water sharing limits. This point was made by Ms Katrina Humphries, Mayor of Moree Plains Shire Council:

If you let these guys come in and they do not have water licences and they can pump willy-nilly as much water as they like, all the water our farmers have tried to save will be lost...²³⁵

- 4.62** The NSW Irrigators' Council stated that they 'absolutely oppose the granting of water use exemptions' and insisted that 'all mining use of water must be on the basis of licensed extraction to avoid third party impacts associated with further allocation in fully allocated systems'.²³⁶

- 4.63** The Committee was told that any water extracted by the coal seam gas industry should be accounted for as part of the existing water management framework. According to the National Water Commission, coal seam gas should be better 'incorporated into NWI [National Water Initiative] consistent water planning and management regimes from their inception'. The Commission contended that this should include licensing of all coal seam gas water extraction.²³⁷ Further, the Commission advised that:

²³³ Mr James Cameron, Chief Executive Officer, National Water Commission, Evidence, 12 December 2011, p 50.

²³⁴ Mr Tim Duffy, Cattle Farmer, Evidence, 16 November 2011, p 44.

²³⁵ Submission 642, p 21.

²³⁶ Submission 163, NSW Irrigators Council, p 3.

²³⁷ Submission 100, p 1.

There is a range of water uses that are not yet fully integrated into NWI-consistent planning ... In our view, the objective should be to bring any significant water user within that sort of arrangement ... we will be looking with interest to the final aquifer interference arrangements ... to see how that brings the management of the physical impacts of aquifer interference activities into the broader water planning and management system.²³⁸

- 4.64** Mr Mark Harris, Acting Director for Water Policy, NSW Office of Water, explained that the coal seam gas industry has been incorporated into the State's water sharing regime and is treated in the same way as other users:

The water sharing plans do not treat coal seam gas extraction any differently than they would extraction for agricultural purposes. Coal seam gas extraction is just another extraction of water. So, under the water sharing plans the extraction of the coal seam gas water would be accounted for, like water for any other licence, against the extraction limits in that plan.²³⁹

- 4.65** The measures to implement licensing of water extraction by the coal seam gas industry are discussed in a later section of this Chapter.

Committee comment

- 4.66** The Committee notes the very serious community concerns regarding the impact of the coal seam gas industry on water resources. These concerns include the potential for aquifers to be contaminated due to the chemicals introduced in, or mobilised by, drilling or fracking. Another concern is the potential for drilling or fracking to 'crack' aquifers leading to cross contamination of pristine aquifers. While there is no evidence to conclusively demonstrate that these impacts have occurred, the ramifications of such scenarios are significant, and the damage possibly irreparable. Equally concerning was the evidence regarding the potential to depressurise aquifers, the potential for pollution in drinking water catchments, and the questions around whether well design and construction is completed to the highest possible standards. Given such uncertainty, the NSW Government should proceed carefully.
- 4.67** The significance of water contamination and depletion, together with uncertainty about the likelihood of these impacts occurring, underscore the need for further study and data gathering, as recommended in the previous Chapter. The NSW Government has announced a number of measures designed to protect water resources. These measures are discussed in later in this Chapter.

Disposal of produced water and solid waste

- 4.68** Many Inquiry participants are concerned about how the coal seam gas industry would dispose of the substantial volume of water that it is expected to produce. Potential disposal methods include treatment and beneficial re-use, or re-injecting treated water into aquifers. In addition, there are particular concerns about how to manage the solid waste, or brine, that is generated

²³⁸ Mr Cameron, Evidence, 12 December 2011, p 52.

²³⁹ Mr Mark Harris, Acting Director, Water Policy, NSW Office of Water, Evidence, 12 December 2011, p 20.

when produced water is treated and the contaminants, such as salts, are removed. Inquiry participants suggested that at present, the only feasible disposal option is to send this waste to landfill.

Likely volume of produced water

- 4.69** It is difficult to gauge the volume of produced water that will be generated in New South Wales, as the coal seam gas industry is in its early stages. The industry has argued that it does not make sense to make comparisons with the volume of produced water in Queensland, because there are key differences between the geology of the coal seams in Queensland and New South Wales. Dart Energy explained that coal seams in New South Wales tend to be less permeable than those in Queensland, therefore they contain less water and less water needs to be extracted to allow the gas to flow.²⁴⁰
- 4.70** The industry association APPEA advised that the volume of produced water in New South Wales is likely to be lower than in Queensland.²⁴¹ This point was supported by Mr Robbert de Weijer, Chief Executive Officer, Australia, Dart Energy:
- First, water production in New South Wales is significantly lower compared to, for example, in Surat in Queensland. I am talking about 50 to 100 times less water production per produced entity of gas. That is a very significant difference.²⁴²
- 4.71** As a consequence of the expected lower volume of produced water, Mr de Weijer noted that there will be smaller quantities of solid waste to dispose of.²⁴³
- 4.72** One of the difficulties with estimating the amount of produced water and solid waste that will be generated, is that there is no clear picture of what the industry will look like at full levels of production. Mr Mullard advised that the Office of Water is currently involved in a project to assess potential volume of produced water.²⁴⁴
- 4.73** In relation to the AGL site at Camden, which is the only coal seam gas project in production in New South Wales, Mr Mullard noted that there was ‘substantially’ less produced water than expected and that the volume is ‘very easily manageable’.²⁴⁵

Disposal of produced water

- 4.74** Many questions remain to be answered about the disposal of coal seam, or produced, water. Potential methods for disposing of produced water include treating it to a high standard and allowing beneficial use for agriculture or drinking water supplies, re-injecting treated water into aquifers, or beneficial re-use of the water ‘as is’ for example by providing it to cattle to drink.

²⁴⁰ Submission 406, Dart Energy Limited, p 8.

²⁴¹ Submission 447, p 12.

²⁴² Mr Robbert de Weijer, Chief Executive Officer, Australia, Dart Energy, Evidence, 8 December 2011, p 62.

²⁴³ Mr de Weijer, Evidence, 8 December 2011, p 63.

²⁴⁴ Mr Mullard, Evidence, 12 December 2011, pp 22-23.

²⁴⁵ Mr Mullard, Evidence, 12 December 2011, p 14.

Produced water cannot, however, be disposed of through evaporation ponds, as the use of evaporation ponds has been banned in New South Wales since July 2011.²⁴⁶

- 4.75** A number of Inquiry participants raised questions about the feasibility of aquifer reinjection. Aquifer reinjection involves taking the produced water, treating it to a high standard through a process such as reverse osmosis, and re-injecting it into the depleted coal seam. Mr Cameron of the National Water Commission observed that aquifer reinjection is not new and it is happening in other jurisdictions. However he cautioned that more work needs to be done on reinjection with specific reference to the coal seam gas industry:

Certainly, aquifer reinjection occurs in a number of ways. There are other examples elsewhere, for example, of storm water or recycled water that has been produced and been injected into aquifers, effectively as an alternative storage to dams. That is occurring in South Australia and in Western Australia as well. So the process of injecting water into aquifers is not particularly new. However, the choice to inject water, particularly if it is the residual brine from water treatment activities, involves a number of technical aspects that would need careful analysis.²⁴⁷

- 4.76** In particular, Mr Cameron drew attention to the possible negative impacts of repressurisation of aquifers as a result of re-injecting treated water:

Again, just as depressurisation has the potential to impact on adjacent aquifers, repressurisation or pressurisation of aquifers also has the potential to have a physical impact. So a careful understanding of the circumstances of the individual projects is quite important.²⁴⁸

- 4.77** Dr Khan also acknowledged that research has been done on aquifer reinjection in other contexts, and as with Mr Cameron, drew attention to the possible consequences of repressurisation:

A great deal of scientific research and investigation has been done with regard to that process looking at highly treated recycled waters from municipal wastewater treatment plants. Extensive research has also been undertaken in South Australia looking at recharge of treated stormwater into aquifers. Even with those types of highly treated waters there are issues associated with the impact on the aquifer as a result of physical processes such as pressurisation and the fact that the chemistry can be fundamentally changed in an aquifer by introducing different waters.²⁴⁹

- 4.78** In addition to the problem of repressurisation, Inquiry participants such as Mr Cameron described the possible risks to natural systems posed by the reinjection of high-quality treated water:

Treated water from reverse osmosis is extremely high quality water and so the process of putting that into natural systems, particularly where there are circumstances of low

²⁴⁶ Hon Chris Hartcher MP, Minister for Resources and Energy, 'NSW Government has listened and acted: Tough new conditions for coal and coal seam gas', *Media Release*, 21 July 2011.

²⁴⁷ Mr Cameron, Evidence, 12 December 2011, p 54.

²⁴⁸ Mr Cameron, Evidence, 12 December 2011, p 54.

²⁴⁹ Dr Khan, Evidence, 8 December 2011, p 28.

flows or during periods where flows would otherwise be ephemeral, has the potential to impact on the environmental condition at the time.²⁵⁰

4.79 Mr Andrew Gregson, Chief Executive Officer, NSW Irrigators' Council also spoke of the need to ensure that introduced water is treated to the same quality as the water already within the aquifer:

...one of the things that we are concerned about... that any reintroduced water that has been treated must be to at least the same quality. We actually do not want reintroduced water to be far too pure because that in itself potentially creates environmental problems ...²⁵¹

4.80 In response to questions on the feasibility of re-use of coal seam gas water, Mr Baulderstone, Santos' Vice President for Eastern Australia, responded by referring to Santos' track record in Queensland of providing treated water for beneficial use:

I think one of the very strong advantages that Santos has is that we have been doing this for 15 years. I can take you to our areas in Queensland, where right now we are running those reverse osmosis plants, where right now we are injecting water into town aquifers, and where right now we are providing produced water to farmers to irrigate crops and some thousand head of cattle are feeding off those crops right now. So the reason we are so confident about these processes is that we actually do it now.²⁵²

4.81 However, the coal seam gas companies' confidence in aquifer reinjection was questioned by Ms Baker of Namoi Water, who argued that there is insufficient research to support its safety:

I do not think we have enough data to say we could support reinjection. I have been working on this for over 12 months and I have read a significant amount of reports and spent as much time as I can with coal seam gas companies asking them to provide me with that evidence. I do not think they have that evidence.²⁵³

4.82 Notwithstanding the evidence to the Committee that questions remain about this process, the Committee notes that aquifer reinjection is the Queensland Government's preferred method for disposing of produced water.²⁵⁴

4.83 Aside from re-injecting treated water into aquifers, there is also potential for treated water to be used for agriculture or drinking purposes. Santos advised that it 'is committed to treating 100 percent of its incidental water and making the treated water available to the community for reuse',²⁵⁵ and that in fact this is already happening with produced water being used '...for beneficial use in agriculture and recharge of the aquifers that supply Roma'.²⁵⁶

²⁵⁰ Mr Cameron, Evidence, 12 December 2011, p 51.

²⁵¹ Mr Andrew Gregson, Chief Executive Officer, NSW Irrigators' Council, Evidence, 12 December 2011, p 58.

²⁵² Mr Baulderstone, Evidence, 17 November 2011, p 9.

²⁵³ Ms Baker, Evidence, 16 November 2011, p 62.

²⁵⁴ Hon Vicky Darling MP, Minister for the Environment, Queensland Government, 'Environment and farmers first under Coal Seam Water Policy', *Media release*, 24 November 2011.

²⁵⁵ Submission 337, p 27.

²⁵⁶ Submission 337, p 9.

- 4.84** The Committee heard from Mr Chris Magner, Richmond Wilson Combined Water Users' Association, that some agricultural users are keen to access the treated water:

One of the things that we wanted out of that was that some of the water that is coming out, especially from Metgasco, at a quality that may be usable. At the moment it is not licensed and that is what we are asking, for it to go into the water sharing plan. They cannot on-sell that for irrigation water because it is not covered.²⁵⁷

- 4.85** While the prospect of using high-quality produced water for beneficial use may be enticing for some farmers, Mr Michael Murray, National Water Policy Manager for Cotton Australia, cautioned that treated water will only be available for a limited time:

One of the drawbacks is that people are saying, "It will only be a 10-, 15- or 20-year water supply in that particular area. Should I develop irrigation based on that short period of time?" People need to go into that with their eyes open.²⁵⁸

- 4.86** In addition to the question of how coal seam gas companies intend to dispose of coal seam water, it was suggested that there are handling risks involved in dealing with large volume of produced water in storage tanks or holding basins, and this creates the potential for accidental leaks, which according to Dr Khan, '... could lead to the contamination of shallow drinking water aquifers and surface water bodies'.²⁵⁹

- 4.87** Measures announced by the NSW Government in response to concerns about the disposal of produced water, and in particular the uncertainty surrounding aquifer reinjection, are discussed in the final section of this Chapter.

Disposal of solid waste

- 4.88** A significant issue arising from the treatment of produced water to very high standards through processes such as reverse osmosis, is that as contaminants are removed from the water, a large volume of solid waste is generated. Dr Khan described the water treatment process as follows:

The problem is that when you treat water by reverse osmosis you are not destroying the chemicals and salts, you are separating the water into two components: one is a highly purified component and an equally highly concentrated component. It is managing that concentrated brine that presents a number of challenges.

... Then you have a solid waste disposal problem. You have large volumes of contaminated salts that need to be disposed somewhere, usually to landfill.²⁶⁰

²⁵⁷ Mr Chris Magner, Richmond Wilson Combined Water Users' Association, Evidence, 8 December 2011, p 57.

²⁵⁸ Mr Michael Murray, National Water Policy Manager for Cotton Australia, Evidence, 16 November 2011, p 19.

²⁵⁹ Submission 330, p 3.

²⁶⁰ Dr Khan, Evidence, 8 December 2011, pp 33-34.

- 4.89** The scale of the challenge posed by large volume of solid waste was raised by Mr David Clift of the Richmond Wilson Water Users' Association:

It scares me as to what they are going to do with that brine as the evaporation process continues over the next 20 years and how they are going to rehabilitate those areas. That is the real issue for me.²⁶¹

- 4.90** The Committee was not advised of any feasible commercial options for the re-use of the solid waste generated from treated water. As noted by Dr Khan, solid waste is usually sent to landfill. When questioned on whether there are industrial uses for the brine from produced water, Dr Khan responded by comparing solid waste to the salt generated by desalination plants, and noted that industry re-use is not 'economically feasible':

In terms of seawater desalination plants it seems a more obvious question where you have seawater and salts extracted from it. There has been considerable investigations looking into the economics of recovering those salts and recovering some of the trace minerals and it does not stack up, it is not an economically feasible way of doing it. I read somewhere if you recovered all of the sodium chloride from all of the seawater desalination plants around the country, you would have a thousand times the annual demand for table salt. It is a massive amount of salt.²⁶²

- 4.91** The Committee is aware that work is being done to find a beneficial use for the solid waste generated by the coal seam gas industry. For example, the Committee received a submission from the company Fodder King, which advised that they are in the process of '... demonstrating that we can devise cost-effective solutions for sustainably using CSG water that can mutually benefit both the agricultural and resources industries and their host communities'.²⁶³

- 4.92** Coal seam gas companies are also investigating how to deal with solid waste products generated by coal seam gas activities, with Santos advising that they are undertaking a study of the 'commercial and technical feasibility of brine disposal'.²⁶⁴

- 4.93** Some Inquiry participants question the wisdom of proceeding with coal seam gas development while such a crucial question, namely how to dispose of the significant amounts of solid waste, remains unanswered. According to Mr Gregson:

Yes, it must be in place before approvals are given and production or exploration commences. If that technology does not exist at the moment, it comes back to what we said earlier: What is the rush?²⁶⁵

²⁶¹ Mr David Clift, Evidence, Richmond Wilson Water Users' Association, 8 December 2011, p 58.

²⁶² Dr Khan, Evidence, 8 December 2011, p 34.

²⁶³ Submission 437, Fodder King Limited, p 1.

²⁶⁴ Submission 337, p 27.

²⁶⁵ Mr Gregson, Evidence, 12 December 2011, p 60.

Committee comment

- 4.94** The Committee notes that even though there is uncertainty around the volume of water that will be extracted by the coal seam gas industry, and less water is likely to be extracted relative to Queensland, the volume will be significant and therefore large amounts of water and solid waste will need to be disposed of. The Committee encourages the NSW Government to progress as a priority the project being undertaken by the Office on Water to assess the potential volume of produced water.
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Recommendation 4

That the NSW Government progress as a priority the project being undertaken by the Office of Water to assess the potential volume of produced water from the coal seam gas industry.

- 4.95** In relation to the disposal of solid waste, the Committee considers that the NSW Government should not approve any coal seam gas activity without a solid waste management plan included in the relevant approval.
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Recommendation 5

That the NSW Government not approve any coal seam gas activity without a solid waste management plan included in the relevant approval.

Measures to protect water quality and quantity

- 4.96** The NSW Government has developed a *Draft NSW Aquifer Interference Policy – Stage 1* to address the impacts of high-risk activities, such as the production of coal seam gas, on water resources. To date, the Draft Policy has focused on aquifer interference activities associated with groundwater underlying land declared to be Biophysical Strategic Agricultural Land.²⁶⁶
- 4.97** Under the *Draft NSW Aquifer Interference Policy* groundwater impacts are to be considered at ‘...the very start of the planning process, putting it at the centre of decision-making’.²⁶⁷ The NSW Government has advised that the Draft Policy seeks to ‘...prevent more than minimal harm occurring to water sources ...’ by:
- establishing rules for water licensing for coal seam gas activities
 - defining maximum acceptable levels of harm for potential impacts including water tables, water pressure, water quality, land subsidence, aquifer compaction

²⁶⁶ NSW Government, *Draft NSW Aquifer Interference Policy – Stage 1*, March 2012, p 4.

²⁶⁷ NSW Government, *Strategic Regional Land Use Policy Delivery: Frequently Asked Questions*, March 2012, p 2.

- clarifying the process for assessing aquifer interference approvals based on an ‘avoid, prevent, mitigate’ approach
- giving effect to the ban on evaporation ponds.²⁶⁸

4.98 Until the *Draft NSW Aquifer Interference Policy* is finalised water impacts are being managed by the Interim Aquifer Interference Regulation.²⁶⁹ Stage One of the Aquifer Interference Regulation, which was introduced in June 2011, requires that new petroleum activities that propose to extract more than 3ML of groundwater per year must be conducted under a Water Access Licence under the *Water Management Act 2000*.²⁷⁰ Previously exploration activities were exempt from requiring water licences.

4.99 The second stage of the roll out of the Draft Policy will address aquifer interference activities that impact on groundwater that does not underlie Biophysical Strategic Agricultural Land.²⁷¹ Certain State significant coal seam gas developments are exempted from the need to gain aquifer interference approvals,²⁷² including activities that are located on or within two kilometers of Biophysical Strategic Agricultural land, because these projects are required to go through the ‘Gateway’ process and the assessment of aquifer impacts will be brought forward to the Gateway stage, rather than being required to gain an aquifer interference approval later on.²⁷³

4.100 Several stakeholders, such as the NSW Irrigators’ Council, highlighted the crucial role that the *Draft NSW Aquifer Interference Policy* will play in regulating the industry:

For us the aquifer interference policy is the key to it... It has a framework in place to work and to work well not only for us but for the coal seam gas and mining industries as well.²⁷⁴

4.101 In addition to the *Draft NSW Aquifer Interference Policy*, the NSW Government has developed a *Draft Code of Practice for Coal Seam Gas Exploration* that contains measures relating to the disposal of produced water. The Draft Code states that coal seam gas companies ‘must treat or otherwise dispose of produced water’ and ‘must not avoid treatment or disposal by storing water with the intention of having it evaporate’.²⁷⁵ The Draft Code also states that the NSW Government is addressing the uncertainties surrounding aquifer reinjection by ‘... developing a Managed Aquifer Recharge Policy to regulate the reinjection of water into aquifers for future storage and potential reuse’.²⁷⁶

²⁶⁸ Submission 642, p 21.

²⁶⁹ Submission 642, pp 21-22.

²⁷⁰ NSW Government, *Draft Code of Practice for Coal Seam Gas Exploration*, March 2012, pp 3:15.

²⁷¹ NSW Government, *Draft NSW Aquifer Interference Policy – Stage 1*, March 2012, p 4.

²⁷² NSW Government, *Strategic Regional Land Use Policy Delivery: Frequently Asked Questions*, March 2012, p 7.

²⁷³ NSW Government, *Draft NSW Aquifer Interference Policy – Stage 1*, March 2012, p 27.

²⁷⁴ Mr Gregson, Evidence, 12 December 2011, p 61.

²⁷⁵ NSW Government, *Draft Code of Practice for Coal Seam Gas Exploration*, March 2012, p 3.

²⁷⁶ NSW Government, *Draft Code of Practice for Coal Seam Gas Exploration*, March 2012, p 14.

- 4.102** As noted previously, the NSW Government commissioned an independent review into the standards and design of coal seam gas wells.²⁷⁷ In February 2012 the NSW Government said that the review had been completed and ‘... is currently being reviewed by NSW Chief Scientist and Engineer, Professor Mary O’Kane, prior to implementation’.²⁷⁸ The Government subsequently advised that the review is due for release in April 2012.²⁷⁹ The NSW Government’s *Draft Code of Practice for Coal Seam Gas Exploration* declares that when finalised, the New South Wales well integrity standards will be ‘world’s best practice’ and ‘will ensure the long term stability of wells both during and after production’.²⁸⁰

Committee comment

- 4.103** The Committee acknowledges that the development of the *Draft NSW Aquifer Interference Policy* is a step in the right direction to mitigate any impacts of coal seam gas activities on water quality and quantity. However, at present only a small number of coal seam gas proposals are likely to be covered by this Policy, because it only applies to proposals taking place on or near strategic agricultural land that will be assessed through the Gateway process.
- 4.104** Most proposals are likely to relate to non-strategic land. It is intended that the approvals process for these projects will be covered by stage two of the *Draft NSW Aquifer Interference Policy*. The Committee calls on the Government to finalise both stage one and stage two of the *Draft NSW Aquifer Interference Policy* as matter of urgency.
- 4.105** The Committee welcomes the Government’s announcement that it is developing its own standards for well integrity, given the vital importance of such standards in protecting our aquifers and ensuring the safety of fracking operations. However, the Committee questions why best practice standards were not put in place before previous governments allowed hundreds of coal seam gas wells to be drilled, and indeed after the Camden gas field had been in production for ten years.
- 4.106** To protect water resources, the Committee considers that aquifer interference requirements should be introduced for *all* wells drilled into coal seams, including wells drilled at the exploration phase.

Recommendation 6

That the NSW Government ensure that aquifer interference requirements are introduced for any wells drilled into coal seams, including exploration wells.

²⁷⁷ NSW Government, *Strategic Regional Land Use Policy Delivery: Frequently Asked Questions*, March 2012, p 6.

²⁷⁸ Answers to supplementary questions, received 13 December 2011, Mr Mark Paterson, Director General, Department of Trade and Investment, Resources and Energy, p 6.

²⁷⁹ NSW Government, *Strategic Regional Land Use Policy Delivery: Frequently Asked Questions*, March 2012, p 6.

²⁸⁰ NSW Government, *Draft Code of Practice for Coal Seam Gas Exploration*, March 2012, p 16.

- 4.107** In relation to the disposal of produced water, the Committee believes that the NSW Government should develop a clear position on how coal seam gas companies should dispose of this water. Considering that there is contested evidence regarding aquifer reinjection as a means to dispose of produced water, the Committee urges the NSW Government to finalise the Managed Aquifer Recharge Policy as provided for in the *Draft Code of Practice for Coal Seam Gas Exploration*.
- 4.108** In order to protect water quality, and ensure that well integrity is maintained into the future, the Committee recommends that the NSW Government consider expanding its monitoring of decommissioned wells. This could extend to inspections at intervals of five years up to twenty years.

Recommendation 7

That the NSW Government consider expanding the monitoring of decommissioned wells. This could extend to inspections at intervals of five years up to twenty years.

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- 4.109** The Committee welcomes the Government's ban on the use of evaporation ponds, but notes that produced water may still be stored in open tanks or storage ponds. Open storage increases the risks of accidental leakages or spills of produced water, for example if tanks or storage ponds overflow as a result of extreme rain events or floods. Given that produced water has the potential to contaminate ground and surface water systems, the Committee believes that produced water must be stored in closed tanks or taken off site for processing.

Recommendation 8

That the NSW Government ban the open storage of produced water.

Chapter 5 Fraccing

Inquiry participants expressed deep-seated concern at the potential for hydraulic fracturing (or ‘fraccing’) to irreparably contaminate water supplies and thus cause long-lasting and significant harm to the environment and human health. Inquiry participants also said they held grave fears that fraccing could crack previously pristine and unconnected aquifers. This Chapter examines the concerns of Inquiry participants and measures put in place to address concerns over the safety of fraccing.

What is fraccing?

- 5.1** Fraccing is a technique that has been used for many decades in the oil and gas industries for a number of purposes. It is described by Australian Petroleum Production and Exploration Association (APPEA) as ‘a process that uses pressure to create an artificial fracture network to allow gas to flow to a well to improve the gas production rate from the well’.²⁸¹
- 5.2** According to the Commonwealth Scientific and Industrial Research Organisation (CSIRO), fraccing involves the injection of fluid, comprised of water, sand and additives, under high pressure into a well that has been cased in steel but perforated at specific intervals to allow the fracture to occur in the coal seam.²⁸² The sand acts as a proppant, keeping the coal seam open and allowing the gas to flow to the well and rise to the surface.²⁸³
- 5.3** It is considered to be an efficient extraction practice which allows the flow of gas to occur up to 10 times faster, thus reducing production costs.²⁸⁴
- 5.4** According to APPEA, the facts and science of fraccing have been assessed and it has been determined that it is a safe process which ‘has been done safely for over 60 years in the United States...and in Australia since 1968’.²⁸⁵ Metgasco also stressed that fraccing ‘has been used safely around the world for more than 60 years...’.²⁸⁶ Mr Ross Naumann, a drilling expert representing APPEA noted that the ‘whole process of fraccing, particularly in Australia, is very heavily engineered’, requiring extensive preparation and testing to provide an optimal outcome.²⁸⁷

²⁸¹ Submission 447, Australian Petroleum Production & Exploration Association, p 4.

²⁸² CSIRO, Hydraulic fracturing (fraccing), December 2011, accessed 2 February 2012, <www.csiro.au/Outcomes/Energy/Energy-from-oil-and-gas/~media/CSIROau/Files/PDF/Coal%20seam%20gas%20PDFs/Hydraulic%20fracturing%20-%20fraccing.pdf>

²⁸³ CSIRO, Hydraulic fracturing (fraccing), December 2011, accessed 2 February 2012, <www.csiro.au/Outcomes/Energy/Energy-from-oil-and-gas/~media/CSIROau/Files/PDF/Coal%20seam%20gas%20PDFs/Hydraulic%20fracturing%20-%20fraccing.pdf>

²⁸⁴ CSIRO, Coal seam gas – Petroleum and Geothermal Research, accessed 2 February 2012, <www.csiro.au/Portals/Publications/Brochures--Fact-Sheets/~media/CSIROau/Divisions/CSIRO%20Earth%20Science%20and%20Resource%20Engineering/CoalSeamGasBrochure_CESRE_pdf%20Standard.pdf>

²⁸⁵ Submission 447, p 4.

²⁸⁶ Submission 287, Metgasco, p 1.

²⁸⁷ Mr Ross Naumann, Drilling expert, Evidence, 17 November 2011, p 36.

When is fracking used?

- 5.5** Fracking is not used in every well and is considered unnecessary in many operations. The Committee received widely varying evidence of the extent of fracking. AGL Energy, being the only company to be in full production within New South Wales, recorded significant use, having fractured 131 of the 205 wells constructed under the Camden Gas Project.²⁸⁸
- 5.6** Metgasco claimed it has never used fracking in its coal seam gas operations²⁸⁹ and estimated that only five per cent of the coal seam gas wells in Australia are fraced.²⁹⁰ Santos also submitted that it has not used fracking in its New South Wales operations,²⁹¹ but as the new operators of the Narrabri Gas Project, reported that 12 wells in this gas field had previously been fractured.²⁹²
- 5.7** In New South Wales the Government estimates approximately 160 wells have been fraced since 1980 but due to differing reporting arrangements cannot 'guarantee the completeness of this information'.²⁹³ In isolation, this figure does not allow a sense of the scale of fracking as the total number of wells overall was not provided. The recent Senate Report estimated that between 30-40 percent of wells in all current developments across Australia may need some method of flow enhancement, including fracking.²⁹⁴ However, this percentage must be treated with caution in relation to its application to coal seam gas operations in New South Wales, given the substantial dissimilarities between the structures of coal seam bodies in New South Wales and those in existing drilling areas of Queensland.
- 5.8** Mr Naumann explained to the Committee that the underground geology and the permeability of the reservoir determines the need to fracture.²⁹⁵ The New South Wales Government believes that the requirement for fracking will be minimal as '...the geology of many of the prospective locations for coal seam gas in NSW do not require fracking as part of the exploration or production process'.²⁹⁶
- 5.9** Further to this, the NSW Government noted that the need to fracture would continue to lessen as the emergence of newer technologies including horizontal well drilling would replace fracking in many cases.²⁹⁷

²⁸⁸ Answers to questions on notice taken during evidence 17 November 2011, Mr Mike Moraza, Group General Manager, Upstream Gas, AGL Energy Ltd.

²⁸⁹ Submission 287, Metgasco, p 1.

²⁹⁰ Submission 287, p 8.

²⁹¹ Submission 337, Santos, p 7.

²⁹² Answers to questions on notice taken during evidence, 17 November 2011, Mr James Baulderstone, Vice President Eastern Australia, Santos Limited.

²⁹³ Answers to questions on notice taken during evidence 12 December 2011, Mr Brad Mullard, Executive Director, Mineral Resources and Energy, Department of Trade and Investment, Regional Infrastructure and Services

²⁹⁴ Parliament of Australia, Senate, Rural Affairs and Transport References Committee, *Management of the Murray Darling Basin – Interim report: the impact of mining coal seam gas on the management of the Murray Darling Basin*, November 2011, p 5.

²⁹⁵ Mr Naumann, Evidence, 17 November 2011, p 34.

²⁹⁶ Submission 642, NSW Government, p 27.

²⁹⁷ Submission 642, p 5.

- 5.10** In evidence, Mr Mike Moraza, Group General Manager, Upstream Gas, AGL Energy commented that AGL was moving to ‘surface to in-seam drilling’, describing the technique as ‘...starting off initially vertically down hole but then deviating and eventually becoming a horizontal well drilled within the seam...’.²⁹⁸ Mr Moraza reported that this technique is now being used exclusively in the Camden gas field and that ‘surface to in-seam’ wells do not require fracture well stimulation.²⁹⁹
- 5.11** Dart Energy also reported that the need to fracture wells will be radically reduced or possibly eliminated by the use of ‘multi-lateral to in-seam wells’.³⁰⁰ Eastern Star Gas, the previous operator of the Narrabri Gas Project, noted that the geology of this area would also lend itself to lateral wells, eliminating the need to fracture.³⁰¹
- 5.12** Another benefit of horizontal drilling is that it can reduce the number of wells on the land’s surface. According to Mr Moraza, horizontal drilling will result in ‘less surface footprint’.³⁰² Mr James Baulderstone, Vice President, Eastern Australia, Santos noted that ‘...the more gas we can get from one well then the less wells we need to have on the surface’.³⁰³

Community concerns about fracking

- 5.13** In evidence provided to the Inquiry it was clear that many inquiry participants were very anxious about the use of fracking by the coal seam gas industry. Their concerns centered on the chemicals used in fracking fluids, including potential health risks and impact on the environment, alleged secrecy around the chemicals used, inadequate testing of fracking chemicals, and the recovery and disposal of fracking fluids after they are pumped into a gas well.
- 5.14** Of particular concern was the perceived lack of regulation of fracking operations. The NSW Farmers’ Association commented that ‘the current regulatory provisions pertaining to fracking are both inadequate and incapable of being effectively policed given the inadequate levels of enforcement staff across the state’.³⁰⁴
- 5.15** Mr Christopher Lalor, Acting Manager, Strategic Planning, Camden Council reported that members of his community believe there isn’t enough information or knowledge about the fracking process. He said that ‘this has generated a great deal of concern within our local community and there needs to be more certainty’.³⁰⁵

²⁹⁸ Mr Mike Moraza, Group General Manager, Upstream Gas, AGL Energy Ltd, Evidence, 17 November 2011, p 65.

²⁹⁹ Mr Moraza, Evidence, 17 November 2011, p 65.

³⁰⁰ Submission 406, Dart Energy, p 5.

³⁰¹ Submission 560, Eastern Star Gas, p 7.

³⁰² Mr Moraza, Evidence, 17 November 2011, p 65.

³⁰³ Mr James Baulderstone, Vice President, Eastern Australia, Santos, Evidence, 17 November 2011, p 11.

³⁰⁴ Submission 335, NSW Farmers’ Association, p 17.

³⁰⁵ Mr Christopher Lalor, Acting Manager, Strategic Planning, Camden Council, Evidence, 9 December 2011, p 8.

- 5.16** Other Inquiry participants questioned why fracking is used in Australia. In reference to the banning of fracking in Canada and France, Ms Judi Sheedy, a Gunnedah representative of the NSW Farmers' Association, asked: 'Why would New South Wales and Australia welcome it when two other countries where this technique has been discovered to have significant environmental impacts do not want to use it?'³⁰⁶

Transparency around the composition of fracking fluids

- 5.17** As noted previously fracking fluids comprise sand, water and other additives which are generally chemical in nature. The exact composition of fracking fluids, including chemicals, will vary depending on the well. According to Dr Stuart Khan, Senior Lecturer, Water Research Centre, University of New South Wales, specific information about these chemicals is often difficult to obtain: 'Much of the information regarding the identity and concentration of chemicals used in fracking fluids is considered by the industry to be proprietary and therefore confidential'.³⁰⁷
- 5.18** In its submission, the Scenic Hills Association described its frustration in trying to obtain information from AGL Energy regarding the chemicals it is using in its fracking fluids. The Association criticised AGL for being '...both secretive and probably disingenuous about its use of chemicals'.³⁰⁸
- 5.19** Although coal seam gas operators may detail general information on Material Safety Data Sheets (MSDS), the National Toxics Network considered this largely inadequate:
- MSDS are a limited source of information on chemical hazards as they often provide only rudimentary human health data and little, if any, information on the environmental fate of the chemical or its effects on the environment and ecosystems.³⁰⁹
- 5.20** The lack of comprehensive information and resulting conjecture has contributed to the considerable angst and fear amongst the public. In providing evidence, Mr Neal described how the lack of information on chemicals can lead to fear and suspicion: 'We are not being told for a reason'.³¹⁰
- 5.21** The NSW Farmers' Association is also concerned about the impact this lack of information has on its members involved in food production who are required to disclose any chemicals their livestock may come into contact with. To improve transparency, NSW Farmers recommended that a public register be established that detailed current fracking sites, and the chemicals and quantities involved in each site.³¹¹

³⁰⁶ Ms Judi Sheedy, Executive Councillor and Chair of Gunnedah District Council, NSW Farmers' Association (Boggabri, Gunnedah, Pottinger District Councils), Evidence, 16 November 2011, p 39.

³⁰⁷ Submission 330, Dr Stuart Khan, Senior Lecturer, Water Research Centre, University of New South Wales, pp 5-6.

³⁰⁸ Submission 648, Scenic Hills Association, p 41.

³⁰⁹ Submission 202, National Toxics Network, p 11.

³¹⁰ Mr Pat Neal, Member, NSW Farmers Dairy Committee, Evidence, 31 October 2011, p 16.

³¹¹ Submission 335, p 17.

- 5.22** In response to the claims of secrecy and concealment, the coal seam gas industry countered that there is publicly available information on chemicals: ‘Contents of fluids used in fracture stimulation are not secret and can be found on the APPEA website’.³¹² The website details 45 chemicals that have been used in Australia in hydraulic fracturing fluids but notes that fracking fluid mixes do vary, according to the nature of the task.³¹³
- 5.23** The Committee did not receive evidence that addressed the exact composition of fracking fluids and the Committee received broad information only on the quantities and names of chemicals used. The coal seam gas companies that did provide information said that only small quantities of chemicals, in proportion to the total fracking fluid, are used.
- 5.24** Metgasco reported that its approach is to minimise the use of chemicals wherever possible but when chemicals are required the concentrations used ‘... are very low, total additives typically less than two percent’.³¹⁴ AGL Energy also submitted that it only uses ‘small amounts’³¹⁵ of additives as did Santos who commented that ‘about one percent of a range of chemicals in minute, diluted quantities’³¹⁶ are used in its fracturing process.
- 5.25** However, while the coal seam gas operators insist that the percentage of chemicals present in the overall composition of the fracking fluid is small, one to two percent of additive can still translate to a large amount. In evidence, Ms Marylou Potts estimated on the basis of AGL’s environmental assessment that between 285,000 and 528,000 litres of fracking chemicals have been used in petroleum leases Nos 1, 2 and 4.³¹⁷

Potential impacts of chemicals used in fracking fluids

- 5.26** A prevalent fear among many Inquiry participants related to the potential risks that chemicals contained in fracking fluids could pose to humans, livestock and native flora and fauna. Concerns were also raised that the chemicals injected into a coal seam during the fracking and drilling processes might make their way from the groundwater into the food chain. Mr Patrick Neal of the NSW Farmers’ Dairy Committee noted his concerns :

There is simply no way for us to be confident that pollutants going to and from the coal seam will not make their way into the water and in turn into our livestock and the food chain.³¹⁸

- 5.27** The use of the group of chemicals referred to as BTEX (benzene, toluene, ethyl benzene and xylenes) has been particularly controversial given that it has been linked to serious health issues.

³¹² Submission 447, p 5.

³¹³ APPEA, *Chemicals & Compounds used in CSG Fracking*, 1 November 2010, accessed 11 April 2012, <www.appea.com.au/images/stories/Policy_CSG/fracking%20chems%20list%20jan%202012.pdf>

³¹⁴ Submission 287, Metgasco, p 16.

³¹⁵ Submission 344, AGL Energy Limited, p 8.

³¹⁶ Submission 337, Santos, p 34.

³¹⁷ Ms Marylou Potts, Evidence, 9 December, p 77.

³¹⁸ Mr Neal, Evidence, 31 October 2011, p 12.

- 5.28** The National Toxics Network described the possible effects of exposure to BTEX chemicals:
- ...in the short term causing skin irritation, central nervous system problems and effects on the respiratory system. Prolonged exposure ...can also negatively affect the functioning of the kidneys, liver and blood system. Long-term exposure to high levels of benzene in the air can lead to leukemia and cancers of the blood.³¹⁹
- 5.29** In presenting evidence, Dr Mariann Lloyd-Smith, Senior Adviser, National Toxics Network, expressed her view that the chemicals used by the coal seam gas industry are highly toxic and include ‘... carcinogens, reproductive toxins, endocrine disrupters and sensitisers’.³²⁰
- 5.30** Dr Helen Redmond, representing Doctors for the Environment, stated in evidence that the effects on human health from chemicals used in fracking may be immediate and include ‘headache, dizziness and nausea’ but the long term effects may be far more serious and include ‘...hormonal system disruption, fertility and reproductive effects and the development of cancer’.³²¹
- 5.31** In an attempt to allay the community concerns regarding fracking chemicals, coal seam gas operators noted that fracking chemicals are commonly used within the general community. For instance Santos submitted that:
- The chemicals are not specific to the coal seam gas industry and have many common uses such as in swimming pools, toothpaste, baked goods, ice cream, food additives, detergents and soap.³²²
- 5.32** Santos also suggested that these chemicals are used in minute quantities during the fracking process, representing about one percent of the total fracking fluid.³²³ The NSW Government also noted that: ‘These chemicals appear in varying concentrations in many every day products used by the community’.³²⁴
- 5.33** The National Toxics Network, however, believe that to promote the view that fracking chemicals are harmless is misleading as many of these chemicals ‘...would never be permitted as food additives or household products due to their toxicity’.³²⁵ The Doctors for the Environment also refuted the inferred safety of these chemicals even though some may be present in household products: ‘Just because we may have hair bleach or antifreeze in the cupboard does not mean it is safe to drink it in our coffee’.³²⁶

³¹⁹ Submission 202, National Toxics Network, p 10.

³²⁰ Dr Mariann Lloyd-Smith, Senior Adviser, National Toxics Network, Evidence, 21 September 2011, p 10.

³²¹ Dr Helen Redmond, Doctors for the Environment Australia Inc, Evidence 17 November 2011, p 52.

³²² Submission 337, p 34.

³²³ Submission 337, p 34.

³²⁴ Submission 642, p 5.

³²⁵ Submission 202, p 13.

³²⁶ Submission 412, Doctors for the Environment Australia Inc, p 12.

Testing of fracking chemicals

- 5.34** The lack of appropriate testing of fracking chemicals was also a concern raised by Inquiry participants. The National Toxics Network reported that the chemicals used by the industry are either not tested for the purpose they are being used for, or not tested at all:

NTN's scientific literature review of chemicals used by the CSG industry found that only 2 out of the 23 most commonly used fracking chemicals in Australia (that we could ascertain) have been assessed by NICNAS, the federal regulator of industrial chemicals. Of the 2 assessed chemicals, neither has been specifically assessed for its use in CSG mining activities.³²⁷

- 5.35** In addition, it was claimed that there is inadequate testing done to determine the impact of mixing chemicals in fracking fluids. The Doctors for the Environment Australia Inc submitted: 'It should also be noted that with any chemical mixture it is not only the effects of each chemical which may be problematic, but also the potential for multiple unpredictable chemical combinations'.³²⁸

- 5.36** NSW Farmers was also disturbed by the inadequacy of chemical testing processes and recommended the moratorium on fracking remain in place until all fracking chemicals '...have been tested by the national regulator (NICNAS), including simulated in-situ testing'.³²⁹

- 5.37** The report by the Senate's Rural Affairs and Transport References Committee received evidence from the National Industrial Chemicals Notification and Assessment Scheme (NICNAS) that supported the view that very few chemicals used in fracking have been tested. Further the Senate Report recommended that the Commonwealth Government provide adequate funding to allow NICNAS to conduct 'a comprehensive review of the chemicals used in fracking, having particular regard to the quantities, combinations of chemicals and the way in which these chemicals are used to confirm safe levels for their use'.³³⁰ The Senate Committee recommended that this review be completed within two years.

Recovery of fracking fluids

- 5.38** Following fracking, a proportion of the fracking fluid will flow back up to the surface for recovery and disposal. In addition to the fracking chemicals, the flowback may contain naturally-occurring toxic substances that have been mobilised by the fracking process. The National Toxics Network advised:

As well as the original fluid used for fracturing, flowback may also contain other fluids, chemicals and minerals that were present in the fractured formation such as heavy metals and hydrocarbons. Toxic substances like lead, arsenic, barium, chromium, uranium, radium, radon and benzene can be mobilized by drilling and fracking activities, rendering flowback fluids hazardous.³³¹

³²⁷ Submission 202, National Toxics Network Inc., p 4.

³²⁸ Submission 412, p 14.

³²⁹ Submission 335, p 17.

³³⁰ Senate Rural Affairs and Transport References Committee, *Management of the Murray Darling Basin – Interim report*, pp 34-35.

³³¹ Submission 202, p 13.

- 5.39** Several inquiry participants raised concerns regarding the toxicity of the flowback, and the eventual fate of chemicals and toxins. Wollongong City Council posed the question: ‘Is enough known about the ultimate fate of chemicals used in hydraulic fracturing?’³³²
- 5.40** The Committee received opposing views on this question. The coal seam gas operators claimed that they are very successful in retrieving and disposing of chemicals. Santos assured the Committee that it recovers the vast majority of fracking fluid ‘...including chemicals, to ensure it does not impede the gas flow’.³³³
- 5.41** Metgasco did not comment on the recovery of fracking fluids, given that it is not using hydraulic fracturing.³³⁴ However, in relation to the recovery of drilling fluids, Mr O’Brien, Chief Operations Officer, advised: ‘You recover all your drilling fluids plus the water from the well...One hundred percent’.³³⁵
- 5.42** The National Toxics Network however believe that a significant volume of fracking fluids is left in the coal seam:
- ...Queensland regulators identified that in one CSG operation, approximately 18,500kg of additives were to be injected during the hydraulic fracturing process in each well, with only 60% of these recovered and up to 40% of the hydraulic fracturing fluid remaining in the formation, corresponding to 7,400kg of chemicals per injection per well.³³⁶
- 5.43** Dr Redmond also believes that a significant portion of fracking fluid is unrecoverable, claiming that ‘only between 15 and 80 per cent of the hydraulic fracturing liquids that are forced down into the coal seam come back up’.³³⁷
- 5.44** The Senate’s Rural Affairs and Transport References Committee received evidence from the CSIRO that ‘...most of the water and added chemicals used in the fracking process is immediately pumped out of the well. However, fracking can involve a very large volume of water – from 100 to 10,000 cubic metres. Thus a residue of even one per cent is still a significant volume’.³³⁸
- 5.45** According to Dr Khan ‘there is no viable means of accounting for every molecule of chemicals that are injected into an aquifer’.³³⁹ Dr Khan also submitted that it is difficult to determine what will happen to those chemicals that are unrecoverable:

The fate of unrecovered chemicals will be dependent upon their physical and chemical properties, but may include adsorption to solid materials, oxidation/reduction reactions, and aerobic or anaerobic biodegradation. Such processes will be both

³³² Submission 901, Wollongong City Council, p 5.

³³³ Submission 337, p 34.

³³⁴ Mr Michael O’Brien, Chief Operations Officer, Metgasco, Evidence, 9 December 2011, p 42.

³³⁵ Mr O’Brien, Evidence, 9 December 2011, p 42.

³³⁶ Submission 202, p13.

³³⁷ Dr Redmond, Evidence, 17 November 2011, p 58.

³³⁸ Senate Rural Affairs and Transport References Committee, *Management of the Murray Darling Basin – Interim report*, p 6.

³³⁹ Dr Khan, Evidence, 9 December 2011, p 29.

chemical and aquifer specific. However, insufficient information is currently available to provide accurate predictions of chemical fate in most circumstances.³⁴⁰

- 5.46** The Committee received very little evidence on the disposal of fracking fluids, including chemicals that may be present. Metgasco submitted that all of the chemicals it uses ‘are removed from Metgasco operations and placed in approved industrial waste disposal sites’.³⁴¹
- 5.47** In relation to the storage of fracking fluids prior to disposal, the Senate Report recommended that coal seam gas companies be required to keep fracking fluids ‘... isolated in separate storages...’.³⁴²

Committee comment

- 5.48** The Committee acknowledges the concerns of the community in relation to fracking, particularly the concerns about the potential impacts on health, farming and water systems. However, much of this concern may be unjustified, given the view of Geoscience Australia (see paragraph 5.50), and before any moves to lift the current ban on fracking, the Committee calls on the Government to ensure that a stringent regulatory framework is in place.
- 5.49** Measures to address concerns around the disclosure and testing of fracking chemicals are considered in the next section.

Measures to improve the safety of fracking

- 5.50** On the question of whether fracking is safe, advice from Geoscience Australia concludes that fracking poses a ‘low’ risk to aquifers and groundwater, and that the industry has tools to manage any risks to water resources:

...we consider that the potential risks posed by fracking are low...While the potential for fracking activities to impact on the structural integrity of other aquifers and aquitards, and on existing groundwater flow processes, can never be completely eliminated, the competent application of industry standard techniques, technologies, and monitoring/mitigation measures by each proponent are considered appropriate for minimising the risk.³⁴³

- 5.51** Measures are gradually being put in place by the New South Wales Government to further mitigate any risk and address community concerns. Following the State election in March 2011, the Government announced ‘tough new conditions for coal seam gas’ which included a moratorium on fracking. In December 2011, the Government extended the moratorium until April 2012, pending the completion of an independent review of fracking standards and

³⁴⁰ Submission 330, p 5.

³⁴¹ Submission 287, p 16.

³⁴² Senate Rural Affairs and Transport References Committee, *Management of the Murray Darling Basin – Interim report*, p 33.

³⁴³ Habermehl MA and Geoscience Australia, *Summary of advice in relation to the potential impacts of coal seam gas extraction in the Surat and Bowen Basins, Queensland: For Australian Government Department of Sustainability, Environment, Water, Population and Communities*, 29 Sept 2010, pp 4-5.

development of technical guidelines.³⁴⁴ More recently, the Government announced that fracking would not occur in New South Wales until it has considered the findings of the independent review.³⁴⁵

- 5.52** Originally, the moratorium on fracking did not apply to existing licences and coal seam gas operators with previous approvals could continue fracking. Mr Brad Mullard, Executive Director, Mineral Resources and Energy, Department of Trade and Investment, Regional Infrastructure and Services, gave his assurance to the Committee that ‘...no fracking operations have been undertaken...since the ban came into place’.³⁴⁶ Mr Mullard said that he was aware of this because the Department had ‘contacted the companies and they had advised us they have not undertaken fracking’.³⁴⁷
- 5.53** As part of its ‘tough new conditions for coal seam gas’, the Government implemented a ban on the use of BTEX chemicals as additives, noting: ‘...the community expressed a number of concerns and we’ve listened’.³⁴⁸ More recently, the New South Wales Government announced a number of draft policies under its Strategic Regional Land Use Policy which include measures to address community concerns about the lack of transparency surrounding the composition of fracking chemicals. Under the *Draft Code of Practice for Coal Seam Gas Exploration*, the Government has included the requirement that explorers undertaking fracking must inform the landholder of what fracking additives will be used. In addition, all additives used must be certified as BTEX free.³⁴⁹ The *Draft NSW Aquifer Interference Policy – Stage 1* specifies that the use of chemicals in the process of hydraulic fracking will be regulated under the *Petroleum (Onshore) Act 1991* and the *Environment Planning and Assessment Act 1979*.³⁵⁰ The draft documents will be finalised following the consultation period which concludes in early May 2012.
- 5.54** The Draft Code also states that explorers should place details of additives used in fracking on the Government’s website and their company website, however this has not been mandated and the process for ensuring this occurs has not been prescribed as yet. The Government has also committed to assess and consider the potential impacts of proposed fracking additives as part of its environmental assessment of proposed coal seam gas developments.³⁵¹ The Draft Code also specifies that access arrangements between the landholder and the coal seam gas operator must include details of all chemicals being brought onto or stored on the land.³⁵²

³⁴⁴ Hon Chris Hartcher MP, Minister for Resources and Energy, ‘NSW Government Extends Fracking Moratorium’, *Media Release*, 2 December 2011.

³⁴⁵ NSW Government, *Strategic Regional Land Use Policy Delivery: Frequently Asked Questions*, March 2012, p 6.

³⁴⁶ Mr Brad Mullard, Executive Director, Mineral Resources and Energy, Department of Trade and Investment, Regional Infrastructure and Services, Evidence, 12 December 2011, p 16.

³⁴⁷ Mr Mullard, Evidence, 12 December 2011, p 16.

³⁴⁸ Hon C Hartcher MP, Minister for Resources and Energy, Special Minister of State, Minister for the Central Coast, ‘NSW Government has listened and acted: Tough new conditions for coal and coal seam gas’, *Media Release*, 21 July 2011.

³⁴⁹ NSW Government, *Draft Code of Practice for Coal Seam Gas Exploration*, March 2012, p 6.

³⁵⁰ NSW Government, *Draft NSW Aquifer Interference Policy – Stage 1*, p 2.

³⁵¹ NSW Government, *Draft Code of Practice for Coal Seam Gas Exploration*, March 2012, p 6.

³⁵² NSW Government, *Draft Code of Practice for Coal Seam Gas Exploration*, March 2012, p 9.

5.55 In relation to whether fracking will continue to be used by the industry in New South Wales, the Government has stated that it is ‘proceeding with caution and making sure the proper frameworks are in place...’.³⁵³ The Government advised that it has set a high benchmark with its aim of ‘...working to ensure we have the world’s best practice in ... fracking standards’.³⁵⁴ If the moratorium is eventually lifted, the *Draft Code of Practice for Coal Seam Gas Exploration* notes that access arrangements agreed between the landholder and the coal seam gas operator must include detail of any drilling and stimulation methods the explorer intends to use.³⁵⁵ The Code also places the onus on explorers to protect water resources from any risks posed by fracking, stating that:

Proponents who intend to conduct fracking must be able to demonstrate that their activities won’t result in connectivity between near surface aquifers and targeted coal seam gas water bearing zones and compaction.³⁵⁶

5.56 Further to this, the *Draft NSW Aquifer Interference Policy* notes that hydraulic fracturing will require an aquifer interference approval.³⁵⁷ Approval will not be granted if ‘hydraulic fracturing activities will cause more than minimal harm to the aquifer or its dependent ecosystems, or will modify the existing hydraulic connection between aquifers’.³⁵⁸ As mentioned previously, the requirements for obtaining aquifer interference approvals will be dealt with in stage two of the Policy, which is still under development.

Committee comment

5.57 The Committee believes that greater disclosure of information, particularly in relation to the chemicals used during fracking, as well as testing of these chemicals, could alleviate some of the community anxiety around fracking. The Committee therefore welcomes the new standards for access agreements, which require full disclosure to landholders of fracking chemicals to be used, along with the proposed drilling and stimulation methods.

5.58 The Committee supports the Government’s decision to continue the current ban on fracking until the findings of the independent review of fracking standards have been considered. However, the Committee believes that it would be premature to lift the current ban before the chemicals used in fracking fluids are subject to stringent testing, which should be based on their toxicity and intended use, according to international standards. The Committee recommends that the current ban on fracking remain in place until NICNAS concludes its assessment of fracking chemicals and the NSW Government considers any findings of this assessment.

³⁵³ Hon Chris Hartcher MP, Minister for Resources and Energy, ‘NSW Government Extends Fracking Moratorium’, *Media Release*, 2 December 2011.

³⁵⁴ Hon Chris Hartcher MP, Minister for Resources and Energy, ‘NSW Government Extends Fracking Moratorium’, *Media Release*, 2 December 2011.

³⁵⁵ NSW Government, *Draft Code of Practice for Coal Seam Gas Exploration*, March 2012, p 8.

³⁵⁶ NSW Government, *Draft Code of Practice for Coal Seam Gas Exploration*, March 2012, p 15.

³⁵⁷ NSW Government, *Draft NSW Aquifer Interference Policy – Stage 1*, p 16.

³⁵⁸ NSW Government, *Draft NSW Aquifer Interference Policy – Stage 1*, p 26.

Recommendation 9

That the NSW Government continue the current ban on fracking until the National Industrial Chemicals Notification and Assessment Scheme assesses fracking chemicals for their intended use and toxicity according to international standards, and the NSW Government considers any findings of this assessment.

- 5.59** The Committee is also concerned about the storage of fracking fluids, should the current ban on fracking be lifted. Fracking fluids contain a number of potentially dangerous chemicals that could contaminate ground and surface water systems. Similarly to Recommendation 8 in relation to produced water, the Committee recommends that the Government ban open storage of fracking fluids to decrease the risk of accidental leakage or spills of fracking fluids. The Government must also act to ensure the safe storage of fracking fluids.
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Recommendation 10

That the NSW Government ban the open storage of fracking fluids, and require coal seam gas companies to store fracking fluids securely prior to treatment and disposal.

Chapter 6 Other environmental issues

In addition to the industry's potential impact on water resources, Inquiry participants suggested that coal seam gas activities have the potential to generate a number of other environmental impacts. These include effects on travelling stock routes, the heightened risk of subsidence, reduced air quality and increased bushfire risk. Inquiry participants said that coal seam gas companies must be held accountable for remediation in the event that these potential environmental impacts, as well as potential impacts on water resources, do emerge. In addition to these concerns, this Chapter also examines Inquiry participants' concerns about the adequacy of the approvals process, including the suggestion that the environmental assessments conducted to date have been of poor quality, and that the assessments by environmental consultants have been influenced by the fact that they are paid by the coal seam gas companies.

Potential environmental impacts

- 6.1** The potential impact on water resources is clearly the environmental issue of most pressing concern to community members. However, the coal seam gas industry also has the potential to lead to various other environmental impacts as discussed below.

Travelling stock routes and Crown lands

- 6.2** There is already a degree of coal seam gas activity occurring on Crown land. According to the Nature Conservation Council of NSW and submission co-authors, current exploration and production licenses currently cover 1.3 million hectares of State forests, State conservation areas and travelling stock reserves.³⁵⁹
- 6.3** Travelling stock routes are Crown lands managed in trust on behalf of the Minister for Primary Industries.³⁶⁰ In New South Wales there are approximately 600,000 hectares of Crown lands classified as travelling stock routes.³⁶¹ Originally, the primary purpose of travelling stock routes was to move stock to other locations, such as sales yards or other pastures, and to allow for stationary grazing.³⁶² Although stock movement has diminished somewhat, travelling stock routes are still used for emergency refuge during floods and drought, as well as some local agistment.³⁶³ In addition to the use of travelling stock routes for primary industry, they are increasingly being used for public recreation purposes including cycling, horseriding, fishing, camping, swimming, picnicking, running and other exercise activities.³⁶⁴

³⁵⁹ Submission 407, Nature Conservation Council of NSW, Northern Inland Council for the Environment, North Coast Environment Council and Armidale Action on Coal Seam Gas, p 15.

³⁶⁰ Submission 642, NSW Government, p 30.

³⁶¹ Submission 271, Livestock Health and Pest Authorities, p 2.

³⁶² Submission 271, p 2.

³⁶³ Department of Lands, *The future of travelling stock reserves*, October 2008, p 1.

³⁶⁴ *Rural Lands Protection Act 1998*, Rural Lands Protection Regulation 2010, Pt 4, s 29.

6.4 As the NSW Government suggested in its submission, travelling stock routes have been suggested as a location for coal seam gas infrastructure (such as wells and pipelines) as a strategy to minimise land use conflict within the community.³⁶⁵

6.5 The Committee received several submissions from Inquiry participants dismayed at the ongoing and proposed use of Crown lands for coal seam gas activities. For example, the National Parks Association of NSW submitted that:

CSG mining and infrastructure represents a major threat to the conservation of natural areas on Crown land, State forests and TSRs in the State of NSW:

1. It leads to extensive clearing and fragmentation of native bushland and threatened species habitat and increases the risk of catastrophic bushfires – severe impacts which cannot be mitigated.
2. It transforms major vegetation remnants, refuges and corridors into industrial zones and severely fragmented remnants which will be unable to support their previous biodiversity.
3. It represents a major threat to wetland systems, even distant ones that are hydrologically connected.³⁶⁶

6.6 Particular concerns were expressed that using travelling stock routes for coal seam gas development would have a negative impact on the environment, farmers and indigenous people. For example, because they are largely untouched by development, travelling stock routes are considered to be biodiversity hotspots. The Wilderness Society NSW commented that they ‘...provide essential corridors for wildlife migration...’.³⁶⁷ The National Parks Association of NSW noted that: ‘The mature, hollow-bearing trees found along TSRs have been shown to provide vital habitat, nesting sites and protection for a range of birds, arboreal mammals and bats’.³⁶⁸ In relation to the construction of pipelines for transporting coal seam gas, the National Parks Association of NSW argued that construction corridors could ‘...result in the complete destruction of mature remnant vegetation of some of the narrower TSRs’.³⁶⁹

6.7 In relation to potential disruption to farming activities, the Livestock Management Council observed that:

Stock and gas rigs generally do not mix, with animals often being ‘spooked’ by activities involving motor vehicle and machinery operations. Despite mining companies providing assurances that stock access to affected areas would be guaranteed, this is a flawed assurance because of the stress often placed on stock in such environments.³⁷⁰

³⁶⁵ Submission 642, p 30.

³⁶⁶ Submission 554, Armidale Branch, National Parks Association of NSW, p 6.

³⁶⁷ Submission 333, The Wilderness Society NSW, p 5.

³⁶⁸ Submission 325, National Parks Association of NSW, p 4.

³⁶⁹ Submission 325, p 5.

³⁷⁰ Submission 271, p 3.

- 6.8** The NSW Farmers' Association shared these concerns and noted the important function travelling stock routes 'continue to serve as a drought management tool'.³⁷¹ NSW Farmers recommended that the *Petroleum (Onshore) Act 1991* (the Act) be amended to prohibit the issue of licenses over travelling stock reserves.³⁷²
- 6.9** Mr Warren Mundine, Chief Executive Officer, Native Title Services Corp, voiced his concerns that coal seam gas development, such as a pipeline on a travelling stock route, would impinge on the native title rights and cultural interests of Aboriginal people.³⁷³ Mr Craig Trindall, representing the Gomeroi people, was also apprehensive that coal seam gas activities may 'result in impeding our access to what is termed as Crown lands, including travelling stock routes and State forests'.³⁷⁴
- 6.10** In its submission the Government recognised the importance of carefully considering the use of travelling stock routes for coal seam gas industry infrastructure:
- TSRs are normally in the vicinity of prime agricultural land, can have high biodiversity, conservation and/or Aboriginal cultural values and are in regular use. Due to this wide range of users and potential values associated with TSRs, careful consideration will be needed if the NSW Government is to consider including TSRs in its analysis of options for the use of Crown land, for pipeline routes and the establishment of energy and transport corridors.³⁷⁵
- 6.11** The Government also acknowledged that Commonwealth Native Title and NSW Aboriginal Land Rights issues must also be part of the planning process for any proposed coal seam gas activity.³⁷⁶
- 6.12** The Government reported that Forests NSW has developed '...a policy, accompanied by ...a comprehensive legal document, to protect Forests NSW interests where a mining company (licensee) is granted the rights for mineral and coal seam gas exploration over State Forests land'.³⁷⁷ Further, Forests NSW imposes permit conditions on coal seam gas exploration companies to minimise environmental impacts including contamination, pollution, and fire risk.³⁷⁸

³⁷¹ Submission 335, NSW Farmers' Association, p 18.

³⁷² Submission 335, p 18.

³⁷³ Mr Warren Mundine, Chief Executive Officer, Native Title Services Group, Evidence, 12 December 2011, p 41.

³⁷⁴ Mr Craig Trindall, Traditional landowner, Gomeroi Nation, Evidence 16 November 2011, p 12.

³⁷⁵ Submission 642, p 30.

³⁷⁶ Submission 642, p 30.

³⁷⁷ Submission 642, p 31.

³⁷⁸ Submission 642, p 31.

Subsidence

- 6.13** Particular concerns were raised about the potential for coal seam gas activities to result in subsidence. According to the National Water Commission, land subsidence is a potential risk to sustainable water management and has the potential to affect surface water systems, ecosystems, irrigation and grazing lands.³⁷⁹
- 6.14** Many farmers, in particular those around the Liverpool Plains, raised concerns about the potential for surface subsidence and erosion due to coal seam gas wells and associated infrastructure, including pipelines. Mrs Penny Blatchford pointed to the ‘unique soil types’ of the Liverpool Plains and the potential for ‘...erosion, soil subsidence, soil movement, increased compaction...’.³⁸⁰
- 6.15** Similar concerns were raised by Ms Rosemary Nankivell, Chair, Coal Seam Gas Committee, Caroon Coal Action Group:
- Farmers have been here for many generations and have learnt to work with the fertile, self-mulching black soils ...Infrastructure has to be placed carefully on these moving soils. Pipelines, sump ponds, well heads, compressor stations, all-weather roads, waste water facilities and overhead power lines will not only interfere with farming practices but also lead to erosion and interference with surface water flows.³⁸¹
- 6.16** The NSW Farmers’ Association advised that the installation of pipelines is a cause for concern, particularly on black soil plains that are prone to movement.³⁸² Mr Doug Cush described how pipelines contribute to erosion and are incompatible with the ‘soft black alluvial soil, highly erodible’ in the Liverpool Plains.³⁸³
- 6.17** In support of this concern, the Committee heard evidence from Mrs Joy Beames of the Country Women’s Association, who tabled a number of photographs showing erosion on her property caused by a pipeline that transports conventional gas.³⁸⁴
- 6.18** Fears were also raised that below-ground coal seam gas activities could lead to surface subsidence. This view was supported by Geoscience Australia, which found that as a result of coal seam gas activities, ‘there is a likelihood of subsurface subsidence, and that this could result in surface subsidence’.³⁸⁵

³⁷⁹ Submission 100, Australian Government National Water Commission, p 1.

³⁸⁰ Mrs Penny Blatchford, local landholder, Evidence, 16 November 2011, p 46.

³⁸¹ Ms Rosemary Nankivell, Caroon Coal Action Group and Mullaley Gas Pipeline Accord, Evidence, 16 November 2011, p 30.

³⁸² Submission 335, NSW Farmers’ Association, p 32.

³⁸³ Mr Doug Cush, Local landholder, Evidence, 16 November 2011, p 50.

³⁸⁴ Tabled document, Mrs Joy Beames, State Agricultural and Environmental Officer, Country Women’s Association of NSW, Photograph of effects of subsidence on her property, 9 December 2011.

³⁸⁵ Habermehl MA and Geoscience Australia, *Summary of advice in relation to the potential impacts of coal seam gas extraction in the Surat and Bowen Basins, Queensland: For Australian Government Department of Sustainability, Environment, Water, Population and Communities*, 29 Sept 2010, p 5.

- 6.19** In addition, Inquiry participants suggested that fracking could heighten the risk of subsidence, or indeed trigger seismic activity such as earthquakes. For example, some people referred to media reports of seismic activity in areas adjacent to coal seam gas exploration in the United Kingdom.³⁸⁶ On this issue, Stop Coal Seam Gas Illawarra submitted: ‘There is a real risk that CSG extraction operations and especially the effects of hydraulic fracturing and other coal seam stimulation techniques will cause subsidence or other seismic events’.³⁸⁷
- 6.20** When questioned by the Committee on the potential of earthquakes as a result of coal seam gas activities, Mr Ross Naumann, a drilling expert, considered the risk as very low: ‘I am not sure that we are really considering earthquakes as a serious threat in Australia’.³⁸⁸

Air quality

- 6.21** Several Inquiry participants raised concerns about the potentially deleterious impact of coal seam gas activity on air quality, in particular due to the release of methane. For example, Mr Dean Draper, a resident of the Northern Rivers region, gave anecdotal evidence of air quality impacts:

There are several gas mines in my area with constant flaring. When I stand on the road and view the wells I get dizzy and quickly feel unwell. The effects last for several hours after leaving the area. There are houses located very close to some of the wells, the people that live there report headaches, sickness and other illnesses since the wells went in.³⁸⁹

- 6.22** Doctors for the Environment advised that ‘volatile compounds’ could be released during the drilling of coal seam gas wells, during the process of separating methane from other gases, and when compressors and other equipment are in use.³⁹⁰
- 6.23** Dr Mariann Lloyd-Smith, Senior Adviser, National Toxics Network, explained the possible impacts of chemicals used in coal seam gas operations making their way into our air:

Many of the chemicals involved are volatile and semi-volatile. There has been little air monitoring in Australia, yet the work we are seeing in overseas situations has detected anything up to 22 or 23 hazardous chemicals at levels of three to 3,000 times the health standards. When we look at the fields even here, we note that there is a considerable amount of flaring underway. There is also significant scientific uncertainty. Yes, we know that methane may be released and carbon dioxide may be released, but at least another 250 serious toxins can also be released by flaring, and there is very little work done on that. Despite this, we have had farmers already complaining about noxious emissions from the agri-gas productions and complaining of respiratory problems and burning eyes.³⁹¹

³⁸⁶ BBC News Lancashire, ‘Fracking tests near Blackpool likely cause of tremors’, 2 November 11, accessed 7 February 2012, <www.bbc.co.uk/news/uk-england-lancashire-15550458>.

³⁸⁷ Submission 552, Stop CSG Illawarra, p 44.

³⁸⁸ Mr Neumann, Evidence, 17 November 2011, p 34.

³⁸⁹ Submission 347, Mr Dean Draper, p 3.

³⁹⁰ Submission 412, Doctors for the Environment Australia Inc., p 14.

³⁹¹ Dr Mariann Lloyd-Smith, Senior Adviser, National Toxics Network, Evidence, 21 September 2011, p 11.

- 6.24** Other Inquiry participants also observed that there was little monitoring of the impacts on air quality. On this issue, the Environmental Defender's Office remarked that '... we understand monitoring and research on air quality regarding CSG has been limited to date'.³⁹²
- 6.25** As part of the delivery of the Strategic Regional Land Use Policy, the Government subsequently announced that it is 'establishing an air quality monitoring network in the New England North West region, similar to the network recently completed in the Upper Hunter Region'.³⁹³

Bushfires

- 6.26** A serious environmental concern to emerge from the coal seam gas debate relates to the incidence and management of bushfires in areas where coal seam gas infrastructure, such as wells, are in place. The National Parks Association of NSW argued that coal seam gas development in the Pilliga Forest will lead to a dramatic increase in fire risk, as a result of a proliferation of ignition sources and the presence of methane gas.³⁹⁴
- 6.27** Also in relation to the Pilliga Forest, Mr Milton Judd, representing Friends of the Pilliga, noted his concerns that gas wells could provide an effective conductor for lightning strikes, from which most of the bush fires in the Pilliga Forest are started.³⁹⁵ Mr Judd explained:
- A lightening strike travels at tremendous speed, anywhere between 120 and 140 kilometers an hour. It has five million joules of energy and 30,000 degrees centigrade temperature... If that hit one of these well heads – and if there are over 1,100 well heads in the Pilliga – we are going to have a really bad fire as far as I am concerned.³⁹⁶
- 6.28** Mr Judd was not, however, aware of a specific incident of a well being struck by lightning. Mr Judd also voiced his concerns about the flare on gas wells and the possibility that it could ignite debris in high winds.³⁹⁷
- 6.29** The concerns about the bushfire risk posed by coal seam gas infrastructure were shared by Mr Richard Deem, who is Deputy Captain of the Wiangaree Rural Fire Service Brigade. Mr Deem referred to the alleged incidence of leaks at the Bently coal seam gas development, and the potential for the wells to be an ignition source for bush fires.³⁹⁸
- 6.30** The Committee sought the views of the NSW Rural Fire Service on the fire-related risks of coal seam gas development. Mr Shane Fitzsimmons, Commissioner, NSW Rural Fire Service advised that the NSW Rural Fire Service and Fire and Rescue New South Wales had had discussions with representatives of AGL Energy to 'determine the risks and impacts of this

³⁹² Submission 359, Environmental Defender's Office NSW, p 13.

³⁹³ NSW Government, *Strategic Regional Land Use Policy Delivery: Frequently Asked Questions*, March 2012, p 8.

³⁹⁴ Submission 554, p 5.

³⁹⁵ Mr Milton Judd, Friends of the Pilliga, Evidence, 16 November 2011, p 24.

³⁹⁶ Mr Judd, Evidence, 16 November 2011, p 24.

³⁹⁷ Mr Judd, Evidence, 16 November 2011, p 27.

³⁹⁸ Mr Richard Deem, local landholder, Evidence, 21 September 2011, p 33.

industry on fire fighting operations across the state'.³⁹⁹ Following this meeting, Mr Fitzsimmons was able to report that '...both fire services have determined that the risk to fire fighting operations is considered minimal'.⁴⁰⁰

Committee comment

- 6.31** These potential environmental impacts of coal seam gas activities are obviously of great concern to Inquiry participants. Given the conflicting evidence, it is particularly important to have strong remediation requirements if these impacts do eventuate, and to have a rigorous approvals process in place to assess the potential environmental impacts of coal seam gas. The remainder of this Chapter considers the requirements for remediation, the approvals process and the adequacy of environmental assessments conducted to date.

Remediation

- 6.32** Numerous Inquiry participants insisted that coal seam gas companies must be accountable for remediating any environmental impacts of coal seam gas activities. They questioned whether the security deposits intended to cover the potential impacts of coal seam gas activities are set high enough, and whether they are held for long enough. Several Inquiry participants suggested a range of mechanisms for ensuring that coal seam gas companies pay the full costs of any remediation, such as by changing the requirements around security deposits.

Security deposits

- 6.33** Coal seam gas companies are required to lodge up-front security deposits to cover the potential long-term impacts of certain exploration or production activities, such as drilling a well or producing coal seam gas for commercial purposes. A security deposit is a bank guarantee or sum of money held by the NSW Government to cover the costs of remediation works for unforeseen impacts.⁴⁰¹ These deposits are returned to the coal seam gas company once an activity has ceased and an area has been adequately remediated. The NSW Government's *Draft Code of Practice for Coal Seam Gas Exploration* describes the requirement to pay a security deposit as follows:

Explorers must lodge a substantial security deposit with Resources and Energy to ensure all the obligations imposed on the explorer by the conditions of the exploration licence are met. In the event that the explorer cannot rehabilitate the land disturbed by the exploration activity, the Government may call on this security to carry out the rehabilitation.⁴⁰²

³⁹⁹ Correspondence from Mr Shane Fitzsimmons, Commissioner, NSW Rural Fire Service, to Chair, 19 December 2011.

⁴⁰⁰ Correspondence from Mr Fitzsimmons to Chair, 19 December 2011.

⁴⁰¹ NSW Government, *Draft NSW Aquifer Interference Policy – Stage 1*, March 2012, p 32.

⁴⁰² NSW Government, *Draft Code of Practice for Coal Seam Gas (CSG) Exploration*, March 2012, p 3.

- 6.34** Security deposits are required when coal seam gas companies make an application to conduct a specific activity as permitted under the conditions of their licence. Mr Mullard advised that there is a variable scale of deposits, and that the amount required to be paid is tailored to the type of activity proposed, with more extensive activity requiring a higher security deposit to be paid.⁴⁰³
- 6.35** In relation to the amount paid in security deposits, the NSW Government advised that is ‘reviewing the security bonds currently held by the NSW Government to guarantee there are enough funds to rehabilitate any potential damage to land’.⁴⁰⁴
- 6.36** A number of Inquiry participants questioned whether the amounts paid in security deposits are adequate. They were concerned that the deposit paid may not be proportionate to the level of potential harm involved in the activity being undertaken. In particular, stakeholders such as the NSW Farmers’ Association are concerned that security bonds are insufficient to compensate for permanent damage to underground water supplies.⁴⁰⁵ This point was supported by Ms Marylou Potts, a legal practitioner experienced in dealing with coal seam gas issues, who said that ‘generally securities for exploration licences are for no more than \$10,000. That does not go very far when you are trying to repair an aquifer, for example. It does not go anywhere’.⁴⁰⁶
- 6.37** Inquiry participants are also concerned that the amount of money paid in security deposits does not provide a deterrent for explorers not to breach their licence obligations. For example, United Myall Residents Against Gas Extraction advised that: ‘Current practices (eg Pangaea in PEL476 has a \$20,000 bond to cover the whole of its exploration activities) are akin to slapping the mining companies with a feather for breaches of their obligations’.⁴⁰⁷
- 6.38** When questioned on the amount of money that it has paid in security deposits, AGL Energy advised that it had lodged a bank guarantee of \$5.2 million to support its rehabilitation obligations in respect of six Petroleum Exploration Licences.⁴⁰⁸
- 6.39** Mr Andrew Gregson, Chief Executive Officer, NSW Irrigators’ Council, argued that security deposits must be held for long enough to cover potential long-term impacts that may appear decades after the activity has taken place:

We do not advocate that a bond should be given back two or three years after the conclusion. If the extent of the potential impacts is 20, 30 or 50 years away, that is where the bond risk matrix process has to continue to at the very least.⁴⁰⁹

⁴⁰³ Mr Mullard, Evidence, 12 December 2011, pp 21-22.

⁴⁰⁴ Hon Chris Hartcher MP, Minister for Resources and Energy, ‘Tougher controls on CSG’, *Media release*, 6 March 2012.

⁴⁰⁵ Submission 335, p 19.

⁴⁰⁶ Ms Marylou Potts, Marylou Potts Pty Ltd, Evidence, 8 December 2011, p 72.

⁴⁰⁷ Submission 45a, United Myall Residents Against Gas Extraction, p 5.

⁴⁰⁸ Answers to supplementary questions, 21 December 2011, Mr Mike Moraza, Group General Manager Upstream Gas, AGL Energy, Question 4, p 5.

⁴⁰⁹ Mr Gregson, Chief Executive Officer, NSW Irrigators’ Council, Evidence, 12 December 2011, p 65.

- 6.40** The Committee also received comment on this issue from Associate Professor Willem Vervoort and Dr Floris van Ogtrop of the Hydrology Research Laboratory at The University of Sydney. They recommended that coal seam gas companies be required to pay ‘high value (in dollar terms) and long term (50 years minimum)’ security deposits, which would be refunded if long-term monitoring showed that there were no ill-effects of coal seam gas activities.⁴¹⁰
- 6.41** In response to questioning on the amount it holds in security deposits, the NSW Government advised that it holds \$1.32 billion in security deposits for the rehabilitation of exploration and mining titles, of which \$12.8 million is held against petroleum titles. The NSW Government observed that the \$12.8 million ‘... reflects the limited scale of activity associated with coal seam gas exploration and development in NSW to date’.⁴¹¹
- 6.42** The NSW Government did not provide details on how many years security deposits may be held for, but indicated that ‘securities are held until the Government is satisfied that any outstanding rehabilitation liabilities have been fulfilled’.⁴¹²

Rehabilitation obligations

- 6.43** Mr James Cameron, Chief Executive Officer, National Water Commission, said that he supports the ‘polluter pays’ principle, under which coal seam gas companies would be held responsible for the full cost of remediation. Mr Cameron contended that we need an innovative approach to bonds and securities to deal with the long time-scale of over which potential impacts may emerge:
- I think it is fair to say that the management of potential and uncertain impacts over a longer period of time would require a reasonable level of innovation in regulatory systems and structures to be able to handle that sort of obligation.⁴¹³
- 6.44** Many Inquiry participants, such as the NSW Irrigators’ Council, called for coal seam gas companies to pay higher security deposits.⁴¹⁴ To address the risk of long-term impacts, the Irrigators’ Council recommended that ‘at the conclusion of operations, independent verification of potential damage that may still be occasioned ... must guide the quantum of the security bond to be kept and the period over which it must be kept’.⁴¹⁵
- 6.45** An alternative to the payment of security bonds is for coal seam gas companies to take out insurance policies that provide compensation for environmental damage. For example, the NSW Farmers’ Association recommended that licence holders be required to take out

⁴¹⁰ Submission 553, Hydrology Research Laboratory, Faculty of Food, Agriculture and Natural Resources, University of Sydney, p 1.

⁴¹¹ Answers to supplementary questions, received 6 February 2012, Mr Mark Paterson, Director General, Department of Trade and Investment, Regional Infrastructure and Services, Question 4.

⁴¹² Answers to supplementary questions, received 6 February 2012, Mr Paterson, Question 4.

⁴¹³ Mr James Cameron, Acting Chief Executive Officer, National Water Commission, Evidence, 12 December 2011, p 55.

⁴¹⁴ Submission 163, NSW Irrigators Council, p 5.

⁴¹⁵ Submission 163, p 5.

environmental insurance in favour of landholders.⁴¹⁶ Alternatively, Mr Neil Dobbin, Group Executive, Rural Banking, Rabobank, recommended that coal seam gas companies be required to take out ‘... long-term liability insurance based on the scale of the licence...’ to meet short and long-term compensation needs.⁴¹⁷

6.46 Commenting on the issue of how to hold coal seam gas companies to account for damage that may appear many years, or decades, into the future, the National Water Commission called for the implementation of:

... bonds and sureties that deal with uncertainty and the timeframes associated with potential impacts. Given that these timeframes may extend for 100 or more years, current systems may need to be re-evaluated.⁴¹⁸

6.47 In addition to ensuring that coal seam gas companies pay the full costs of any remediation, some Inquiry participants were concerned that there is no legislative obligation for companies to rehabilitate affected areas. The NSW Farmers’ Association observed that the *Petroleum (Onshore) Act 1991* does not in itself require remediation of land, and that instead any remediation requirements are left to the various licences and approvals granted by the Minister.⁴¹⁹

6.48 The Environmental Defender’s Office opposed rehabilitation being left to ministerial discretion. They recommended that the Act be amended to remove ministerial discretion as to whether to require rehabilitation, and that rehabilitation should instead be a legislative requirement.⁴²⁰ In recommending that a definition of ‘rehabilitate’ be inserted into the Act, Ms Potts recommended that the definition require coal seam gas companies to undertake rehabilitation to restore an affected area ‘to original or better condition’.⁴²¹

6.49 In regard to the rehabilitation requirements imposed on explorers, the NSW Government’s *Draft Code of Practice for Coal Seam Gas Exploration* states that explorers are ‘required to rehabilitate discontinued well sites to their previous state or as agreed with the landowner and to a standard acceptable to the Government’.⁴²²

⁴¹⁶ Submission 335, p 19.

⁴¹⁷ Mr Neil Dobbin, Group Executive, Rural Banking, Rabobank, Evidence, 12 December 2011, p 76.

⁴¹⁸ Submission 100, p 3.

⁴¹⁹ Submission 335, p 18.

⁴²⁰ Submission 359, p 11.

⁴²¹ Submission 672, p 9.

⁴²² NSW Government, *Draft Code of Practice for Coal Seam Gas (CSG) Exploration*, March 2012, p 3.

Committee comment

- 6.50** The Committee believes that a mechanism must be put in place to hold coal seam gas companies to account for the full costs of remediating any potential environmental harm, such as water contamination or depletion, even if such impacts emerge decades into the future.

Recommendation 11

That the NSW Government develop an effective model to ensure that coal seam gas companies are held responsible for covering the full costs of remediating any environmental impacts, particularly any long-term environmental damage.

The approvals process

- 6.51** This section outlines the development approvals process for coal seam gas activities including the requirements for assessing the environmental impacts of exploration and production proposals. Particular consideration is given to the adequacy of the Reviews of Environmental Factors that are used to assess the environmental impacts of certain exploration proposals.

Development approval process and environmental assessments

- 6.52** The approvals process for coal seam gas activity is a complex interplay between two Acts: the *Petroleum (Onshore) Act 1991* and the *Environmental Planning and Assessment Act 1979*. The extent to which each Act applies depends on the size and location of a project, and whether the proposal concerns exploration or production.
- 6.53** In addition, two State Environmental Planning Policies under the *Environmental Planning and Assessment Act 1979* are an integral part of the approvals process. These are the State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007 (known as the ‘Mining SEPP’), and the State Environmental Planning Policy (State and Regional Development) 2011 (known as the ‘State Development SEPP’).

Coal seam gas exploration requiring a Review of Environmental Factors

- 6.54** The Mining SEPP states that coal seam gas exploration activities involving the drilling or operation of a set of five or fewer wells is a permissible activity without consent. This means that when granting an exploration licence, the Mineral Resources Branch of the Department of Trade and Investment, Regional Infrastructure and Services (DTIRIS) is responsible for assessing the environmental aspects of the proposed exploration activity.
- 6.55** Under Part 5 of the *Environmental Planning and Assessment Act 1979*, DTIRIS is obliged to ‘examine and take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of that activity’.⁴²³

⁴²³ *Environmental Planning and Assessment Act 1979*, s 111.

- 6.56** In order to do this, DTIRIS may require the petroleum title holder to prepare a Review of Environmental Factors (REF) or an Environmental Impact Statement (EIS). In general, the requirements for satisfying an EIS are more onerous than for an REF.
- 6.57** In March 2012 DTIRIS published environmental assessment guidelines for exploration, mining and petroleum production activities subject to Part 5 of the *Environmental Planning and Assessment Act 1979*. This includes the content requirements for a REF, which must include:
- description of the proposed activity
 - the site or existing environment for the proposed activity
 - impact assessment, including:
 - physical and chemical impacts
 - biological impacts
 - community impacts
 - natural resource impacts
 - Aboriginal cultural heritage impacts
 - historic cultural or natural heritage impacts
 - matters of national environmental significance
 - cumulative impacts.⁴²⁴
- 6.58** If, in reviewing the REF, DTIRIS considers that the impacts on the environment are likely to be significant, then it may require the proponent to prepare an EIS. The form, content and process for preparing an EIS are set out in the *Environmental Planning and Assessment Act 1979* and associated regulations.
- 6.59** Several Inquiry participants contended that the REF process is inadequate to assess the potential environmental impacts when an applicant applies for an exploration licence, and that these impacts should instead be assessed through the preparation of an EIS. According to Ms Flint:
- We think that REFs as they are currently produced are very inadequate... REFs do not require wildlife surveys before they are approved. They require a very low level of work and assessment and they are completely inadequate compared to what they allow to happen.⁴²⁵
- 6.60** On the issue of whether REFs are an adequate means to consider the environmental impacts of exploration licence applications, the Environmental Defender's Office stated that: 'the Reviews of Environmental Factors (REFs) provided to comply with this [environmental assessment] process are of poor quality, and often constitute a fairly generic list of impacts'.⁴²⁶

⁴²⁴ Department of Trade and Investment, *Regional Infrastructure and Services, ESG2: Environmental Impact Assessment Guidelines for exploration, mining and petroleum production activities subject to Part 5 of the Environmental Planning and Assessment Act 1979*. March 2012.

⁴²⁵ Ms Carmel Flint, Spokesperson, Northern Inland Council for the Environment, Evidence, 16 November 2011, p 58.

⁴²⁶ Submission 359, Appendix 1, p 2.

Further, the Office expressed concern that ‘the NSW Office of Environment and Heritage does not have a specific role in examining REFs’.⁴²⁷

6.61 The Committee heard that DTIRIS has the power to require an applicant for an exploration licence to prepare an EIS, if applicant plans to conduct activities, such as drilling, in areas of environmental significance. However, Mr John Whitehouse, Solicitor and Fellow in Environmental Studies at Macquarie University, and expert in mining and environmental law, said that at the time when a company is applying for an exploration licence, the company is unlikely to know if it will need to undertake activity in areas of environmental significance. According to Mr Whitehouse:

If you are also drilling and exploring in the areas defined as environmentally significant – there is a list of those, wetlands and areas like that – when the Department of Industry and Investment hands out an EL [Exploration Licence], they have no idea whether it requires planning approval or not because that is in the hands of the operator. So there is no cue as to whether or not they are to do an environmental assessment under part 5 of the Act. I suspect that probably they are left in a position that they will do nothing.⁴²⁸

6.62 The Environmental Defender’s Office also expressed concern that a company applying for an exploration licence is only required to prepare an EIS if an REF identifies that the company’s activities are likely to impact on areas of environmental significance. The Office’s concerns in this regard have been heightened, given that the Office is not aware of any instance in which, as a result of considering an REF, DTIRIS requested that an EIS be prepared.⁴²⁹ The Office informed the Committee that: ‘To our knowledge, no EIS has been required for any CSG exploration licence, despite in most areas such as Pilliga, Putty and Wollombi, exploration is occurring in sensitive environmental areas where threatened species exist’.⁴³⁰

Coal seam gas activities as state significant development

6.63 On 1 October 2011 the State Development SEPP came into effect.⁴³¹ The State Development SEPP sets out what coal seam gas activities will be considered to be state significant. These include:

- all coal seam gas production
- exploration activity involving more than five wells
- exploration or production in environmentally sensitive areas, such as coastal wetlands
- related infrastructure worth more than \$30 million, such as pipelines or processing plants.

⁴²⁷ Submission 359, Appendix 1, p 5.

⁴²⁸ Mr Whitehouse, Partner, Minter Ellison Lawyers and Visiting Fellow, Graduate School of Environment, Macquarie University, Evidence, 7 October 2011, p 8.

⁴²⁹ Mr Sahukar, A/Policy director, Environmental Defender’s Office, Evidence, 8 December 2011, p 58.

⁴³⁰ Submission 359, Appendix 1, p 5.

⁴³¹ The SEPP replaced the State Environment Planning Policy (Major Projects) 2005.

- 6.64** The effect of the State Development SEPP is that development applications for all petroleum production, and petroleum exploration over a certain threshold, will be considered as state significant development. The development application will be considered either by the Planning Assessment Commission, or if the application has attracted less than 25 submissions objecting to the proposal and where the local council has not objected, by the Department of Planning and Infrastructure.
- 6.65** The classification of development as state significant also provides that the project no longer has to gain approvals from other public authorities, which may otherwise have been required. For instance, state significant development does not require:
- an authorisation to clear native vegetation under the *Native Vegetation Act 2003*
 - a bush fire safety authorisation under the *Rural Fires Act 1997*
 - an Aboriginal heritage impact permit under the *National Parks and Wildlife Act 1974*
 - a concurrence under Part 3 of the *Coastal Protection Act 1979*.
- 6.66** Under the state significant development process, applicants must lodge an EIS. Before preparing the EIS, applicants must apply to the Department of Planning and Infrastructure for environmental assessment requirements. The Department will consult with other public authorities, including local councils, and issue the requirements which specify the range of matters to be addressed in the EIS. State significant applications must be publicly exhibited for a minimum of 30 days before final determination by the consent authority.
- 6.67** The Environment Defender's Office called for the Government to reinstate 'concurrence approvals' from public authorities for state significant development. The Environmental Defender's Office described the removal of concurrence approvals as a 'primary' impediment to adequate environmental assessment of coal seam gas activities.⁴³²
- 6.68** In relation to coal seam gas projects, the Office said that 'it is counter-intuitive that the projects with the greatest significance, and likely environmental impacts, are exempt from (or rubber stamped with) the very approvals designed as a 'check' on those impacts'.⁴³³
- 6.69** In addition, the Environmental Defender's Office argued that 'the inability of the Environment Protection Authority to refuse a licence makes nonsense of the general principle of protecting the environment'.⁴³⁴

Committee comment

- 6.70** The Committee acknowledges the concerns of some participants that a REF is a lower-order environmental assessment and is insufficient to assess the potential environmental impacts of an exploration licence application. The Committee notes that DTIRIS has the power to require an applicant to prepare a full-scale EIS, if a REF indicates that exploration will occur in areas of environmental significance. However, the Committee was told that the requirement to prepare an EIS has not been triggered to date.

⁴³² Submission 359, p 22.

⁴³³ Submission 359, p 24.

⁴³⁴ Mr Sahukar, Evidence, 8 December 2011, p 13.

- 6.71 The Committee notes that the preparation of a REF does not require consultation with the Office of Environment and Heritage. The Committee therefore recommends that, in the preparation stage, REFs be referred to the Office of Environment and Heritage.

Recommendation 12

That the NSW Government require, in the preparation of a Review of Environmental Factors, referral to the Office of Environment and Heritage.

Adequacy of environmental assessments

- 6.72 Many Inquiry participants are concerned about the adequacy of the environmental assessments conducted to determine the potential impacts of coal seam gas developments. Another concern is that the environmental consultants engaged to conduct the assessments are doing poor quality work. Many Inquiry participants questioned the independence of these assessments given that the consultants are paid by the coal seam gas companies whose projects they are assessing.

Quality of environmental assessments produced to date

- 6.73 Many Inquiry participants criticised the adequacy of the environmental assessments of proposed coal seam gas projects. One environmental assessment that came in for heavy criticism was that which was prepared for the proposed AGL Energy project at Gloucester, in the Hunter Valley. For example, the Barrington-Gloucester-Stroud Preservation Alliance identified a number of perceived inadequacies with the assessment, including in relation to the assessment of the area's geology, and pointed to this example as demonstrating '...the inadequate nature of coal seam gas environmental assessments generally...'⁴³⁵In relation to the area's geology, Mr Graeme Healy, Chairperson, Barrington-Gloucester-Stroud Preservation Alliance, referred to the:

... complex geology of the Gloucester-Stroud Valley. The valley is particularly vulnerable to environmental damage by gas extraction because of the valley's unusual geological formation that involved intense lateral folding, volcanic action and complex erosion processes.⁴³⁶

- 6.74 Mr Garry Smith, Project Officer for the Alliance claimed that due to the inadequacy of the initial geological assessment, the coal seam gas company has now been forced to 'play catch-up' and conduct thorough geological testing:

⁴³⁵ Submission 272, Barrington-Gloucester-Stroud Preservation Alliance, p 5.

⁴³⁶ Mr Graeme Healy, Chairperson, Barrington-Gloucester-Stroud Preservation Alliance, Evidence, 31 October 2011, p 17.

The thing that is happening now is that AGL are doing ongoing seismic testing, for the simple reason that they do not understand the geology. The environmental assessment they presented to the director general, to the Minister and to the Planning Assessment Commission did not fully describe its characteristics.⁴³⁷

- 6.75** Also in regard to the environmental assessment of the Gloucester project, the Committee was advised that the initial Government consultation on the proposal left out key stakeholders. Namely, the initial consultation did not involve MidCoast Water, which is responsible for providing the water supply and sewerage systems in the Greater Taree, Great Lakes and Gloucester Shire local government areas, servicing a population of 75,000 people.⁴³⁸ According to Mr Robert Loadsman, General Manager, MidCoast Water, the result of this was that ‘the environmental assessment report prepared for the project approval not only failed to consider impacts on drinking water quality downstream of the proposed discharge, but made no mention of the Manning District Water Supply Scheme at all’.⁴³⁹
- 6.76** Some Inquiry participants are so concerned about the quality of environmental studies that they have commissioned their own reports into the issues concerned. For example, Campbelltown City Council engaged an independent expert to review the adequacy of the environmental assessment for AGL Energy’s application for their Stage 3 development in the Camden area. In relation to groundwater, the Council’s expert review found deficiencies in the assessment of cumulative impacts on ground and surface water. Mr David Henry, Environment Officer, Campbelltown City Council, summarised the report’s findings as follows:
- The overall finding of the report was that there was insufficient information to do a peer review of the environmental assessments. It identified a low level of compliance with the baseline data and insufficient information to assess requirements related to cumulative impacts and impacts on groundwater and surface water.⁴⁴⁰
- 6.77** In addition, communities expressed concern that the environmental assessments did not take adequate notice of the attributes unique to their particular regions. For example, the Barrington-Gloucester-Stroud Preservation Alliance referred to work that they had commissioned by Professor Alex Grady, a specialist in structural geology, who was engaged by the Alliance to produce a study on the geology of the Gloucester area, due to the Alliance’s concerns that the environmental assessment had been deficient in its consideration of this issue.⁴⁴¹
- 6.78** However, coal seam gas companies rejected claims that environment assessments are inadequate. Santos advised the Committee that:

⁴³⁷ Mr Garry Smith, Project Officer, Barrington-Gloucester-Stroud Preservation Alliance, Evidence, 31 October 2011, p 20.

⁴³⁸ Mr Robert James Loadsman, General Manager, MidCoast Water, Evidence, 31 October 2011, p 23.

⁴³⁹ Mr Loadsman, Evidence, 31 October 2011, p 23.

⁴⁴⁰ Mr Henry, Environment Officer, Campbelltown City Council, Evidence, 9 December 2011, p 13.

⁴⁴¹ Answer to question on notice taken during evidence 31 October 2011, Gloucester-Barrington-Stroud Preservation Alliance, p 3.

Whilst the industry is often criticised for having a lack of environmental scientific assessment and study, this is simply not true. For the Santos operated Queensland GLNG [Gladstone Liquefied Natural Gas] project alone, the cost of the environmental studies (the majority independently undertaken by internationally recognised consultants) was in excess of \$20 million and the EIS itself was over 20,000 pages in total.⁴⁴²

The role of environmental consultants

6.79 Several Inquiry participants claimed that environmental consultants are preparing poor-quality environmental assessments that favour the interests of coal seam gas companies over those of the environment. They argued that environmental assessments should be conducted by ‘independent’ experts, rather than consultants who are paid by coal seam gas companies, although they acknowledged the difficulties in finding such an ‘independent’ person.

6.80 The view that the findings of environmental assessments are biased towards the interests of coal seam gas companies was encapsulated by Mr Peter Martin of the Southern Highlands Coal Action Group: ‘Consultants can be entirely ethical, but the brief they are given leads them to the conclusion that the company can mitigate the effects of whatever exploratory process is being used ...’⁴⁴³

6.81 Ms Carmel Flint, Northern Inland Council for the Environment, referred to allegedly poor-quality work by the environmental consultants that assessed a development application by Eastern Star Gas for activity in the Pilliga. According to Ms Flint:

I think there are a lot of problems with the work done by consultancies working for mining companies. We found earlier this year a consulting company that was working for Eastern Star Gas searching for the Pilliga mouse in the Pilliga. They did not find a single record of the Pilliga mouse. We had a group of biologists out in the Pilliga for one week and they recorded 30 records of the Pilliga mouse at eight out of 10 sites It is just not good enough.⁴⁴⁴

6.82 Ms Caroline Graham of Rivers SOS argued that it would amount to corruption if environmental consultants altered their reports to make them more favourable to the interests of coal seam gas companies:

Just on Monday we spent an hour and a half with one of our environmental scientists. He has got a bee in his bonnet about corruption in the consultancy process, that consultants are writing favourable reports or removing items that the companies do not like in order to submit them to the Government and get approval.⁴⁴⁵

6.83 Ms Flint called for environmental studies to be done by independent experts, but she also noted the problems in finding someone truly ‘independent’:

⁴⁴² Answers to supplementary questions, 31 January 2012, Mr James Baulderstone, Vice President, Eastern Australia, Santos, Question 4a.

⁴⁴³ Mr Peter Martin, Southern Highlands Coal Action Group, Evidence, 9 December 2011, p 27.

⁴⁴⁴ Ms Flint, Evidence, 16 November 2011, p 57.

⁴⁴⁵ Ms Caroline Graham, Rivers SOS, Evidence, 9 December 2011, p 20.

... it should be conducted by independent scientists who do not work for government and preferably work in universities and in fields of endeavour where they have not taken money from coal seam gas companies.⁴⁴⁶

- 6.84** Ms Marylou Potts, a legal practitioner with experience in coal seam gas issues, suggested that there should be consequences for providing incorrect information. Ms Potts argued that rather than imposing penalties on environmental consultants, any penalties should be imposed on the coal seam gas company submitting the environmental assessment. Ms Potts informed the Committee that the *Mining Act 1992* enables penalties to be imposed on proponents for providing false or misleading information in their applications, and recommended that the *Petroleum (Onshore) Act* be amended to provide for similar penalties.⁴⁴⁷

Peer review of environmental assessments

- 6.85** A number of Inquiry participants said that it would not matter if environmental assessments are conducted by environmental consultants, if these assessments were subject to a stringent review by the Government. These Inquiry participants took the view that there needs to be much stronger Government oversight of the development approvals process, and in particular, rigorous peer review of environmental assessments. According to Mr Adam Marshall, appearing in his capacity as Vice President, Shires Association of NSW, this could go some way to restoring community trust in the approvals process:

... I stress that what is absolutely critical is that the Government allocates adequate resources to peer review whatever is submitted to Government for exploration or approval. Whilst I do not know ... whether there are adequate resources or not ... we would ask that you say very strongly that there needs to be those adequate resources to make sure we peer review, so that what is submitted by any proponent is not simply taken as a given, that it is peer reviewed, it is technically assessed, and the money and resources are provided to allow the Government and its various departments to do that properly. If there was some understanding or some acceptance in the community that that was the case, that may go some way to rebuilding some faith that, when approvals are granted, communities' interests are being protected.⁴⁴⁸

- 6.86** A similar point was made by Mr Michael Murray, National Water Policy Manager, Cotton Australia, who noted that in Queensland the Water Commission plays a strong role in peer review:

The data may be supplied by the mining companies or it may be collected by the Government, but at the end of the day the Government has to be well enough resourced to be able to look at that data, put it into its models and pick up the trends early. To a large degree, that is what the Queensland Water Commission is charged with.⁴⁴⁹

⁴⁴⁶ Ms Flint, Evidence, 16 November 2011, p 57.

⁴⁴⁷ Submission 672, p 14.

⁴⁴⁸ Cr Adam Marshall, Vice President, Shires Association of NSW, Evidence, 8 December 2011, p 5.

⁴⁴⁹ Mr Michael Murray, National Water Policy Manager, Cotton Australia, Evidence, 16 November 2011, p 21.

- 6.87** Mr Gerard Tuckerman, Manager of Natural Systems at Great Lakes Council, argued that if the community could hear not just from the proponents but also from experts who had reviewed their proposals, this would encourage community faith in the science underpinning coal seam gas activities. Mr Tuckerman called for:

... a more meaningful forum with more of an engagement process where people have the opportunity to hear from proponents but also independent peer reviewers and ask questions. Those sorts of interactive forums will give more credence to the science ...⁴⁵⁰

Committee comment

- 6.88** The Committee notes the strong views of some Inquiry participants as to who should conduct environmental assessments of coal seam gas projects. If environmental assessments are conducted by coal seam gas companies, or by consultants paid for by coal seam gas companies, this work is dismissed by many in the community as being biased. However, the Committee believes that it is not feasible for the Government to conduct these assessments, as the Government does not have sufficient resources to undertake this work.
- 6.89** The Committee considers the central issue to be not who does the research, but whether the NSW Government has sufficient officers with the necessary skills to effectively peer review environmental assessments, and therefore supports transparent Government review of environmental assessments of coal seam gas proposals.

⁴⁵⁰ Mr Gerard Tuckerman, Manager Natural Systems, Great Lakes Council, Evidence, 31 October 2011, p 6.

Chapter 7 Community views

Numerous Inquiry participants identified a number of reasons for their concern about the development of the coal seam gas industry in New South Wales. This Chapter considers these concerns and how they have led communities to protest against coal seam gas developments. In response to these community concerns, some Inquiry participants referred to support for the coal seam gas industry.

Widespread concern about coal seam gas developments

- 7.1** The Committee received evidence on the widespread concern about coal seam gas developments from rural, urban and indigenous communities. Regarding the strength of community feeling generated by proposed coal seam gas developments in New South Wales, one witness simply said ‘the community concern about coal seam gas is overwhelming’.⁴⁵¹
- 7.2** Deep concerns were expressed by rural communities and farmers whose land is actively being sought for coal seam gas exploration and potentially production. Ms Fiona Simson, President of the NSW Farmers’ Association, said that many farmers feel ‘disempowered’ and ‘under siege’. Ms Simson likened the uncertainty posed by coal seam gas extraction to that of the drought:
- Disempowered, uncertain, exhausted, under siege—these are words that I hear landholders use time and again to describe the way they feel. These are words we heard farmers using during the worst of the drought, and this troubles me greatly... they just cannot live in this state of limbo forever. This is not a fact of nature like a drought, a flood or a plague, which our farmers are fairly hardened to.⁴⁵²
- 7.3** Kyogle farmer, Ms Lesley McQueen, also commented on the fear consuming farmers who have lived and worked on their land for generations, and their ‘heartbreak’ over losing their homes and livelihoods.⁴⁵³ Likewise, Mr Greg McNamara, Chair of Norco Co-operative, reflected the vocal opposition of the farmers within his cooperative, who are concerned and unsure of how to manage the issues raised by coal seam gas development, which has in turn caused ‘an enormous amount of pressure’.⁴⁵⁴
- 7.4** Inquiry participants from urban communities were also concerned over proposals to extract coal seam gas in densely populated areas.⁴⁵⁵ For example, residents from St Peters, Enmore and Maroubra expressed alarm following proposals to establish a coal seam gas development

⁴⁵¹ Ms Judi Sheedy, Executive Councillor and Chair of Gunnedah District Council, NSW Farmers’ Association (Boggabri, Gunnedah, Pottinger District Councils), Evidence, 16 November 2011, p 39.

⁴⁵² Ms Fiona Simson, President, NSW Farmers’ Association, Evidence, 17 November 2011, p 13.

⁴⁵³ Ms Lesley McQueen, Member, Group Against Gas Kyogle, Evidence, 21 September 2011, p 28.

⁴⁵⁴ Mr Greg McNamara, Chair, Norco Co-operative Ltd, Evidence, 21 September, p 37.

⁴⁵⁵ Submission 402, Ms Alison Topaz and Ms Carmela Donato, p 1; Submission 734, Name suppressed, p 1.

in the St Peters area.⁴⁵⁶ Willoughby City Council, City of Sydney Council and Camden Council also indicated opposition to potential coal seam gas activities in urban and built up areas.⁴⁵⁷

- 7.5** The Carmelite Nuns from the Scenic Hills area of Campbelltown described the Scenic Hills as ‘the lungs of Campbelltown... providing for the physical and spiritual wellbeing of residents and visitors to the area’ and ‘a much needed green space in a poorer part of Sydney’.⁴⁵⁸ Sister Jocelyn Kramer, a Carmelite Nun, asserted that the Scenic Hills is particularly ‘vulnerable’ to further expansion of coal seam gas developments in the nearby Camden area and that the Camden Gas Project, which is the only coal seam gas development already producing gas for commercial use in New South Wales, has already ‘engendered distrust’ in the local community.⁴⁵⁹
- 7.6** The Committee also received evidence regarding the impact of coal seam gas development on indigenous communities. Mr Warren Mundine, Chief Executive Officer of Native Title Service Corp, advised the Committee that most indigenous communities did not support the coal seam gas industry, despite having worked with other mining industries in the past. He attributed this to the potential impacts on the land and water, and uncertainty associated with the methods and activities of the coal seam gas industry.⁴⁶⁰ Traditional land owners from the Gomeroi Nation supported this view, highlighting that Aboriginal cultural values are intrinsically linked to the health and well being of the land and must therefore be protected.⁴⁶¹

Reasons for community concern

- 7.7** There are a range of reasons driving the widespread community concerns about the impact of coal seam gas developments in New South Wales. These concerns range from poor behaviour by coal seam gas companies and contractors to the pace of the industry’s development, and have led some communities to take protest action to express their concerns.

Behaviour of coal seam gas companies

- 7.8** Numerous Inquiry participants drew attention to the allegedly poor behavior of coal seam gas companies. They felt that many of these companies exhibited a ‘sense of entitlement’ to pursue their activities without regard for the concerns of local communities. Father Greg Burke of the Scenic Hills Association, for example, complained that ‘big business’ companies, such as AGL, operate ‘absolutely convinced that what they are doing is for the best benefit... and therefore they do not really listen to the concerns of the local residents, landowners and councils’.⁴⁶² Likewise, Ms Jacinta Green from Stop CSG Sydney expressed a

⁴⁵⁶ Submission 690, Name suppressed, p 1; Submission 700, Ms Anne Goddard, p 1.

⁴⁵⁷ Submission 582, Willoughby City Council, p 1; Submission 339, City of Sydney Council, p 2.

⁴⁵⁸ Sr Jocelyn Kramer, Carmelite Nun, Evidence, 9 December 2011, p 34.

⁴⁵⁹ Sr Kramer, Evidence, 9 December 2011, p 34.

⁴⁶⁰ Mr Warren Mundine, Chief Executive Officer of Native Title Service Corp, Evidence, 12 December 2011, p 41.

⁴⁶¹ Mr Craig Trindall, Traditional land owner, Gomeroi Nation, Evidence, 16 November 2011, p 12; Mr Michael Anderson, Traditional land owner, Gomeroi Nation, Evidence, 16 November 2011, p 13.

⁴⁶² Father Greg Burke, Scenic Hills Association, Evidence, 9 December 2011, p 30.

similar view: 'My biggest concern is the sense of entitlement that the mining companies seem to have that they can ride roughshod over everybody else'.⁴⁶³

- 7.9** An Inquiry participant who agreed to allow access to his property for coal seam gas exploration reported ongoing problems in his relationship with the licence holder. Cr John Rosenbaum, Deputy Mayor of Gloucester Shire Council, said:

Then you allow them on to your place. You enter into an agreement with them. So most farming people you will find will accept a contract and say, "As long as you come and see me it will be right." Once you sign that contract they come in and do what they like. They do not come back. You ask if they will come back and see you. They never report on a day-to-day basis as to what is going on... They treat you as if it is their property and they say, "We are invited guests." They are not invited. It is not a good experience. People who are not involved with it do not understand what really happens. It is just a continuous nightmare.⁴⁶⁴

- 7.10** Other Inquiry participants told the Committee they had heard anecdotal evidence of poor behaviour by coal seam gas companies. Ms McQueen said that 'One of my best mates on a farm found Arrow on her land. They did not even contact her. She said, "Who are you? Get off."' ⁴⁶⁵

- 7.11** A number of Inquiry participants commented on the variation in behavior between the larger, more established coal seam gas companies and the smaller explorers that tend to undertake exploration. Mr Peter Martin of the Southern Highlands Coal Action Group told the Committee that he had 13 years' experience in the mining industry, first as an engineer building offshore oil platforms, and then working for a corporation that funds major resource projects. Mr Martin advised that in relation to the structure of the mining industry:

The big companies are much more disciplined, much more process driven, and we are even seeing some of the big companies bending the rules. Imagine what all these little guys are doing. What is their ambition? All they want to do is find some gas and upsell it to Santos or Origin.⁴⁶⁶

- 7.12** Mr Martin's views were supported by Mr Alan Lindsay, a fellow member of the Southern Highlands Coal Action Group: 'This industry is highly capital intensive... the chances of these companies ever being able to raise the capital ... was totally out of the question and they should never have been given it [the exploration licence]'. Mr Lindsay argued that the practice of granting exploration licences to 'two-dollar' companies contributes to an 'aggressive approach' to exploration, because these companies 'use their aggression to get access to people's properties, they drill a few holes, they bring up the reserves ... and they flick it onto somebody like Santos or AGL that does have the capability to do it'.⁴⁶⁷

- 7.13** Santos acknowledged that there can be substantial differences between an exploration-focused company and a company equipped to develop the resource, such as Santos, which works towards a much longer project time-frame. Mr James Baulderstone, Vice President, Eastern

⁴⁶³ Ms Jacinta Green, Stop CSG Sydney, Evidence, 8 December 2011, p 51.

⁴⁶⁴ Cr John Rosenbaum, Deputy Mayor, Gloucester Shire Council, Evidence, 31 October 2011, p 8.

⁴⁶⁵ Ms Lesley McQueen, Group Against Gas Kyogle, Evidence, 21 September 2011, p 29.

⁴⁶⁶ Mr Peter Martin, Southern Highlands Coal Action Group, Evidence, 9 December 2011, p 26.

⁴⁶⁷ Mr Alan Lindsay, Southern Highlands Coal Action Group, Evidence, 9 December 2011, p 26.

Australia, Santos, acknowledged that the NSW Government may need to look more closely at applications for exploration licences: ‘I think that is an area the NSW Government needs to look at to ensure that anyone who has an exploration licence in any resource business has the skills and the capability to do it properly’.⁴⁶⁸

7.14 The coal seam gas companies themselves also acknowledge poor behavior by some industry players. Mr Baulderstone said:

There have clearly been some poor practices by some companies. There is a reason why there is community disquiet and unrest and in some cases fear from what has happened. It is important for companies like Santos to be a leader in the industry and to do the right things and make sure we set the standard.⁴⁶⁹

7.15 While there seems to be significant community mistrust stemming from the supposedly cavalier behavior of some smaller explorers, some of the bigger companies are actively trying to address this mistrust. For example, Mr Baulderstone described the steps that Santos has taken since it has taken over Eastern Star Gas:

We are today announcing that Santos will seek to have the current Eastern Star Gas Narrabri project application considered under the new part 4 of the Environmental Protection Act... in the interests of maximum transparency, we believe that it is appropriate that the new part 4 process is applied. In addition, Santos will ask that each of our major project applications be subject to public hearings conducted by the Planning Assessment Commission. We welcome public access and input into the project review process.⁴⁷⁰

Behaviour of contractors engaged by coal seam gas companies

7.16 A related concern is the behavior of the contractors that coal seam gas companies engage to undertake work on their behalf. Such work can include drilling wells or conducting seismic testing. Mrs Penny Blatchford, a durum wheat farmer, criticised the use of contractors by coal seam gas companies, and expressed concern that the employment of contractors may allow licence holders to distance themselves if things go wrong on the ground: ‘The chain of responsibility is long and when it comes to the crunch the only signed agreement a landholder has is with Leichardt Resources with issued capital of \$100 and not any of its subcontractors’.⁴⁷¹

7.17 Some Inquiry participants are particularly concerned about the practices being employed by drilling contractors. According to Mr Tim Duddy of the NSW Farmers’ Mining Reference Group:

⁴⁶⁸ Mr James Baulderstone, Vice President Eastern Australia, Santos, Evidence, 17 November 2011, p 5.

⁴⁶⁹ Mr Baulderstone, Evidence, 17 November 2011, pp 5-6.

⁴⁷⁰ Mr Baulderstone, Evidence, 17 November 2011, p 2.

⁴⁷¹ Mrs Penny Blatchford, Local landholder, Evidence, 16 November 2011, p 47.

I believe that it is possible to drill by using different practices and not harm the water resources. Irrigators in this district and farmers alike have been drilling holes for a very long period of time. The practices that I have seen exercised by both the coal seam gas and the coalminers, if we had drillers that had operated like that in our water resources looking for water we would have hunted them off the place and sued them.⁴⁷²

- 7.18** Mr Drew Hutton, President of Lock the Gate Alliance, also provided anecdotal evidence of unacceptable behavior by drilling contractors:

I get rung up or emailed all the time by drillers who tell me that what is going on out there is a shemozzle, that there are drillers out there drilling holes that are too narrow, or without proper casing, and all that sort of stuff. I do not know whether or not it is true, but I am certainly being told that. There needs to be proper supervision.⁴⁷³

- 7.19** In addition to this anecdotal evidence, the Committee heard first-hand evidence from Mr Peter Gett, a landholder who has coal seam gas wells on his property near Narrabri. Mr Gett praised his dealings with Eastern Star Gas, the holder of the exploration licence, but noted that the minor problems he had encountered were due to the behaviour of contractors:

There were a couple of little issues with the subcontractors to those companies – men that were not closing gates – and all we had to do was say something. That was not Eastern Star Gas... We had a little bit of a spill in a creek ... Drilling mud. It was not Eastern Star's fault, it was a contractor again ...⁴⁷⁴

- 7.20** In response to the concerns raised about the industry's use of contractors, Santos explained that its contractors are held to the same standards as would be expected of Santos employees. According to Mr Baulderstone:

We do not hide behind contractors. We believe it is important to employ contractors because it often gives jobs in regional communities... At the end of the day a contractor is seen as Santos and anything a contractor does that is not acceptable in the community will impact on us... We have a very rigorous assessment process and we have a very rigorous selection process ... We make it very clear that if there is any breach of our very strict requirements and guidelines they will no longer be used.⁴⁷⁵

- 7.21** Further, Mr Sam Crafter, Santos' Manager of Community and Government Relations NSW, explained that Santos closely monitors any activity undertaken by its contractors: 'During any Santos drilling activities there is what is referred to as a Santos company man ... who is 24-hours on the site ... So the drilling contractor is doing the work but anything that is done is approved of by the Santos person on the site'.⁴⁷⁶

⁴⁷² Mr Tim Duddy, Member, NSW Farmers' Association (Boggabri, Gunnedah, Pottinger District Councils), Evidence, 16 November, p 43.

⁴⁷³ Mr Drew Hutton, President, Lock the Gate Alliance, Evidence, 17 November 2011, p 23.

⁴⁷⁴ Mr Gett, Evidence, 15 November 2011, p 1.

⁴⁷⁵ Mr Baulderstone, Evidence, 17 November 2011, p 12.

⁴⁷⁶ Mr Sam Crafter, Manager, Community and Government Relations NSW, Santos, Evidence, 17 November 2011, p 12.

Pace of development

- 7.22** Many Inquiry participants said they felt the industry was developing too quickly, including Cr Phillip Silver, Mayor of Ballina Shire Council and President of Northern Rivers Regional Organisation of Councils:

I think it is fair to say that coal seam gas extraction has crept up on us to some extent. We first became aware of it in our region two or three years ago and generally it was applauded as being a desirable thing in terms of jobs and the economy. I believe that subsequent to that our community has become increasingly aware and concerned about the consequences.⁴⁷⁷

- 7.23** Trepidation about pace of development was also expressed by Mr Martin: ‘We are extremely concerned about the unholy rush by governments in Australia to embrace the technology that is not yet proven’.⁴⁷⁸

- 7.24** Some residents directly affected by coal seam gas activity told the Committee that they were unaware of any proposed development, prior to the arrival of the coal seam gas companies to undertake exploratory work. They said that this sudden arrival heightened stress due to having to cope with the unknown and unexpected. According to the Keerrong Gas Squad:

Arrow Energy invaded our valley in April 2010, during which time an exploratory Coal Seam Gas well was drilled. The first sign of this activity was a huge number of heavy vehicles on our narrow country road followed by noise that went from 7 o’clock in the morning until 7 o’clock at night. Those of us who were directly affected by this activity started asking questions and soon discovered that Arrow Energy held a licence PEL445 that entitled them to search for Coal Seam Gas in our valley. No notice was given to any of the residents apart from the landowner on whose land the drilling was done.⁴⁷⁹

- 7.25** Some of the coal seam gas companies have tried to allay community concerns about the pace of development. Mr Baulderstone of Santos told the Committee: ‘We have three years’ research to do before any significant development can commence. There is clearly time to work together on a good plan for New South Wales CSG, and Santos is here to do that’.⁴⁸⁰

- 7.26** Mr Baulderstone went on to argue that, over time, most people will be won over once they have a full understanding of the coal seam gas industry:

... it is up to Santos to ensure that we get our message across. We have to continue to consult and put at ease some of the fear that has been created. There is quite understandable angst in the community, and I fully understand that... We will spend time talking to the locals. There will always be some who will not come over. Santos has made it very clear that we will not barge our way onto people’s properties. We believe that over time the majority will see that that we are a member of the community, we are a good operator and that we can do it safely.⁴⁸¹

⁴⁷⁷ Cr Phillip Silver, Mayor of Ballina Shire Council and President of Northern Rivers Regional Organisation of Councils, Evidence, 21 September 2011, p 5.

⁴⁷⁸ Mr Martin, Evidence, 9 December 2011, p 23.

⁴⁷⁹ Submission 281, Keerrong Gas Squad, p 1.

⁴⁸⁰ Mr Baulderstone, Evidence, 17 November 2011, p 3.

⁴⁸¹ Mr Baulderstone, Evidence, 17 November 2011, p 11.

- 7.27** However, some Inquiry participants said that the industry's progression is outpacing the development of scientific evidence on key aspects of the coal seam gas industry. This issue was discussed in Chapter 3.
- 7.28** Indeed, some have argued that without scientific evidence, especially on issues surrounding fracking and the impact on water supplies, communities will continue to oppose coal seam gas development. As Mr Gerard Tuckerman, Manager Natural Systems, Great Lakes Council, commented:
- ...the science is what can help resolve these issues and provide some good communication, good confidence to the community. At the moment unfortunately the process, being a sort of claim-and-defend type of arrangement, has undermined public trust in the process to do with these highly sensitive projects.⁴⁸²
- 7.29** Similarly, Ms Rosemary Nankivell, member of the Caroon Coal Action Group and Mullaley Gas Pipeline Accord declared that if it could not be scientifically proven that coal seam gas will not impact on water supplies and that the agricultural productivity of the Liverpool Plains would not be compromised, blockades such as those in Spring Ridge would become 'the norm'.⁴⁸³

Fear of loss of land and livelihood

- 7.30** Many Inquiry participants attributed their fear and anxiety over coal seam gas developments to losing control of their land and livelihood. In particular, many farmers and rural communities expressed anger at not having the legal right to refuse access to their land to a gas company that has been granted an exploration licence. Ms Simson explained the impact of this on farmers and described the granting of these licences as an 'injustice':
- The former Government did rural New South Wales an historic disservice when it covered nearly half of this State in petroleum exploration licences without any knowledge of or regard to the consequences of this action. When an exploration licence is granted it gives the holder the power to enter private land to conduct exploration, which may include drilling, fracking and extraction of contaminated water. To grant that power without first protecting affected landholders, their natural resources, their property rights and their ability to grow food and fibre is to my mind one of the biggest injustices our hardworking farmers have ever been dealt.⁴⁸⁴
- 7.31** According to Mr Angus Neil-Smith, a cattle breeder from the Upper Hunter, rural communities are feeling 'threatened and powerless to stop the coming intrusion by CSG miners'.⁴⁸⁵ This feeling of powerlessness was echoed by Ms Simson:

⁴⁸² Mr Gerard Tuckerman, Manager Natural Systems, Great Lakes Council, Evidence, 31 October 2011, p 6.

⁴⁸³ Ms Rosemary Nankivell, Caroon Coal Action Group and Mullaley Gas Pipeline Accord, Evidence, 16 November 2011, p 30.

⁴⁸⁴ Ms Simson, Evidence, 17 November 2011, p 13.

⁴⁸⁵ Submission 190, Mr Angus Neil-Smith, p 1.

As farmers we take our role as land managers and land stewards very seriously because a sustainable environment that can grow the best food and fibre for generations to come is the heart of every farm business. Knowing that we can be forced to spectate as gas companies are given the rights to enter our land without answering questions about the long-term effects of their actions has dismayed entire communities and left many farmers questioning their future on the land... The decision by the Government to exploit the resources under our land despite the cost to our businesses, our environment and our capacity to provide food into the future was as conscious as it was preventable. That really is the core of the anxiety we are seeing.

- 7.32** The impact of coal seam gas developments on landholders, including land access issues, will be examined in greater detail in Chapter 9.

The extent of activity at the exploration phase

- 7.33** The Committee also received evidence from several concerned Inquiry participants who were troubled by the length and extent of activity at the exploration phase. They had anticipated that exploration would involve drilling a few wells for testing, rather than extensive grids of wells and infrastructure for study over a number of years. Some questioned the difference between coal seam gas exploration and production given that the infrastructure and operation of both phases appeared to be quite similar.

- 7.34** Mr John Whitehouse, Solicitor and Fellow in Environmental Studies at Macquarie University and expert in mining and environmental law, appeared in a private capacity to deliver a briefing on the legal issues surrounding coal seam gas activities. Mr Whitehouse advised the Committee that it can be difficult to distinguish exploration from production, particularly as exploration is not ‘ephemeral and transitory’ as many community members would expect it to be:

So rather than being an ephemeral and transitory use, as it is in the case of mining exploration, it is really the first stage of full production because the infrastructure is exactly the same.⁴⁸⁶

- 7.35** Mr Whitehouse observed that ‘... there is a lot of pilot production going on under the guise of exploration’,⁴⁸⁷ and went on to note that there is an ‘incremental creep’ of coal seam gas development which means that ‘once you have approval to explore it is very difficult to turn the clock back because the infrastructure is already there’.⁴⁸⁸

- 7.36** Cr Adam Marshall, in his capacity as Vice President of the Shires Association of NSW, shared this observation:

...exploration is very intensive by nature and it has impacts on hard and soft infrastructure and also on communities. It involves a lot of activity; it involves having a lot of people in small and sometimes isolated locations, and in some areas, depending on the location, it can put strain on a lot of infrastructure.⁴⁸⁹

⁴⁸⁶ Mr John Whitehouse, Solicitor and Fellow in Environmental Studies, Macquarie University, Evidence, 7 October 2011, p 1.

⁴⁸⁷ Mr Whitehouse, Evidence, 7 October 2011, p 3.

⁴⁸⁸ Mr Whitehouse, Evidence, 7 October 2011, p 4.

⁴⁸⁹ Cr Adam Marshall, Vice President, Shires Association of NSW, Evidence, 8 December 2011, p 4.

7.37 The NSW Farmers' Association also indicated that landholders can be surprised to learn that exploration can include pilot wells, as they tend to '... assume "exploration" will involve one test well, and some basic exploratory activities.'⁴⁹⁰

7.38 Mr Whitehouse advised that the *Petroleum (Onshore) Act 1991* was originally designed to deal with large gas reservoirs, where the extraction would be more similar in nature to conventional mining, and that as a result 'the fundamental regime of the Petroleum Act is actually designed by copying a model that is quite inapplicable and inappropriate to dealing with coal seam gas'.⁴⁹¹ Mr Whitehouse observed that because the Act was not drafted with the coal seam gas industry in mind, the Act does not recognise that, unlike conventional mining, there is no clear distinction between the exploration and production phases of coal seam gas extraction. According to Mr Whitehouse:

So rather than being an ephemeral and transitory use, as it is in the case of mining exploration, [coal seam gas exploration] is really the first stage of full production because the infrastructure is exactly the same. You will see that the difference in the legislative regime between what is exploration and what is production is unclear and that you have in fact many areas where there is production being undertaken, which, for all intents and purposes, you would think is production.⁴⁹²

7.39 However, the NSW Government contested the view that the exploration phase can look and feel similar to the production phase. When questioned on whether exploration is very similar to production, Mr Brad Mullard, Executive Director, Mineral Resources and Energy, Department of Trade and Investment, Regional Infrastructure and Services, responded that 'No, I do not accept that. Exploration is quite different from production'. Furthermore, Mr Mullard acknowledged that pilot wells are similar to production wells, but noted that the impact of pilot wells is limited as gas companies are usually restricted to drilling only five pilot wells in an area.⁴⁹³

Licences held by 'two dollar' companies

7.40 The Committee heard claims that some exploration licences have been issued to so-called 'two dollar' companies. Particular concerns were raised about the exploration licence issued to Leichhardt Resources for exploration south-east of Moree with some Inquiry participants claiming that Leichhardt Resources is a small-time company without the financial resources to develop their discoveries, or indeed to remediate any work that may go wrong.

7.41 Mrs Blatchford's property is in the area covered by the Leichhardt Resources licence, and together with her family, owns thousands of hectares of land between Bellata and Gurley. Mrs Blatchford told the Committee:

Leichhardt Resources' issued capital is \$100 ... Given the access agreement for exploration is solely between the landholder and the holder of the licence ... I believe the third party counter-risk too high to enter into any financial arrangement with

⁴⁹⁰ Submission 335, NSW Farmers' Association, p 15.

⁴⁹¹ Mr Whitehouse, Evidence, 7 October 2011, p 4.

⁴⁹² Mr Whitehouse, Evidence, 7 October 2011, p 1.

⁴⁹³ Mr Brad Mullard, Executive Director, Mineral Resources and Energy, Department of Trade and Investment, Regional Infrastructure and Services, Evidence, 12 December 2011, p 17.

Leichhardt Resources. If for any reason losses were to incur or lands damaged ... I am not convinced that Leichhardt Resources would have the financial capacity to make good.⁴⁹⁴

7.42 Mrs Blatchford informed the Committee that Leichhardt Resources would not meet the 'due diligence' test that she carries out on any company with which her business may enter into a financial or contractual arrangement.⁴⁹⁵

7.43 Similar concerns were raised about the exploration taking place in the Southern Highlands by Planet Gas. Mr Martin told the Committee that: 'The protagonist in our area ... is a company called Planet Gas; its shares are trading at 3¢. It has got a market value of \$5 million or \$6 million'.⁴⁹⁶

7.44 Mr Neil Dobbin, Group Executive, Rural Banking, Rabobank, also criticised the financial credentials of some companies that hold exploration licences, and highlighted the risks to which this exposes landholders:

... exploration and mining companies with extraction and exploration licences in New South Wales require little capitalisation and other financial backing. This exposes contractual counterparties, which are the agricultural landholders, and licence issues to risks around the provision of compensation.⁴⁹⁷

7.45 Despite the concerns that some exploration licences were issued to companies without adequate financial backing, Mr Mullard advised the Committee that the NSW Government considers the financial backing of any applicant before granting a licence. In addition, Mr Mullard noted that when a licence-holder makes an application to undertake any particular activity permitted under their licence, such as drilling a well, they are required to provide an appropriate security deposit if the activity is considered to be significant.

7.46 When questioned on whether sufficient weight is given to the financial strength of companies applying for exploration licences, Mr Mullard responded:

There are two components to that. There is a component about the financial capability to undertake work and their ability to manage that. But there are also security deposits held. Security deposits are assessed, once again, as part of the approvals process. Once an exploratory licence is granted, there is no activity except very minor activity. But when it comes to drilling wells for petroleum or other activities like that, which are more surface disturbing, there is a security deposit assessed and held for that activity.⁴⁹⁸

7.47 On the issue of whether applicants for an exploration licence have sufficient financial backing, Mr Dobbin or Rabobank recommended that the NSW Government '... introduce economic thresholds and upgrade the current due diligence process of the Department of Trade and Investment, Regional Infrastructure and Services'.⁴⁹⁹

⁴⁹⁴ Mrs Blatchford, Evidence, 16 November 2011, p 47.

⁴⁹⁵ Mrs Blatchford, Evidence, 16 November 2011, p 47.

⁴⁹⁶ Mr Martin, Evidence, 9 December 2011, p 26.

⁴⁹⁷ Mr Neil Dobbin, Group Executive, Rural Banking, Rabobank, Evidence, 12 December 2011, p 76.

⁴⁹⁸ Mr Mullard, Evidence, 12 December 2011, p 21.

⁴⁹⁹ Mr Dobbin, Evidence, 12 December 2011, p 76.

Potential mental health impacts

- 7.48** The Committee received evidence on the potential for the mental health of local residents to be adversely affected. Dr Wayne Somerville, a clinical psychologist and resident of Kyogle, described what he saw as the ‘threat’ posed by coal seam gas development to the rural way of life:

I believe that unrestrained coal seam gas mining is a threat to country people more profoundly dangerous than any drought, flood, bushfire or recession. I am deeply concerned that if this industry is allowed to permanently change the land and country life, the result will be widespread emotional distress, social disruption and political turmoil.⁵⁰⁰

- 7.49** Mr Tim Duffy, a Gunnedah region representative of the NSW Farmers’ Association, underscored the stress attached to proposals for coal seam gas developments. He argued that this additional source of stress could tip some farmers ‘over the edge’:

The end result of this is enormous amounts of stress for me, my neighbours and for other members of the farming community. We statistically know stress levels are high, suicide rates are high and droughts and commodity prices cause mental health issues. I firmly believe that this issue we are confronting today may be one of those factors that will tip some of our members over the edge with catastrophic results.⁵⁰¹

- 7.50** This unsettling prediction was similarly expressed by Dr Somerville, who stated that the situation rests on ‘a knife’s edge’. He warned that ‘if governments perpetuate the deliberate destruction of property, lifestyle and prospects for country Australians many will become depressed, some will suicide, but some will respond with anger, revenge and violence.’⁵⁰²

Impact of coal seam gas revenue on Government decisions

- 7.51** Other Inquiry participants, such as Ms Nankivell, commented on the perception that the NSW Government and coal seam gas industry are ‘in close alliance’.⁵⁰³ In particular, some Inquiry participants suggested that it may not be in the Government’s interest to impose stringent regulation on the coal seam gas industry, given that the Government stands to benefit from the royalties expected to flow from the industry. In the words of the North East Forest Alliance: ‘State Governments are hungry for mining royalties’ and this had led to ‘special treatment for the mining industry ...’.⁵⁰⁴

⁵⁰⁰ Dr Wayne Somerville, Local landholder and clinical psychologist, Evidence, 21 September 2011, p 15.

⁵⁰¹ Mr Tim Duffy, Member, NSW Farmers’ Association (Boggabri, Gunnedah, Pottinger District Councils), Evidence, 16 November 2011, p 41.

⁵⁰² Dr Somerville, Evidence, 21 September 2011, p 15.

⁵⁰³ Ms Nankivell, Evidence, 16 November 2011, p 29.

⁵⁰⁴ Submission 340, North East Forest Alliance, p 5.

- 7.52** Mr Peter Epov, Chair, Manning Alliance, questioned whether the Government had a conflict of interest in its approach to the coal seam gas industry: ‘We do not like the fact that when it comes to coal seam gas the New South Wales Government is the policy maker, the tax collector and the primary beneficiary of coal seam gas’.⁵⁰⁵
- 7.53** Some Inquiry participants also expressed alarm at the substantial sums of money paid by coal seam gas companies for exploration licences. They suggested that this raises an expectation on behalf of the coal seam gas company that they will be allowed to proceed to production. According to Mr Hutton of Lock the Gate Alliance: ‘The previous Government handed out exploration licences willy-nilly across a quarter of the State, and the current Government has continued the full support of this industry’.⁵⁰⁶ Also in relation to the issuing of exploration licences, Mr Martin of the Southern Highlands Action Group, said: ‘In this case what we have seen is the former Labor State Government giving out these leases like confetti to companies that I call two-dollar companies’.⁵⁰⁷
- 7.54** The NSW Government announced in July 2011 that it would review the amounts paid for exploration licences and implement a new schedule of fees.⁵⁰⁸ As at January 2012 the Government had established a Steering Committee to review exploration fees and was yet to select a consultant to undertake the work.⁵⁰⁹

Community protests

- 7.55** Mr Hutton suggested that ordinary people are feeling compelled to express their opposition to coal seam gas developments in significant ways: ‘Normally very conservative people... who would not even dream about breaking the law are going to commit civil disobedience to stop these companies coming into their communities’.⁵¹⁰
- 7.56** Community concerns over the roll-out of the coal seam gas industry in New South Wales have culminated in some groups conducting blockades of coal seam gas sites. In October 2011, approximately 100 protestors participated in a blockade organised by the Caroon Coal Action Group to prevent Santos from commencing petroleum exploration drilling near Spring Ridge on the Liverpool Plains. The Group objected to drilling being conducted before the outcome

⁵⁰⁵ Mr Peter Epov, Chair, Manning Alliance, Evidence, 31 October 2011, p 29.

⁵⁰⁶ Mr Hutton, Evidence, 17 November 2011, p 22.

⁵⁰⁷ Mr Martin, Evidence, 9 December 2011, p 26.

⁵⁰⁸ Hon Chris Hartcher MP, Minister for Resources and Energy, ‘NSW Government to conduct State-wide audit of exploration licences’, *Media release*, 13 July 2011.

⁵⁰⁹ NSW Government, Planning and Infrastructure, *Key initiatives of the NSW Government’s Strategic Regional Land Use Policy*, accessed 24 January 2012 <<http://www.planning.nsw.gov.au/LinkClick.aspx?fileticket=NI0NjGxIAeM=&tabid=495&language=en-AU>>

⁵¹⁰ Mr Hutton, Evidence, 17 November 2011, p 28.

of the Namoi Water Study was released.⁵¹¹ The blockade ended more than two weeks later after Santos agreed to delay drilling activities until the Study is completed.⁵¹²

7.57 In another protest, local residents in Gloucester commenced a blockade in December 2011 to prevent AGL Limited from placing a drilling rig on a regional property until an independent water study of the Gloucester Basin was completed. The Barrington-Gloucester-Stroud Preservation Alliance had previously lodged an appeal in the Land and Environment Court against AGL's plans for a gas field in the Gloucester-Stroud Valley.⁵¹³ Three days after the blockade began, AGL announced that it would postpone drilling activity until it had completed a hydro-geological study and the appeal process was decided by the Land and Environment Court.⁵¹⁴

7.58 Cr Jill Merrin, Wollongong City Council, drew the Committee's attention to the Seacliff Bridge Walk protest, which involved 3,000 participants: "There was a huge range of people—not your usual environmentalist types that you might expect but a whole range of people from all different areas, people from across the board".⁵¹⁵

7.59 Mr Epov also described the way in which a shared anxiety over coal seam gas had drawn people together from all sectors of his community:

...if you cast your eyes over the audience, you will see a broad cross-section of the community, people from all sectors of the community. We are not radicals, we are not fringe elements, we are people who are deeply concerned about the implications and the consequences of coal seam gas, as are many Australians throughout the community.⁵¹⁶

7.60 The Committee heard from many community members about the impact of their involvement in anti-coal seam gas activities. Ms Nankivell commented on the impact on her community:

We have just come off a 20-day blockade. The strain on our community was huge. We had 80 to 85 year old men who had lost brothers, cousins in the various wars fighting for this country, and had made huge contributions to the community throughout their lives, sitting alongside the road in 38 degree heat. What sort of a happy, healthy community is that?⁵¹⁷

7.61 Ms Judi Sheedy, a representative of the NSW Farmers' Association in the Gunnedah district, relayed the impact on her family and her business:

⁵¹¹ Aikman A, 'Farmers blockade Liverpool Plains coal seam gas property', *The Australian*, 27 October 2011, accessed 21 March 2012 <www.theaustralian.com.au/news/nation/farmers-blockade-liverpool-plains-coal-seam-gas-property>

⁵¹² Santos, 'Demonstration at Santos pilot well site ends', 15 November 2011, accessed 21 March 2012, <www.santos.com/Archive/NewsDetail.aspx?id=1295>

⁵¹³ Barrington-Gloucester-Stroud Preservation Alliance Inc, 'Landholders launch blockade to prevent coal seam gas drilling at Gloucester', *Media Release*, 5 December 2011, accessed 21 March 2012, <www.bgsp-alliance.asn.au/page3/page6/>.

⁵¹⁴ AGL Energy Ltd, 'AGL defers drilling exploration program', *Media Release*, 8 December 2011, accessed 21 March 2012, <<http://agl.com.au/about/ASXandMedia/Pages/MediaHome.aspx>>

⁵¹⁵ Cr Jill Merrin, Wollongong City Council, Evidence, 9 December 2011, p 43.

⁵¹⁶ Mr Epov, Evidence, 31 October 2011, p 29.

⁵¹⁷ Ms Nankivell, Evidence, 16 November 2011, p 33.

The last three years have been a blur of research, late nights, early mornings, meetings, conferences, workshops, roundtables, travelling to Sydney, meetings Ministers and politicians, and having very lengthy and heated discussions about mining, coal seam gas and agriculture, and whether in fact we can coexist—all while trying to manage a mixed farming and contracting business and bringing up three children under five.⁵¹⁸

Committee comment

- 7.62** The Committee acknowledges the widespread concerns shared by a broad cross-section of people in the community regarding coal seam gas. These concerns, justified or otherwise, further highlight the need for the NSW Government to provide clear and factual information on the possible development of the coal seam gas industry in New South Wales.

Support for the coal seam gas industry

- 7.63** While the overwhelming sentiment expressed by Inquiry participants was that of concern and fear of the impacts of coal seam gas, the Committee did receive some evidence in support of the industry.

- 7.64** As an indication of support for the industry, several coal seam gas companies advised that they had very good relationships with the individual landholders with whom they had negotiated land access agreements. For example, Mr Robbert de Weijer, Chief Executive Officer, Australia, Dart Energy, told the Committee that Dart Energy's landholder relationships were 'excellent', and that they had received positive feedback about their consultation with the community.⁵¹⁹

- 7.65** Mr Sam Crafter, Manager, Community and Government Relations NSW, Santos, also described Santos' positive working relationship with 40 landholders:

...we have got agreements in New South Wales with about 40 landholders that we have used and now we are proud to say that all of them are happy to keep working with us and have us back to do more work with them.⁵²⁰

- 7.66** Other coal seam gas companies who participated in the Inquiry informed the Committee of the number of signed land access agreements they had with landholders, which they said indicated support for the industry and its activities. For example, AGL Energy stated they had 140 access and compensation agreements with landholders currently in operation,⁵²¹ while Metgasco said they had over 300 agreements in place.⁵²²

⁵¹⁸ Ms Judi Sheedy, Executive Councillor and Chair of Gunnedah District Council, NSW Farmers' Association (Boggabri, Gunnedah, Pottinger District Councils), Evidence, 16 November 2011, p 39.

⁵¹⁹ Mr Robbert de Weijer, Chief Executive Officer Australia, Dart Energy, Evidence, 8 December 2011, pp 61 and 65.

⁵²⁰ Mr Crafter, Evidence, 17 November 2011, p 4.

⁵²¹ Submission 344, AGL Energy Limited, p 4.

⁵²² Mr Peter Henderson, Managing Director, Metgasco, Evidence 8 December 2011, p 36.

7.67 According to Mr Rick Wilkinson, Chief Operating Officer, Eastern Australia, Australian Petroleum Production and Exploration Association (APPEA), those in direct dealings with the coal seam gas industry were more supportive than those with little or no interaction:

My experience is that when you get closest to where most of the activity is, you generally get more support; and as you get further away from those areas, to places where there is either not a track record of interaction and people are hearing stories from second and third parties and seeing websites of activists who are interested in creating an issue, the stance becomes less supportive.⁵²³

7.68 The Committee had the opportunity to talk to two Narrabri landholders, Mr Owen Lane and Mr Peter Gett, who have signed agreements for coal seam gas development to take place on their land. These landholders reported having exceptionally positive experiences with coal seam gas company Eastern Star Gas (now Santos)⁵²⁴ and its practices.

7.69 Mr Lane said that accepting gas wells on his property 'has been the best thing that has happened in my life', explaining that 'it has brought so many good things into my life – money, work, new bore'.⁵²⁵ Mr Gett discussed the amicable relationship he had with Eastern Star Gas: 'They have been very good. They approached me in the right way. They have never tried to stand over me'.⁵²⁶

7.70 Mr Lane maintained that many gains had been made by the wider community because of the presence of coal seam gas development: 'If you add it all up, at the end of the day I believe that they have definitely brought more good to Narrabri than bad by a long shot'.⁵²⁷

7.71 Mr Lane also suggested that there are many others in his community who are supportive of coal seam gas development and are seeking the same benefits that have been extended to him: 'Quite a lot of my neighbours in the local area are waiting in the vain hope that they get gas wells on their own property. They are wanting them, crying out for them for the same reasons I am'.⁵²⁸

7.72 Cr Col Murray, Chairperson of Namoi Councils and Mayor of Tamworth Regional Council, said that there is substantial silent support for coal seam gas. Cr Murray contended there is a 'strong minority' dominating the coal seam gas debate despite general support for coal seam gas extraction:

I believe that there is a very strong minority which we hear all day every day about the risks and the downsides and the negativities involved with gas extraction. I would have to say that I think there is also a fairly mature and well-supported view that providing the State is able to have the right management and controls and the

⁵²³ Mr Rick Wilkinson, Chief Operating Officer, Eastern Australia, Australian Petroleum Production and Exploration Association, Evidence, 12 December 2011, p 36.

⁵²⁴ On 17 November 2011, Eastern Star Gas was acquired by Santos.

⁵²⁵ Mr Owen Lane, Local landholder, Evidence, 15 November 2011, p 4.

⁵²⁶ Mr Peter Gett, Local landholder, Evidence, 15 November 2011, p 6.

⁵²⁷ Mr Lane, Evidence, 15 November 2011, p 12.

⁵²⁸ Mr Lane, Evidence, 15 November 2011, p 5.

essential assets are protected, in my view and the message I take from our broader community is general support to have the benefits of gas extraction.⁵²⁹

7.73 Furthermore, Cr Murray suggested that, despite the level of concern about coal seam gas activities, ‘you might be surprised how amiable a solution we might find ourselves’ if the community were genuinely involved in well-informed debate on the issue.⁵³⁰

7.74 Conditional support for the industry was also expressed by a number of other Inquiry participants. For example, Mr Michael Johnsen, who appeared both as a resident of Scone and as a Councillor on the Upper Hunter Shire Council, looked to the experiences of the industry in Queensland and concluded that coal seam gas extraction could have a future in New South Wales: ‘From that and our discussions on visits to south-east Queensland and other gas fields it is important that we recognise that this industry has some credibility. There is no reason why this industry could not go ahead’.⁵³¹

Committee comment

7.75 The Committee notes that while the bulk of evidence received during the Inquiry raised concerns about coal seam gas, the Committee also heard from Inquiry participants who support the development of the industry. The NSW Government must balance its pursuit of developing energy resources with other competing interests, and in doing so, must work with the community to address their valid concerns about the environmental and social impacts of this emerging industry.

⁵²⁹ Cr Col Murray, Chairperson of Namoi Councils and Mayor of Tamworth Regional Council, Evidence, 16 November 2011, p 9.

⁵³⁰ Cr Murray, Evidence, 16 November 2011, p 9.

⁵³¹ Mr Michael Johnsen, Resident of Scone and Councillor, Upper Hunter Shire Council, Evidence, 31 October 2011, p 49.

Chapter 8 Engaging the community

A number of Inquiry participants criticised the lack of genuine community engagement in relation to the coal seam gas industry in New South Wales. This Chapter examines the nature and extent of community engagement by the industry and the NSW Government, and the measures announced by the NSW Government to improve engagement with the community.

Community engagement

- 8.1** The Committee heard from many Inquiry participants who were disgruntled about the lack of effective community engagement in relation to the coal seam gas industry. When talking about community engagement, they referred to a range of consultation types, from information dissemination to seeking feedback through to shared decision making.
- 8.2** Mr Scott Lee, Director, Environment and Planning, Wingecarribee Shire Council, reflected on the continuum of community engagement activities, and highlighted the importance of determining the most appropriate form of engagement:

The point I would make is that successful engagement is about when participants understand what level it is at. Are we informing people? Are we consulting them? Are we looking to empower them? Are we collaborating with them?⁵³²

Importance of engaging the community

- 8.3** Many Inquiry participants insisted that trust is key to establishing a more positive response to coal seam gas developments, and that this trust can only be built through better engagement with the community. According to Ms Lisa Schiff, Director, Planning and Environmental Services, Great Lakes Council, 'only by building trust in the process can we also have trust in the outcome'.⁵³³
- 8.4** The importance of community engagement was highlighted by the Local Government and Shires Associations (LGSA):

The Associations consider that meaningful public consultation and participation in relation to CSG is a critical foundation for generating positive collaboration and mutual benefits for communities, governments and developers. Better communication and consultation will be essential to negotiate a path through the multitude of differing knowledge, views and expectations amongst stakeholders of the coal seam gas extraction industry.⁵³⁴

⁵³² Mr Scott Lee, Director, Environment and Planning, Wingecarribee Shire Council, Evidence, 9 December 2011, p 12.

⁵³³ Ms Lisa Schiff, Director, Planning and Environmental Services, Great Lakes Council, Evidence, 31 October 2011, p 3.

⁵³⁴ Submission 587, Local Government and Shires Associations, p 10.

- 8.5 The coal seam gas industry itself agrees. According to Mr Rick Wilkinson, Chief Operating Officer, Eastern Australia, Australian Petroleum Production and Exploration Association (APPEA), the industry cannot ‘under-do’ community engagement:

...you cannot under-do the communication with the communities; you cannot under-do the transparency of information; you cannot under-do the listening to the local communities as to where their preferences lie. That is a very important point, and a clear lesson from Queensland. It is almost one of those requirements that you cannot completely fulfil. I would encourage every operator in that environment to do that. Openness and transparency is a very important part, because what we are trying to do here is build trust, to build respect for each other.⁵³⁵

- 8.6 Indeed, all of the coal seam gas companies who appeared before the Committee expressed a strong commitment to community engagement. For example, Mr Mike Moraza, Group General Manager, Upstream Gas, AGL Energy, declared: ‘We are firmly committed to engaging with the communities in which we work and providing them with factual information about our projects’.⁵³⁶ Santos also maintained this commitment, noting that ‘a social licence to operate... is based on respectful, open and honest communications and ongoing consultations with landowners, community groups and community leaders’.⁵³⁷

Are communities being appropriately engaged?

- 8.7 Despite the consensus on the need for community engagement, the Committee received extensive evidence suggesting that community engagement was neither appropriate nor constructive.
- 8.8 Many Inquiry participants said they felt as though the approval of coal seam gas developments was effectively a ‘done deal’. According to Ms Alison Dench, Deputy General Manager, Wollondilly Shire Council: ‘Consultation occurs after a critical works have happened rather than at the exploratory stage: That is when it needs to happen. Often community perception is that there seems to be—with approvals—a done deal’.⁵³⁸
- 8.9 This view was shared by Mr Peter Townsley of Stop CSG Illawarra who argued that no real efforts were made for meaningful community consultation over a proposed development in the Illawarra region, despite community requests:

We managed to establish a private consultation with some of the Stop CSG members in Thirroul in about the end of May this year where we ran through our concerns. There was some words said that would suggest that they wanted to work with the community but basically the attitude of the group was: It is a done deal; it is a question

⁵³⁵ Mr Rick Wilkinson, Chief Operating Officer, Eastern Australia, Australian Petroleum Production and Exploration Association, Evidence, 12 December 2011, p 37.

⁵³⁶ Mr Mike Moraza, Group General Manager, Upstream Gas, AGL Energy, Evidence, 17 November 2011, p 62.

⁵³⁷ Submission 337, Santos, p 22.

⁵³⁸ Ms Alison Dench, Deputy General Manager, Wollondilly Shire Council, Evidence, 9 December 2011, p 9.

of how we go ahead with this; we don't really want to upset the residents. But there were no moves really for any interactive, progressive consultation.⁵³⁹

8.10 Inquiry participants informed the Committee that communities are being 'told' rather than consulted about proposed activities. Ms Judi Sheedy, a representative of the NSW Farmers' Association in the Gunnedah district, maintained: 'We are being told what is happening. We are not experiencing consultation'.⁵⁴⁰ This was echoed by Ms Alison Topaz and Ms Carmela Donato, who criticised Dart Energy for "'telling us" how it would be', and declared that 'this is NOT consultation. It is insulting and alarming'.⁵⁴¹

8.11 Mr Peter Gett, a Narrabri farmer whose property is currently home to three wells, suggested, however, that sincere efforts were being made by coal seam gas companies to engage with the community, particularly by Eastern Star Gas within his area, but that very few people were taking up these opportunities:

I did go to the last [public meeting] they had at the Crossing Theatre. They had drilling stuff and cases just to show people what they were doing. They had great diagrams showing what is going on underneath the earth so people could understand. I was very disappointed with the amount of people who turned up to see it... When I was there I think there was four [people]... People can go crook, but if they want to know they should show up. I think Eastern Star Gas went right out of its way to do that. I was disappointed with the people who were there.⁵⁴²

8.12 Ms Sheedy contended, however, that for all the information sessions and community events planned by coal seam gas company Santos, none of them involved genuine 'two-way communication' where the community's concerns were not only heard but acted upon:

...they might have an information session where they will be available for four hours. They will bring their experts and it is in a hall and people walk round and ask questions on an individual basis. Our argument is that you do not know what you do not know. So it is difficult to know what questions to ask. So with public pressure occasionally they would have a public meeting. The benefit of that is that you get to learn from one another and ask questions. Not everyone is as outspoken as another. But even at those meetings Santos representatives would stand up and tell us what is happening. We might ask some questions and that is the end of it. There is no give or take, listening or hearing or actually making any changes to what the community actually wants. Another example of Santos' communication is small, guided conversations... Again, you went along and were told what was happening and there was no consultation. Essentially, there is not a two-way communication, which is consultation.⁵⁴³

⁵³⁹ Mr Peter Townsley, Stop CSG Illawarra, Evidence, 8 December 2011, p 20.

⁵⁴⁰ Ms Judi Sheedy, Executive Councillor and Chair of Gunnedah District Council, NSW Farmers' Association (Boggabri, Gunnedah, Pottinger District Councils), Evidence, 16 November 2011, p 40.

⁵⁴¹ Submission 402, Ms Alison Topaz and Ms Carmela Donato, p 1.

⁵⁴² Mr Peter Gett, Local landholder, Evidence, 15 November 2011, p 10.

⁵⁴³ Ms Sheedy, Evidence, 16 November 2011, p 45.

- 8.13** The Committee heard on several occasions that the industry has failed to listen to local people, with their invaluable local knowledge, for example in the siting of gas wells. According to Ms Jon-Maree Baker, Executive Officer, Namoi Water:

I will take my Namoi Water hat off and put my farmer hat on. We live next door to a coal seam gas well site... During the flood the position of the well head was in a floodway and the chemicals that left on site leached into the waterway. That whole well head site went under water during the flood. They were warned of that by the people whose land that well head sits on... They did not heed the caution and they did not take notice of the local knowledge and information.⁵⁴⁴

- 8.14** Some Inquiry participants remarked that many gas companies see community consultation as ‘an event’ rather than a process which requires ongoing dialogue and interaction. According to Ms Dench:

We believe that engagement is a process, it is not an event. And it is something that mining companies see as particular events. We believe there needs to be ongoing dialogue by companies who are doing mining with our communities. We need to be involved because it is a major role of local government to consult with the communities.⁵⁴⁵

- 8.15** Some gas companies insisted, however, that this was not the case and that extensive programs have been established to engage with the local community. For example, AGL Energy stated that it regularly consults with landholders, neighbours, local communities, local councils and relevant government agencies ‘during all stages of its exploration activities’ to enable AGL to factor community feedback into its decisions and to ensure that factual information is available for those who need to make informed decisions about projects.⁵⁴⁶

- 8.16** Some questioned, however, the commitment and willingness of coal seam gas companies to part with information and answer the community’s questions. Ms Jacinta Green of Stop CSG Sydney expressed her frustration at the futile efforts her group has made to obtain basic information from Dart Energy:

The reason I started talking to government departments and started ringing up and making a pest of myself was because we were not getting the answers out of Dart. We tried. We tried for months to get answers and we are still not getting the answers that we want. We have not even been asking the big picture questions... they were very basic questions...The biggest thing that we have struggled with is getting answers. Someone answer my questions.⁵⁴⁷

- 8.17** In response to these concerns, Mr Robbert de Weijer, Chief Executive Officer, Dart Energy, Australia, gave assurances that ‘we are very committed to being transparent. Are we perfect?’

⁵⁴⁴ Ms Jon-Maree Baker, Executive Officer, Namoi Water, Evidence, 16 November 2011, p 61.

⁵⁴⁵ Ms Dench, Evidence, 9 December 2011, p 9.

⁵⁴⁶ Answers to supplementary questions, received 21 December 2011, Mr Mike Moraza, Group General Manager Upstream Gas, AGL Energy, Question 1, p 2.

⁵⁴⁷ Ms Jacinta Green, Stop CSG Sydney, Evidence, 8 December 2011, pp 47 and 49.

Probably not, so we are always open to learning...We are certainly committed to providing as much information as we can... we want to be very open about what we share'.⁵⁴⁸

- 8.18** United Myall Residents Against Gas Extraction described a similar experience, contending that landholders within their area had not received any public information by coal seam gas company Pangaea Resources, despite Pangaea's claims that 'it has a strong record of providing public information, cooperation with local landholders and environmental protection'. The United Myall Residents group further argued that 'all approaches by Pangaea have been to individual landholders accompanied by grossly misleading information'.⁵⁴⁹
- 8.19** Other Inquiry participants also suggested that coal seam gas companies are approaching community engagement with a 'divide and conquer' attitude, seeking to deal with individuals rather than whole communities.⁵⁵⁰ For the Lock the Gate Alliance, 'the general reluctance to meet with groups of neighbouring landholders reflects the industry's arrogant "divide and conquer" mentality that many landholders find distasteful'.⁵⁵¹

Community participation in the planning and approval process

- 8.20** Some Inquiry participants suggested that the planning and approval process itself does not facilitate full community participation. For example, a number of Inquiry participants said they were unaware of applications being lodged for exploration licences in their area and had limited opportunity to contribute to the assessment of these applications. Indeed, according to Mr John Whitehouse, Solicitor and Fellow in Environmental Studies at Macquarie University, the process of allocating exploration licences is 'somewhat obscure', requiring little public involvement.⁵⁵²
- 8.21** Mr Jeff Lawrence, Director, Planning and Environment, Campbelltown City Council, commented that it was 'really disappointing' that 'sometimes through the statutory planning and consultation processes opportunities are missed for the public or the general community to have an involvement in perhaps contributing to the determination of an application about a gas extraction facility'.⁵⁵³ Mr Lawrence cited the example of a modification application to the Camden gas project which proposed an additional well. Council were able to put in a submission but was told by the Department of Planning and Infrastructure that it would not be proceeding to public exhibition, thereby leaving the wider community with no knowledge of or opportunity to voice concerns about the proposal.⁵⁵⁴

⁵⁴⁸ Mr de Weijer, Chief Executive Officer, Australia, Dart Energy Limited, Evidence, 8 December 2011, p 61.

⁵⁴⁹ Submission 45, United Myall Residents Against Gas Extraction, p 9.

⁵⁵⁰ Submission 45, p 9.

⁵⁵¹ Submission 280, Lock the Gate Alliance, p 12.

⁵⁵² Mr John Whitehouse, Solicitor and Fellow in Environmental Studies, Macquarie University, Evidence, 7 October 2011, p 7.

⁵⁵³ Mr Jeff Lawrence, Director, Planning and Environment, Campbelltown City Council, Evidence, 9 December 2011, p 11.

⁵⁵⁴ Mr Lawrence, Evidence, 9 December 2011, p 11.

- 8.22** Other Inquiry participants also appealed for greater community consultation early on in discussions for the development of a particular area and prior to any assessment of a project application. For example, Mr Gerard Tuckerman, Manager Natural Systems, Great Lakes Council, said: ‘Yes indeed, the earlier you can do it the better. Once it is let go, then unfortunately the science is lost in an environment of fear. So yes, it should take place early on’.⁵⁵⁵
- 8.23** Some Inquiry participants highlighted the inadequacy of public notification requirements once an application is approved and an exploration licence granted. Mr Whitehouse explained that notice is only required to be given through the local newspaper and not directly to the landholder:
- ...there is absolutely no public notification of the granting of an EL other than the cryptic little notices in the newspaper, which, if you have ever seen, are unintelligible. A property owner or a citizen would have no idea that their property has been granted. Even when you look at some of them, if you see there is an EL granted for all of metropolitan Sydney, how it relates to your house in Blacktown, nobody has the slightest idea.⁵⁵⁶
- 8.24** The United Myall Residents Against Gas Exploration also called for ‘urgent attention’ to be given to the fact that ‘property owners are not notified of exploration licences granted over their properties’.⁵⁵⁷
- 8.25** The Committee was advised by Mr Nari Sahukar, Acting Policy Director, Environmental Defender’s Office, that the Office had conducted ten workshops about coal seam gas in the past year during which a number of key concerns were raised, including the lack of notification and consultation regarding exploration licences, and confusion about the assessment and approval process and the limited role of landholders in that process.⁵⁵⁸ The legislative and regulatory framework governing coal seam gas developments will be considered in greater detail in the final Chapter.
- 8.26** The coal seam gas industry acknowledged that there is scope for improvement within the system to better facilitate community input during the assessment of exploration licence applications, and to allow greater access to decisions once made. For example, AGL Energy asserted that ‘greater, more transparent community consultation rights in relation to the assessment of petroleum exploration’ should be introduced, and that it supports the creation of an online register of all assessments and determinations relating to petroleum exploration.⁵⁵⁹
- 8.27** To this end, the NSW Government announced in July 2011 that it was developing a new online resource to provide details of licence approval and conditions documents, commenting that communities need access to as much information about the approvals process as possible

⁵⁵⁵ Mr Gerard Tuckerman, Manager Natural Systems, Great Lakes Council, Evidence, 31 October 2011, p 6.

⁵⁵⁶ Mr Whitehouse, Evidence, 7 October 2011, p 4.

⁵⁵⁷ Submission 45, p 9.

⁵⁵⁸ Mr Nari Sahukar, Acting Policy Director, Environmental Defender’s Office, Evidence, 8 December 2011, p 9.

⁵⁵⁹ Answers to supplementary questions, received 21 December 2011, Mr Moraza, Question 1, p 3.

in order to come to informed conclusions about coal seam gas. The NSW Government declared that ‘the level of public access we will be providing is unprecedented’.⁵⁶⁰

- 8.28** Some Inquiry participants said that there is no provision for the community to comment on applications to renew exploration licences. According to Ms Jacinta Green, Stop CSG Sydney:

As a renewal, the community has no means of raising issues about the initial inadequacy of the approval documents. As a renewal, the community has no means of raising issues about the review of environmental factors that remain unanswered by Dart Energy. As a renewal, the community has no means of raising concerns that the licensing conditions have been breached not once but twice by the companies involved. As an existing licence, the community was not informed that the renewal was underway.⁵⁶¹

- 8.29** The Committee notes that the NSW Government has introduced new community consultation requirements which will be examined later in the Chapter.

Criticism of community consultation committees

- 8.30** Other Inquiry participants discussed the value of community consultation committees as a means for the community to have direct input to coal seam gas developments in their local area. According to Mr Michael Johnsen, who appeared both as a resident of Scone and as a Councillor on the Upper Hunter Shire Council, community consultation committees are comprised of ‘local government representatives and community members of no particular background who simply have an interest in ensuring that the processes that take place... are carried out properly, transparently and essentially to the benefit of the community’.⁵⁶² In addition, community consultation committees also include representation from the coal seam gas company seeking to develop in that area.

- 8.31** Some, such as Cr John Rosenbaum, Deputy Mayor of Gloucester Shire Council, suggested that community consultation committees do not allow for a willing exchange of information: ‘They only give as much information as they want to. No more’.⁵⁶³ In addition, Mr Graeme Healy, Chairperson, Barrington-Gloucester-Stroud Preservation Alliance, remarked that community consultation committees have a limited ability to extract information, amongst a host of other problems with this type of forum.⁵⁶⁴

- 8.32** Mr Healy questioned the effectiveness of community consultation committees as *the* model for complete and thorough community engagement on an issue, given that such committees are constituted with a narrow focus and have restricted scope. Furthermore, Mr Healy indicated that a committee’s effectiveness is often dependent on the quality of people on the committee:

⁵⁶⁰ Hon Chris Hartcher MP, Minister for Resources and Energy, ‘NSW Govt has listened and acted: Tough new conditions for coal and coal seam gas’, *Media Release*, 21 July 2011.

⁵⁶¹ Ms Green, Evidence, 8 December 2011, p 46.

⁵⁶² Mr Michael Johnsen, Scone resident and Councillor, Upper Hunter Shire Council, Evidence, 31 October 2011, p 50.

⁵⁶³ Cr John Rosenbaum, Deputy Mayor, Gloucester Shire Council, Evidence, 31 October 2011, p 9.

⁵⁶⁴ Mr Graeme Healy, Chairperson, Barrington-Gloucester-Stroud Preservation Alliance, Evidence, 31 October 2011, p 22.

...the real issues of serious consultation and the effectiveness of community consultative committees need to be addressed. At various times over the last few years the various Ministers responsible for these things have held these up to be the be all and end all in the way that members of the community can resolve their difficulties with the company and have all the issues explained to them and really seek information. The community consultative committees are constituted with narrow terms of reference, even with an independent chairman as someone mentioned before, and their scope, their authority to influence and their ability to extract information is quite limited. Really their effectiveness often tends on the quality of the people on the committee and whether they are prepared to stand up and push the issue. I would encourage this Committee to look at the issue of community consultative committees because it is not working effectively in respect of coal or coal seam gas.⁵⁶⁵

- 8.33** Cr Jerry Germon from Gloucester Shire Council, and herself a member of the AGL Resources Community Consultation Committee, also raised the point that, even when a community consultation committee resolves to act, communities are uneasy because the process is so slow:

I have only just come on the committee. Just going back through the minutes you can see they have been given the heave-ho to get something done, particularly to put into place a means of letting the community know what is going on. It might take two or three meetings before anything actually happens. I think it worries people that the process is so slow.⁵⁶⁶

Engaging local government and indigenous communities

- 8.34** The Committee was told by a number of Inquiry participants that the industry and Government have not appropriately engaged key stakeholders, such as local government and indigenous communities, in making decisions about the development of coal seam gas in New South Wales.

Local government

- 8.35** According to Ms Dench of Wollondilly Shire Council, local government is an 'exceptional stakeholder' because 'we are the clearing house for our communities' views and we are also the holders of local knowledge for our community'.⁵⁶⁷
- 8.36** The Committee consistently heard from local councils that they were not being consulted or even informed of coal seam gas activities in their area. According to Ms Schiff of Great Lakes Council:

⁵⁶⁵ Mr Healy, Evidence, 31 October 2011, p 22.

⁵⁶⁶ Cr Jerry Germon, Gloucester Shire Council, Evidence, 31 October 2011, p 8.

⁵⁶⁷ Ms Dench, Evidence, 9 December 2011, p 9.

We have not had any level of engagement with that company at all; save for a phone call that I made to them last week saying we had not heard anything from them. We were given a leaflet across our front counter some months ago saying that exploration would be undertaken by seismic survey within road reserves. Other than that, we have heard nothing from them.⁵⁶⁸

- 8.37** Cr Adam Marshall, appearing as Mayor of Gunnedah Shire Council argued that, despite local government being the custodians of many of the public assets used by coal seam gas companies, ‘there seems to be no consultation with local government’ to ensure that any issues with those assets are adequately addressed.⁵⁶⁹
- 8.38** Cr Marshall illustrated this point through the example of an approval that had been given for a pilot well to be placed within 100 metres of the town’s water supply bores, without the Council’s knowledge. Cr Marshall informed the Committee that Council had only found out about the approval through ‘a very savvy resident who actually was looking on the Australian Stock Exchange website and found that news via public announcement through the stock exchange’.⁵⁷⁰
- 8.39** Cr Marshall described this situation as ‘highly embarrassing’ and ‘detrimental’ to developing good working relationships between all of the stakeholders involved:
- Often councils are the last to find out when companies are awarded exploration licences or PELs are released across the region. Not only is that highly embarrassing; it also is very detrimental to developing a good working relationship between local councils and the State Government and also between councils and companies.⁵⁷¹
- 8.40** Some Inquiry participants argued that the planning system needs to formalise a role for local government in its processes. As stated by Mr Johnsen, coal seam activities need to be regulated and monitored ‘with 100 per cent local input from day one. You need to make sure that the councils and local communities are front and centre in any piece of legislation’.⁵⁷²
- 8.41** The Local Government and Shires Associations agreed, recommending that relevant State government agencies assessing coal seam gas applications should formally consult with local councils before any determinations are made.⁵⁷³ This view is also reflected by the Barrington-Gloucester-Stroud Preservation Alliance, who said that ‘a totally new planning procedure is required, one that incorporates local government into the planning process while ensuring that the necessary level of technical expertise is available’.⁵⁷⁴
- 8.42** Mr Johnsen pointed to the potential for Regional Organisations of Councils to play an active role in the assessment and approval of coal seam gas development applications:

⁵⁶⁸ Ms Schiff, Evidence, 31 October 2011, p 7.

⁵⁶⁹ Cr Adam Marshall, Mayor, Gunnedah Shire Council, Evidence, 16 November 2011, p 5.

⁵⁷⁰ Cr Marshall, Evidence, 16 November 2011, p 5.

⁵⁷¹ Cr Marshall, Evidence, 16 November 2011, p 5.

⁵⁷² Mr Johnsen, Evidence, 31 October 2011, p 49.

⁵⁷³ Submission 587, p 10.

⁵⁷⁴ Submission 272, Barrington-Gloucester-Stroud Preservation Alliance, p 10.

I think through the regional organisations of councils—and it is well recognised that there is, in the Hunter councils, a plethora of examples of good working models of regional organisations of councils—there is no reason why, collectively, a local government area should not have input as well.⁵⁷⁵

- 8.43** Some coal seam gas companies, however, contended that they have made efforts to involve local government in their plans for coal seam gas development. For example, Mr Sam Crafter, Manager, Community and Government Relations NSW, Santos, advised that Santos is working ‘very closely’ with local governments in their regions: ‘We regularly brief the mayors and the councils; we are engaged with them. We are keen to work with them as to the best ways to conduct those community investments’.⁵⁷⁶
- 8.44** While the NSW Government did not comment on the role of local government during the course of the Inquiry, it has since released its *Guideline for community consultation requirements for exploration of coal and petroleum, including coal seam gas*, which includes requirements for contact with local councils. The Guideline will be discussed in further detail later in the Chapter.

Indigenous communities

- 8.45** Inquiry participants suggested indigenous communities have been excluded in the decision making process surrounding coal seam gas developments and that greater input from these communities should be sought.
- 8.46** According to Mr Warren Mundine, Chief Executive Officer, Native Title Services Corp, consultation and communication are ‘one of the failings of what has been happening so far within the coal seam gas industry, that is proper engagement when dealing with traditional land owners’.⁵⁷⁷ This view was echoed by Mr Michael Anderson, a traditional land owner from the Gomeroi Nation, who stated that he found it ‘extraordinary that we are not included in the process and considerations’.⁵⁷⁸
- 8.47** Mr Mundine informed the Committee that, because traditional owner groups have not been properly approached, mistrust has arisen despite the potential benefits of the industry to indigenous communities, such as employment. Mr Mundine conceded that coal seam gas companies ‘will have to do a lot of work in that area’.⁵⁷⁹
- 8.48** However, coal seam gas company Metgasco advised that it had actively engaged with local indigenous groups and currently has a gas well operating on Boolangal Land Council land. Metgasco explained that before drilling any well, it invites a representative from the local

⁵⁷⁵ Mr Johnsen, Evidence, 31 October 2011, p 50.

⁵⁷⁶ Mr Sam Crafter, Manager, Community and Government Relations NSW, Santos, Evidence, 17 November 2011, p 10.

⁵⁷⁷ Mr Warren Mundine, Chief Executive Officer, Native Title Services Corp, Evidence, 12 December 2011, p 42.

⁵⁷⁸ Mr Michael Anderson, traditional land owner, Gomeroi Nation, Evidence, 16 November 2011, p 13.

⁵⁷⁹ Mr Mundine, Evidence, 12 December 2011, p 44.

native title group to conduct a cultural heritage survey to ensure that areas of cultural significance are recognised.⁵⁸⁰

8.49 For Mr Craig Trindall, a traditional land owner from the Gomeroi Nation, engagement with traditional owners is ‘integral’ in any development of policy, implementation of programs or commercial practices affecting traditional owner lands: ‘We are the people who should be able to makes decisions about what will work and what will benefit our community’.⁵⁸¹

8.50 Mr Trindall stressed that indigenous communities must be engaged from the outset and not after policies have been drafted or decisions have been made:

We recommend that we sit down to with government and industry to develop an effective engagement strategy so that we do business right from the outset, not after policies have been drafted without our input.⁵⁸²

8.51 Indeed, Mr Anderson suggested that traditional land owners want to – and should be – part of the decision making process, given the cultural and spiritual ties to the land:

We want to develop our land. We want to be part of the process of decision making that allows us to have an impact on the process of planning within the communities and country. No matter how much land is cleared, no matter how much work is done to erase the memory and cultural contact to our country, we will never forget it. You can clear as much land as you want and dig as many holes as you want but you will never take away the memory of where those things are.⁵⁸³

8.52 Mr Anderson did acknowledge, however, the current dilemma faced by indigenous communities who, on the one hand, want to preserve and protect their culture and beliefs but on the other, seek to contribute to and benefit from sustainable economic development.⁵⁸⁴ Both Mr Anderson and Mr Trindall agreed that this conflict could only be resolved by active engagement with industry and government and a clear understanding that any resolution cannot come ‘at the expense of the people who live on the land and need that land’.⁵⁸⁵

8.53 Recent Government initiatives to engage with indigenous communities will be examined in the following section.

Committee comment

8.54 The Committee acknowledges that the community has an important role to play in the development of the coal seam gas industry in New South Wales and notes that in many instances community consultation has been inconsistent, poorly timed and provided limited opportunity for engagement. In particular, the views of local government and indigenous communities must be given greater consideration by the industry and the Government.

⁵⁸⁰ Submission 287, Metgasco, p 24.

⁵⁸¹ Mr Craig Trindall, Traditional land owner, Gomeroi Nation, Evidence, 16 November 2011, p 13.

⁵⁸² Mr Trindall, Evidence, 16 November 2011, p 13.

⁵⁸³ Mr Anderson, Evidence, 16 November 2011, p 13.

⁵⁸⁴ Mr Anderson, Evidence, 16 November 2011, p 13.

⁵⁸⁵ Mr Anderson, Evidence, 16 November 2011, p 13.

Measures to improve community engagement

8.55 As noted previously, community engagement encapsulates a range of activities, from information dissemination to seeking feedback to shared decision making. Of these, Inquiry participants made specific suggestions to strengthen information dissemination. In addition, the NSW Government has taken a number of steps to address community engagement.

Suggestions to strengthen information dissemination

8.56 At the very least, Inquiry participants called for better information dissemination as the first step towards adequate community engagement. Some Inquiry participants suggested that the NSW Government needs to play a more active role in disseminating information.

8.57 When questioned whether the NSW Government would consider an information campaign to provide objective information about key elements of the coal seam gas industry, Mr Mark Paterson, Director General of the Department of Trade and Investment, Regional Infrastructure and Services (DTIRIS) replied that he would be 'happy' to raise the suggestion with his Minister and the Minister for Primary Industries.⁵⁸⁶

8.58 Aside from conducting an information campaign, some Inquiry participants suggested that the role of the NSW Government in disseminating information should take the form of a stronger presence in the regions. According to Cr Marshall of Gunnedah Shire Council:

There needs to be a stronger presence in the region of the various Government departments responsible for regulating the activities of coal seam gas companies...I am not saying that the silver bullet is having a strong presence of Government departments in the region but there needs to be a strong presence from the level of Government in the region that is the consenting and regulatory authority for these companies. If people have questions or want advice there should be people in the region that they can go to and ask the questions before exploration occurs: What is the process for project applications and consents being granted? There is no one in the region who can answer the questions.⁵⁸⁷

8.59 Some local government representatives suggested that providing better information to the community would require providing better information to local government. For example, Cr Whipper suggested that 'the model for communication should start at the top in terms of involving local government right from the very beginning and then, with that, local government putting a model in place that might be specific to that local government area'.⁵⁸⁸

8.60 Other Inquiry participants, such as Ms Schiff, argued that the NSW Government should lead community engagement by providing access to experts, including scientists, who can answer their questions on the impacts of coal seam gas activities. Ms Schiff asserted that this service

⁵⁸⁶ Mr Mark Paterson, Director General, Department of Trade and Investment, Regional Infrastructure and Services, Evidence, 17 November 2011, p 50.

⁵⁸⁷ Cr Marshall, Evidence, 16 November 2011, p 6.

⁵⁸⁸ Cr Laurence Whipper, Deputy Mayor, Wingecarribee Shire Council, Evidence, 9 December 2011, p 11.

should be funded by the NSW Government,⁵⁸⁹ a view also shared by Cr Germon from Gloucester Shire Council.⁵⁹⁰

- 8.61** Some Inquiry participants recommended that there should be an independent authority, such as a mineral resources ombudsman or a coal seam gas commissioner, who communities could look to for information. For example, Mr Johnsen suggested that an ombudsman could be ‘someone the community can rely on’.⁵⁹¹ Likewise, Mr Peter Henderson, Managing Director of Metgasco proposed that a commissioner would be akin to ‘having someone in government who knows how government works and who can explain to the people how the regulations fit together and the checks and balances would add value’.⁵⁹² The idea of establishing an independent authority in this capacity is explored in Chapter 13.
- 8.62** In relation to broader measures to improve community engagement, the Committee received limited evidence on the specific measures that should be put in place to facilitate community input. Some local councils advised the Committee of community engagement initiatives that they have undertaken and suggested that many of these strategies could be applied to consultation on coal seam gas issues. For example, Ms Dench of Wollondilly Shire Council commented on her Council’s community engagement framework:

We have developed community forums; we developed discussion papers ... we have sessions where it is at different times of the day—often on the weekend ... we also try and engage our young people... we have advisory groups of council, which represent different sectors in our community ...⁵⁹³

- 8.63** The Local Government and Shires Associations suggested that a review of existing legislation may be necessary to provide for and formalise more effective communication between the Government, industry and the community.⁵⁹⁴

Response to concerns about community engagement

- 8.64** In its submission to the Inquiry, the NSW Government identified a number of new policy requirements and initiatives to address the concerns surrounding community engagement. These include:
- a requirement now in place for public comment on all new coal seam gas exploration licence applications
 - a requirement for development applicants to place advertisements in local newspapers showing the location of the application area and where information can be obtained, including the Landholders Rights brochure published by the Department of Primary Industries

⁵⁸⁹ Ms Schiff, Evidence, 31 October 2011, p 6.

⁵⁹⁰ Cr Germon, Evidence, 31 October 2011, p 6.

⁵⁹¹ Mr Johnsen, Evidence, 31 October 2011, p 49.

⁵⁹² Mr Henderson, 8 December 2011, p 44-45.

⁵⁹³ Ms Dench, Evidence, p 11.

⁵⁹⁴ Submission 587, p 10.

- new enhanced community consultation requirements as a condition of exploration licences.⁵⁹⁵

- 8.65** During the NSW Government's evidence to the Committee it was not clear what these measures entailed. For example, no further detail was provided to explain what the 'new enhanced community consultation requirements' for exploration licences would be, nor whether, as discussed earlier, the requirements for public comment extends to renewal licences as well as all new licences.
- 8.66** The NSW Government has since announced new requirements for licence holders to ensure effective community consultation, declaring that 'community engagement must be at the forefront of any proposed activity'.⁵⁹⁶ In March 2012, the NSW Government released the *Guideline for community consultation requirements for the exploration of coal and petroleum, including coal seam gas* as part of its draft Strategic Regional Land Use Policy. The NSW Government stated that the Guideline works 'to improve interactions between communities and coal seam gas explorers', and are a means of 'ensuring communities have a say... and are fully informed of projects in their area'.⁵⁹⁷
- 8.67** The Guideline explains the Community Consultation Condition and sets out the requirements a licence holder must comply with as part of this Condition. These new requirements include detailed advertisement of applications for exploration licences, evidence of effective community consultation, annual report of community consultation, including how complaints and feedback are dealt with, and contact with local councils within the licence area.⁵⁹⁸ The Guideline also provides access to template and reporting guides to assist in meeting these new requirements.⁵⁹⁹
- 8.68** In particular, the Guideline suggests a range of consultation methods that could be undertaken by coal seam gas companies. This includes the establishment of a 'shop front' in country towns of affected areas as a 'simple, straightforward way' of liaising with the community and explaining 'what plans the company has and of answering questions'.⁶⁰⁰
- 8.69** The NSW Government also released the *Draft Code of Practice for Coal Seam Gas Exploration*, which establishes a best practice framework covering community relations and landholder involvement, among other issues. The NSW Government advised that the Draft Code is 'a landmark requirement that will apply to licence holders to ensure strong standards are set for the CSG industry during the exploration stage'. The Draft Code 'sets mandatory minimum

⁵⁹⁵ Submission 642, pp 22 and 26.

⁵⁹⁶ Hon Chris Hartcher MP, Minister for Resources and Energy, 'Tougher controls on CSG', *Media Release*, 6 March 2012.

⁵⁹⁷ Hon Chris Hartcher MP, Minister for Resources and Energy, 'Tougher controls on CSG', *Media Release*, 6 March 2012.

⁵⁹⁸ Hon Chris Hartcher MP, Minister for Resources and Energy, 'Tougher controls on CSG', *Media Release*, 6 March 2012.

⁵⁹⁹ NSW Government, *Guideline for community consultation requirements for the exploration of coal and petroleum, including coal seam gas*, March 2012.

⁶⁰⁰ NSW Government, *Guideline for community consultation requirements for the exploration of coal and petroleum, including coal seam gas*, March 2012, p 3.

standards for coal seam gas exploration licence holders' at the same time as it encourages 'exploration licence holders to institute "best practice" models for operation'.⁶⁰¹

- 8.70** Further to the requirements set out in the *Petroleum (Onshore) Act 1991*, the Draft Code outlines specific obligations such as requiring licence holders to follow up written contact with landholders with a meeting in person, and to keep landholders informed of progress and variations in exploration activities.⁶⁰²
- 8.71** In addition, the Draft Code outlines expectations for 'good consultation' with communities, including 'setting up channels of communication that allow good community feedback' and maintaining a register of complaints. The Draft Code also suggests a number of other measures including the establishment of a Community Consultative Committee, setting up a 'shop front' in affected areas to liaise with local residents, or appointing a community liaison officer.⁶⁰³
- 8.72** The Committee notes that in its recently released draft Strategic Regional Land Use Plan for the Upper Hunter region, the NSW Government acknowledged that indigenous communities are a significant stakeholder in the growth of the coal seam gas industry. They advised that guidelines are being developed to ensure 'the early and thorough consideration of Aboriginal cultural heritage in the assessment process', and will 'highlight the importance of consulting with Aboriginal people in determining the significance of places and objects to Aboriginal people, including the significance of proposed impacts'.⁶⁰⁴

Committee comment

- 8.73** The Committee acknowledges the call for more genuine engagement of the community on coal seam gas developments across the State. While the Committee agrees that coal seam gas companies should be more accessible to regional communities, such as by establishing 'shop fronts' in regional areas, the Committee believes that the NSW Government should also have a greater presence in the regions. The Committee therefore recommends that the NSW Government establish regional 'shop fronts' to provide a more accessible point of contact for the communities most affected by coal seam gas development. These 'shop fronts' would enable community members to seek information and advice on the development of coal seam gas, such as the 'science' behind coal seam gas, and the licensing and planning approval processes. The staffing of these 'shop fronts' is addressed in Chapter 9 (Recommendation 20) and Chapter 13 (Recommendation 33).

Recommendation 13

That the NSW Government establish 'shop fronts' to provide information and advice in the regions most affected by coal seam gas development.

⁶⁰¹ Hon Chris Hartcher MP, Minister for Resources and Energy, 'Tougher controls on CSG', *Media Release*, 6 March 2012.

⁶⁰² NSW Government, *Draft Code of Practice for Coal Seam Gas Exploration*, March 2012.

⁶⁰³ NSW Government, *Draft Code of Practice for Coal Seam Gas Exploration*, March 2012, p 12.

⁶⁰⁴ NSW Government, Strategic Regional Land Use Plan – Upper Hunter, p 78.

- 8.74** The Committee notes the recent community engagement measures announced by the NSW Government, namely the *Guideline for community consultation requirements for the exploration of coal and petroleum, including coal seam gas* and the *Draft Code of Practice for Coal Seam Gas Exploration*. However, the Committee questions whether some of the provisions in the Guideline and Draft Code should be strengthened so that they become *mandatory* rather than *optional*. For example, the Committee believes that it should be mandatory for coal seam gas companies to pay all reasonable legal costs in relation to an access agreement. This is discussed further in the following Chapter.
- 8.75** As part of these measures, the Government has introduced a new requirement for coal seam gas companies to notify relevant local councils that a petroleum exploration licence has been issued over their local government areas. The Committee believes that such notification requirements should not be the sole responsibility of coal seam gas companies. The Committee believes that DTIRIS, as the licensing authority, should notify the relevant local councils as soon as a petroleum exploration licence application is made over their area. DTIRIS should advise councils to expect contact from the licence holder, at which point further information on the licence holder's plans will be provided.

Recommendation 14

That the NSW Government require the Department of Trade and Investment, Regional Infrastructure and Services to notify relevant local councils as soon as a petroleum exploration licence application is made over their local government areas.

- 8.76** The Committee considers that the NSW Government should ensure that community consultation takes place when an application is made for a new exploration licence, as well as when an application is made for a licence to be renewed. At both these points, the NSW Government should implement the community consultation process as outlined in the *Draft Code of Practice for Coal Seam Gas Exploration*.

Recommendation 15

That the NSW Government implement the community consultation process as outlined in the *Draft Code of Practice for Coal Seam Gas Exploration* at the point of exploration licence application and on renewal.

Chapter 9 Landholders

This Chapter discusses several issues of particular concern to landholders whose properties are subject to coal seam gas exploration or production. This includes landholder rights to veto access, the nature and negotiation of access agreements, the adequacy of compensation, and the role of arbitration. The impact of coal seam gas development on property values is also discussed.

Legal rights of landholders

- 9.1** In New South Wales, the Crown owns all mineral and petroleum resources, and the NSW Government on behalf of the Crown, licenses coal seam gas companies to prospect for those resources.⁶⁰⁵ As such, the Government has ‘an obligation to ensure these resources are effectively and responsibly explored for the potential benefit of the State’.⁶⁰⁶
- 9.2** This obligation needs to be balanced with the rights of landholders who own the surface of the land. The legislation governing the exploration and production of coal seam gas development in New South Wales – the *Petroleum (Onshore) Act 1991* – therefore contains provisions to protect landholder rights during the exploration and production stages.

Exploration

- 9.3** Exploration of coal seam gas in New South Wales is regulated under the *Petroleum (Onshore) Act 1991*. Under the Act, petroleum prospecting titles are issued for the purpose of identifying the quantity and quality of petroleum resources and to determine the viability of proceeding to extract and produce that resource. Prospecting titles include petroleum exploration licences, petroleum special prospecting authorities and petroleum assessment leases.⁶⁰⁷ For the purposes of this Chapter, references are specifically made to petroleum exploration licences and licence holders rather than prospecting titles in general.
- 9.4** The key rights of landholders and the requirements of exploration licence holders under the *Petroleum (Onshore) Act* are as follows:
- If a licence holder seeks to enter a property, a written notice detailing the licence holder’s intention to obtain an access agreement must be served.
 - A licence holder and landholder must reach an access agreement in order for any exploration activity to take place.
 - If an access agreement is not reached within 28 days of serving the notice of intention, an arbitrator may be appointed, whose role is to facilitate a conciliated agreement. If an agreement still cannot be reached, the arbitrator is bound to make a decision on access arrangements. This initial decision is known as an ‘interim determination’ to allow for it

⁶⁰⁵ Submission 642, NSW Government, p 28; Department of Trade and Investment, Regional Infrastructure and Services, *Draft Code of Practice for Coal Seam Gas Exploration, 2012*, p 6.

⁶⁰⁶ Submission 642, NSW Government, p 28.

⁶⁰⁷ Department of Primary Industries, ‘Landholders rights, access arrangements and compensation under the *Petroleum (Onshore) Act 1991*’, accessed 5 March 2011, <www.dpi.nsw.gov.au/minerals/titles/landholders-rights/petroleum_onshore_act_1991>.

to be varied by either the landholder or licence holder subject to the agreement of both parties. If, within 14 days, no agreed variation is made to the interim determination, the determination becomes the arbitrator's final determination. Either party may apply for a review of the arbitrator's final determination through formal appeal to the Land and Environment Court.

- An access agreement may include arrangements for the time period which access is permitted, parts of the land to be explored, the kinds of activity to take place, conditions to be observed during activity, protection of the environment and compensation to the landholder. A licence holder cannot carry out any activity other than that which is prescribed in the access agreement.
- Compensation can be agreed to under the access agreement or determined separately. The licence holder is liable to compensate the landholder or 'every person having an estate or interest' for any loss or interference as a result of any operations conducted by a licence holder.
- A licence holder cannot undertake any exploration activity on any land within 200 metres of a 'dwelling-house', within 50 metres of a garden, vineyard or orchard, or over any improvements or valuable work/structure, except with the written consent of the landholder.

Production

9.5 Landholders' rights in relation to property subject to coal seam gas production are also regulated under the *Petroleum (Onshore) Act 1991*. However, under section 67, the Minister cannot grant a production lease (licence) over land unless appropriate development consent under the *Environmental Planning and Assessment Act 1979* is in force. According to the NSW Government, landholder rights under these circumstances are therefore 'subject to consideration and protection under both the POA and EP&A Act'.⁶⁰⁸

9.6 The key rights of landholders and the requirements of production licence holders under the *Petroleum (Onshore) Act* are as follows:

- A licence holder cannot carry out any mining operations or erect any works on 'the surface of any land which is under cultivation',⁶⁰⁹ except with the consent of the landholder. Cultivation for the growth and spread of pasture grasses is not considered 'cultivation' within the meaning of the Act.
- The Minister may, however, permit mining operations on land under cultivation, 'if the Minister considers that the circumstances warrant it'.⁶¹⁰
- There is **no** requirement to enter into an access agreement for **production**.
- Provisions relating to compensation and the protection of homes and gardens (that is, no activity within 200 metres of a home, 50 metres of a garden etc) that are applicable to exploration licences also apply to production leases.

⁶⁰⁸ Submission 642, NSW Government, p 29.

⁶⁰⁹ *Petroleum (Onshore) Act 1991*, Part 5, Section 71 (1).

⁶¹⁰ *Petroleum (Onshore) Act 1991*, Part 5, Section 71 (2).

Landholder concerns

- 9.7** As discussed in Chapter 7, many Inquiry participants whose properties are potentially affected by coal seam gas exploration or production expressed significant concerns about the development of coal seam gas in New South Wales. These participants reported how strongly they felt about the connection they have forged with their land over time, and the threat posed by coal seam gas activity. For example, Mr Peter Epov, Chair of the Manning Alliance, said:

Many of the families of the people who live here have been here for generations. They have worked, toiled and developed this land. It is not right, fair or decent for someone to steamroll their property and create havoc and mayhem. It is not reasonable.⁶¹¹

- 9.8** Ms Leslie McQueen, a farmer from Kyogle, described how coal seam gas threatened her rights as a landholder:

We are really strong people that live and work hard for the land. I have been on the land all my life. This is our livelihood; this is everything. How can it be morally right for our Government to continue to walk over landholders and limit their rights?⁶¹²

- 9.9** Concerns over legal rights include the inability of landholders to deny licence holders access to their land, the nature and negotiation of access agreements, and the adequacy of financial compensation and the arbitration process to settle disputes between landholders and coal seam gas companies. These issues are discussed in the remainder of this Chapter.

Land access issues

- 9.10** The absence of an absolute right for landholders to refuse access to their land – or a ‘right to veto’ – is a source of major discontent among landholders whose land is subject to a coal seam gas exploration licence. Other concerns include whether coal seam gas companies will enforce their access rights.

Concerns about the inability to refuse access

- 9.11** Mr John Whitehouse, Solicitor and Fellow in Environmental Studies at Macquarie University, and expert in mining and environmental law, explained that:

... subject to some exclusions, the issue is not can you get an access agreement, the issue is how much and what are the conditions ... The owner cannot simply say “Go away”, because the holder has a right to pursue the matter and ultimately a right to obtain one...⁶¹³

- 9.12** Ms Fiona Simson, President of the NSW Farmers’ Association, believes that farmers should have the right to refuse access:

⁶¹¹ Mr Peter Epov, Chair, Manning Alliance, Evidence, 31 October 2011, p 32.

⁶¹² Ms Leslie MacQueen, Member, Group Against Gas Kyogle, Evidence, 21 September 2011, p 30.

⁶¹³ Mr John Whitehouse, Solicitor and Fellow in Environmental Studies, Macquarie University, Evidence, 7 October 2011, p 2.

...we continue to advocate for landholders to have the right to refuse access to mining and coal seam gas companies. We reject the notion that it is somehow fair to be told that your options are to “sign this document or we’ll drag you through arbitration and have the arbitrator sign it for you”. That is essentially negotiating with a gun to their heads and that is how our members feel. Give farmers some choice in this process.⁶¹⁴

- 9.13** Although Ms Simson acknowledged that ‘it is not a silver bullet’, she argued that allowing landholders the right to say ‘no’ would at the very least ‘level the playing field’ and allow landholders and licence holders to negotiate an access agreement on equal footing.⁶¹⁵ Mr Greg McNamara, Chairman of Norco Co-operative, indicated a similar view:

They need to be able to negotiate on equal terms and say no if they want to. I think that is a fundamental issue in Australia. We should have the right to say no if we do not want that on our land. At the moment no-one feels they do have that right.⁶¹⁶

- 9.14** Without the right to veto, Inquiry participants agreed that their power to negotiate with coal seam gas companies was severely constrained. According to Bellata farmer Ms Natalie Tydd, ‘you cannot negotiate from a position where you have zero power. If they have the right to take you to arbitration as their full stop and you have nothing, how is that negotiating?’⁶¹⁷

- 9.15** Mr Michael Johnsen, who appeared in a private capacity and as a Councillor of the Upper Hunter Shire Council, further commented on the potential for licence holders to take advantage of landholders and the uncertainty posed by current arrangements:

There is significant angst amongst our community—there is no doubt about that—over the potential for explorers essentially to ride roughshod over the landowner. The balance of power seemed to lie with the explorer, importantly, on behalf of the Crown. Perception or reality, this needs to be clarified...⁶¹⁸

- 9.16** Other Inquiry participants described the personal impact of not being able to stop access to their property. Ms Georgina Ramsay from the Group Against Gas Kyogle stated: ‘I live on a place and I can have strangers come into my zone and I feel that is wrong. I do not know these drillers. I do not know these people that will be on my land. I might fear for my safety’.⁶¹⁹

- 9.17** Ms Tydd expressed a similar feeling when reflecting on the outcome of a forced access agreement:

Let’s assume I am forced to grant access to my property for the purpose of drilling a corehole. I would have 23 pieces of equipment brought onto my property from trucks to portaloos in addition to 16 personnel, presumably men, all unknown to me. This operation is permitted to be carried out 200 metres from my home and will operate

⁶¹⁴ Ms Fiona Simson, President, NSW Farmers’ Association, Evidence, 17 November 2011, p 13.

⁶¹⁵ Ms Simson, 17 November 2011, p 18.

⁶¹⁶ Mr Greg McNamara, Chairman, Norco Co-operative Ltd, Evidence, 21 September 2011, p 37.

⁶¹⁷ Ms Natalie Tydd, Local landholder, Evidence, 16 November 2011, p 52.

⁶¹⁸ Mr Michael Johnsen, Resident of Scone and Cr, Upper Hunter Shire Council, 31 October 2011, p 47.

⁶¹⁹ Ms Georgina Ramsay, Member, Group Against Gas Kyogle, Evidence, 21 September 2011, p 29.

24/7 from 21 days up to 6 months. During the day I am home along with my two small children it is also common for me to be alone at night. As a young woman who is geographically isolated from neighbours and law enforcement I hold concerns for my young family under these conditions.⁶²⁰

- 9.18** Some Inquiry participants made reference to the rights of landholders in other jurisdictions, such as Western Australia, and argued that the right to deny access to coal seam gas development in that State, or as some have termed the ‘farmer’s veto’, should also be available in New South Wales.⁶²¹
- 9.19** The Committee sought clarification from the Western Australian Minister for Mines and Petroleum regarding the ‘farmer’s veto’ and was advised that there is no ‘farmer’s veto’ in Western Australia for petroleum exploration and production. Under Western Australian mining law, a ‘landowner’s veto’ does exist but applies only to the granting of tenements for mineral exploration and extraction on private land. Under this veto, a mining licence cannot be granted on privately owned land without the landholder’s written consent.⁶²²

Access to cultivated land for production

- 9.20** Although landholders effectively cannot refuse consent for coal seam gas exploration, landholders do have the ability to refuse consent for coal seam gas production on ‘cultivated land’. The *Petroleum (Onshore) Act 1991* (POA) stipulates that:

The holder of a production lease must not carry out any mining operations or erect any works on the surface of any land which is *under cultivation* except with the consent of the landholder.⁶²³

- 9.21** Some Inquiry participants called for this provision to be expanded to allow landholders to refuse consent for *exploration* on cultivated land. As observed by Ms Simson:

The clear position is that currently the Onshore Petroleum Act provides for that right of veto on cultivated land under section 71 but only for production facilities, not for exploration. We believe that the legislation needs to be amended to enable that clause prior to exploration and to be widened to include agricultural lands.⁶²⁴

- 9.22** Similar recommendations were made by the Environmental Defender’s Office, which supports the ability of landholders to object to coal seam gas development on cultivated land both at the exploration and production stage. The Environmental Defender’s Office argued that exploration activities in themselves are potentially disruptive and damaging.⁶²⁵

⁶²⁰ Ms Tydd, Evidence, 16 November 2011, p 2.

⁶²¹ For example, Mr Drew Hutton, President, Lock the Gate Alliance, Evidence, 17 November 2011, p 27.

⁶²² Correspondence from the Hon Norman Moore MLC, Minister for Mines and Petroleum, to Chair, 23 December 2011.

⁶²³ *Petroleum (Onshore) Act 1991*, Part 5, s71 (1); emphasis added.

⁶²⁴ Ms Simson, Evidence, 17 November 2011, p 18.

⁶²⁵ Answers to questions on notice taken during evidence 8 December 2011, Mr Nari Sahukar, Acting Policy Director, Environmental Defender’s Office, p 6.

9.23 In addition, a number of Inquiry participants raised concerns that the Act does not include a definition for the term ‘cultivation’. In contrast, Ms Marylou Potts, a legal practitioner with experience in advising on coal seam gas issues, advised that the *Mining Act 1992* refers to ‘agricultural land’ rather than ‘cultivated’ land, and that the *Mining Act* contains a detailed definition of ‘agricultural land’:

...[Cultivate land] is not largely defined as, for example, agricultural land is defined in the Mining Act. The Petroleum (Onshore) Act simply refers to cultivated land or land under cultivation and says that that does not include pasture grasses. The Mining Act in schedule 2 provides an entire schedule related to what is agricultural land and gives a very good and detailed description of what is agricultural land.⁶²⁶

9.24 Mr Chris Magner of the Richmond Wilson Combined Water Users’ Association also drew attention to the lack of clarity surrounding the term ‘cultivation’. Mr Magner advised that he and his fellow farmers were unaware of the clause until recently:

Monday was the first time we had heard that there was an exemption for cultivation in relation to a production licence. We are not yet comfortable that we have a satisfactory definition of what that means. As farmers we know what we think cultivation means but we would like to see a definition—if someone here today has a definition that would be fantastic because it is unclear what cultivation means in the exemption. We would like to see that fully spelled out.

9.25 The Environmental Defender’s Office made a number of recommendations to arrive at a clearer definition of ‘cultivation’. For example, they suggested broadly defining the term to avoid loss of productive areas and to include ‘conservation lands’ in the clause so that landholder consent would be required if activity was to take place on this land.⁶²⁷

9.26 In addition, the Environmental Defender’s Office proposed greater consistency between the *Petroleum (Onshore) Act* and the *Mining Act* so that a single definition for cultivated/agricultural land appears under both Acts. They argued that having different definitions is both ‘unnecessary and confusing’.⁶²⁸ This recommendation was supported by Ms Potts, who suggested that the *Mining Act* definition of ‘agricultural land’ be ‘imported’ into the *Petroleum (Onshore) Act*.⁶²⁹

9.27 Another issue raised by some Inquiry participants relates to the ability of the Minister for Resources and Energy to override a landholder’s decision to refuse consent for production on ‘cultivated’ land. According to the *Petroleum (Onshore) Act*:

The Minister may, however, if the Minister considers that the circumstances warrant it, define an area of the surface of any parcel of cultivated land on which mining operations may be carried out or works may be erected, and may specify the nature of the operations to be carried out or the works to be erected.⁶³⁰

⁶²⁶ Ms Marylou Potts, Marylou Potts Pty Ltd, Evidence, 8 December 2011, p 73.

⁶²⁷ Answers to questions on notice taken during evidence 8 December 2011, Mr Sahukar, p 6.

⁶²⁸ Answers to questions on notice taken during evidence 8 December 2011, Mr Sahukar, p 6.

⁶²⁹ Ms Potts, Evidence, 8 December 2011, p 73.

⁶³⁰ *Petroleum (Onshore) Act 1991*, Part 5, S71 (2).

9.28 The Environmental Defender's Office questioned the need for this ministerial override and suggested that the Minister's discretion to determine what is 'cultivated' land be transferred to an independent body, which would be required to base its decision on clear definitions and binding criteria. The Office also recommended that any decisions made by the independent body to define land as 'cultivated' should be reviewable by the Land and Environment Court. In addition, the Environmental Defender's Office proposed removing the Minister's discretion to allow production on cultivated land.⁶³¹

Enforcing access rights

9.29 Several Inquiry participants raised concerns about coal seam gas explorers enforcing their access rights. The NSW Farmers' Association advised that it had seen a letter to landholders in the Bellata area in which a licence holder '...directly threatened to enforce its access rights in court where landholders did not cooperate'.⁶³²

9.30 However, a number of coal seam gas companies told the Committee that, despite having the power to secure access for exploration, they are not enforcing their access rights, thus negating the need for landholders to have an absolute right of veto.

9.31 Dart Energy, for example, said they have never taken a landholder to arbitration or court to force their way onto the land.⁶³³ Mr Robbert de Weijer, Chief Executive Officer, Australia, Dart Energy explained that 'we have gone to the extent where one of our landholders had an executed land access agreement, he got cold feet, he wanted to get out of it and we let him'.⁶³⁴

9.32 Similarly, Mr Richard Shields, External Relations Manager of Metgasco informed the Committee that Metgasco has 300 access agreements and 'history to date is that if a farmer did not wish to proceed then we have respected those views and we have looked for other landholders to participate in the industry'.⁶³⁵

9.33 The industry peak body, the Australian Petroleum Production and Exploration Association (APPEA), also reported that out of over 1,800 signed access agreements in Queensland alone, no coal seam companies have sought 'compulsory access'.⁶³⁶

9.34 The industry argued that it is in their interests to build good long-term relationships with landholders. Mr James Baulderstone, Vice President Eastern Australia, Santos advised that positive relationships were integral to the long-term operation of a coal seam gas development:

Santos has made it very clear that we will not barge our way onto people's properties...
We will work with those landholders who want to work with us in a very constructive

⁶³¹ Answers to questions on notice taken during evidence 8 December 2011, Mr Sahukar, p 7.

⁶³² Submission 335, NSW Farmers' Association, p 24.

⁶³³ Mr Jason Needham, Exploration Operations Manager Australia, Dart Energy Ltd, Evidence, 8 December 2011, p 67.

⁶³⁴ Mr Robbert de Weijer, Chief Executive Officer, Dart Energy Ltd, Evidence, 8 December 2011, p 67.

⁶³⁵ Mr Richard Shields, External Relations Manager, Metgasco, Evidence, 8 December 2011, p 39.

⁶³⁶ Submission 447, Australian Petroleum Production and Exploration Association, p 14.

and mutually beneficial way... Santos has never taken a landholder to court. It is not our way, as the chief executive officer of Santos has said many times. It is not in our interest to do that. We are there for 20 or 30 years. Even if we actually used our legal rights to force a drill rig on to a site we have to have access to that site for the next 20 years, so it is in our interest to make sure we have a good relationship.⁶³⁷

- 9.35** Mr de Weijer also pointed out that another benefit of having strong relationships with landholders is the potential for ‘word of mouth’, whereby landholders become involved with coal seam gas development because of the positive experiences of another:

We think it is really important to have strong relationships with our landholders and to have a reputation where we are seen as very much working together with the landholders. That has a number of advantages. One of the last wells that we drilled, the landholder was very pleased. Within two or three weeks of our drilling program there were four or five of his friends who were actually saying, “Could Dart drill a well on my land as well?”⁶³⁸

- 9.36** The NSW Government also acknowledged that coal seam gas companies rarely force access because responsible coal seam gas companies genuinely seek long-term relationships with landholders and do not want to create resentment:

Responsible explorers want to enter into a long-term relationship with a landholder or group of landholders. Threats of forced arbitration or legal action if a landholder does not agree – sometimes in the first letter an explorer issues – simply created resentment, which is hardly the foundation to build a long-term relationship.⁶³⁹

- 9.37** The NSW Government has addressed the rights of landholders in its recently released *Draft Code of Practice for Coal Seam Gas Exploration*. In the Draft Code, the NSW Government observes that coal seam gas companies are ‘essentially guests on private land’.⁶⁴⁰

- 9.38** The Draft Code further suggests that coal seam gas companies will usually seek to operate elsewhere if a landholder does not wish to enter into an access agreement:

The Government is opposed to the use of upfront ‘bully-boy’ tactics. CSG fields may extend over large areas and although the explorer has an obligation to effectively explore the whole licence area, there would usually be somewhere else within their tenement or title for an explorer to operate.⁶⁴¹

Arguments against giving landholders a ‘right of veto’

- 9.39** Mr Mark Paterson, Director General, Department of Trade and Investment, Regional Infrastructure and Services (DTIRIS), suggested that granting landholders the right to veto access to assets owned by the Crown was ‘highly risky’:

⁶³⁷ Mr James Baulderstone, Vice President Eastern Australia, Santos, Evidence, 17 November 2011, p 11.

⁶³⁸ Mr de Weijer, Evidence, 8 December 2011 p 67.

⁶³⁹ NSW Government, *Draft Code of Practice for Coal Seam Gas Exploration*, March 2012, p 7.

⁶⁴⁰ NSW Government, *Draft Code of Practice for Coal Seam Gas Exploration*, March 2012, p 4.

⁶⁴¹ NSW Government, *Draft Code of Practice for Coal Seam Gas Exploration*, March 2012, p 7.

We are talking about access to assets of the Crown, not a right of veto on access to the assets held by a private operator. If a right of veto was provided it could potentially prevent access to assets of the Crown when they are not held by the person who might have the right of veto. The Crown could decide to have a right of veto, but giving the right of veto to a third party who does not own the asset is, in my view, highly risky.⁶⁴²

- 9.40** As discussed in Chapter 3, the NSW Government believes that exploration is vital to not only assessing potential coal seam gas reserves but, more significantly, assessing potential environmental impacts in the region. As such, it was argued that giving landholders the right to veto over exploration would be ‘detrimental’ to assessing full environmental impacts.⁶⁴³

Committee comment

- 9.41** The Committee acknowledges landholder concerns about their lack of veto power but notes the Government’s position that landholders should not be able to veto access for exploration, as this would infer an ownership over resources that belong to the Crown. In addition, the exploration stage allows potential environmental impacts to be assessed.
- 9.42** However, while coal seam gas operators indicated that they will not enforce their access rights, the Committee cannot dismiss the evidence that some operators have attempted to pressure landholders for access, nor the possibility that these companies may force access in the future.
- 9.43** As such, the Committee believes that the *Petroleum (Onshore) Act 1991* must to be reviewed with a view to strengthening landholder rights. The legislation must achieve a fair balance between the rights of landholders and coal seam gas operators in relation to land access. The Committee considers that a comprehensive template access agreement, to be discussed in the next section of this Chapter, will be a step forward in redressing the imbalance.
- 9.44** The Committee believes that, in reviewing the Act, the NSW Government should consider harmonisation with the *Mining Act 1992* if possible, particularly in addressing issues such as the definition of ‘cultivated land’.

Recommendation 16

That the NSW Government review the *Petroleum (Onshore) Act 1991* with a view to strengthening landholder rights and achieving a fair balance between the rights of landholders and coal seam gas operators in relation to land access, and considering harmonisation with the *Mining Act 1992* if possible.

⁶⁴² Mr Mark Paterson, Director General, Department of Trade and Investment, Regional Infrastructure and Services, Evidence, 12 December 2011, p 18.

⁶⁴³ Mr Brad Mullard, Executive Director, Mineral Resources and Energy, Department of Trade and Investment, Regional Infrastructure and Services, Evidence, 12 December 2011, p 12.

Access agreements

- 9.45** As noted previously, exploration licence holders must obtain an access agreement from a landholder before any exploration activity can be undertaken. Some Inquiry participants, such as Ms Marylou Potts, a legal practitioner with experience in advising on coal seam gas issues, argued that access agreements are particularly significant because ‘the landholder’s only rights and powers in this Act are with respect to the access arrangements’.⁶⁴⁴
- 9.46** However, many Inquiry participants raised concerns about the content of these agreements and their capacity to enter into such agreement given the limited understanding of their rights and entitlements. Inquiry participants have called for a template access agreement to be released to assist in reaching fairer outcomes for landholders.

Concerns about negotiating an access agreement

- 9.47** The Committee heard from many Inquiry participants who felt their capacity to negotiate fair access agreements with licence holders was compromised by their lack of knowledge and experience in comparison with coal seam gas companies. For example, Mr McNamara of Norco Cooperative suggested some landholders ‘do not believe they have the negotiation skills to say no. They are unsure and it is causing an enormous amount of pressure. They just do not know what to do’.⁶⁴⁵
- 9.48** This view was reflected by Cr Adam Marshall, Mayor of Gunnedah Shire Council, who asserted that landholders believe they are at a ‘disadvantage’:

When negotiating a compensation agreement they feel at a disadvantage. Individual landholders who have in the main little legal experience are trying to deal with a big well resourced company with a team of lawyers in their back pocket. It can be intimidating and stressful. They are not negotiating on an even playing field.⁶⁴⁶

- 9.49** Similarly, Mr McNamara said: ‘That is why we talk about having a level playing field. Three guys arrive or three or four dozen people—it does not matter how many it is—from a large organisation with many resources and trained people. They are put against one farmer’.⁶⁴⁷
- 9.50** Many Inquiry participants also questioned the way in which negotiations for an access agreement are being undertaken. NSW Farmers’ Association deplored the ‘negotiation tactics’ employed by some coal seam gas companies, declaring that their practices are ‘highly questionable at best, and at worst, misleading’. The Association explained:

NSW Farmers has had a number of landholders report explorers arriving at their property unannounced, at times of extreme inconvenience (eg when trying to get children up to the main road to catch the school bus), who downplay the exploration methods and intensity of exploration (eg indicating that there will be ‘a few’ core holes, which later emerges to be several hundred core holes), and downplay the

⁶⁴⁴ Ms Potts, Evidence, 8 December 2011, p 69.

⁶⁴⁵ Mr McNamara, Evidence, 21 September 2011, p 37.

⁶⁴⁶ Cr Adam Marshall, Mayor, Gunnedah Shire Council, Evidence, 16 November 2011, p 6.

⁶⁴⁷ Mr McNamara, Evidence, 21 September 2011, p 37.

significance of the access agreement, and do not communicate that legal advice can be sought (and the costs of 'initial' advice recovered).⁶⁴⁸

- 9.51** Cr John Rosenbaum, Deputy Mayor of Gloucester Shire Council, described his personal experiences of negotiating with the numerous coal seam gas companies that have at one time or another held the exploration licence that covers his property. He advised that when a company initially approached him, they 'came along and explained in brief form what was going to happen. The brief form was to say, "We would like to explore to see if there is gas on your property."'".⁶⁴⁹ Cr Rosenbaum explained that very little information was further provided:

There is no mention of any infrastructure. There is no mention of fracking. There is no mention of how many vehicles are likely to be on your place. You get over that stage. Then they come along and get to the stage of wanting to run seismic tests... Then 30 vehicles and 20 or 30 blokes every day are all over your farm.⁶⁵⁰

Confidentiality clauses

- 9.52** Coal seam gas companies may require that all or parts of an access agreement remain confidential. On the issue of confidentiality clauses, Mr Whitehouse said:

The issue with access agreements is that most companies require them to be confidential. It is not only confidential as to the quantum of money involved... but also to its actual terms. Nobody actually has a clue as to what is the standard for operator X in a particular area and whether that is in fact one that has inbuilt protections.⁶⁵¹

- 9.53** Some Inquiry participants suggested that the confidential nature of these agreements breeds suspicion because landholders cannot discuss the terms of an access agreement, and in particular, compensation, with others who have already signed up.

- 9.54** A number of coal seam gas companies maintained that, while confidentiality clauses are 'commonplace' in access agreements, particularly those which include compensation terms, the clause is as much for the benefit of the landholder as it is for the licence holder. This view was expressed by Mr Mike Moraza, Group General Manager Upstream Gas, AGL Energy:

...it is often the case that landowners want that to be kept confidential because their preference is for the nature of compensation to them on an individual basis not to be in the public domain. It is a two-way confidentiality agreement in the sense that neither the landowner nor AGL discloses its contents.⁶⁵²

⁶⁴⁸ Submission 335, p 25.

⁶⁴⁹ Cr John Rosenbaum, Deputy Mayor, Gloucester Shire Council, Evidence, 31 October 2011, p 8.

⁶⁵⁰ Cr Rosenbaum, Evidence, 31 October 2011, p 8.

⁶⁵¹ Mr Whitehouse, Evidence, 7 October 2011, p 4.

⁶⁵² Mr Mike Moraza, Group General Manager Upstream Gas, AGL Energy Ltd, Evidence, 17 November 2011, p 64.

- 9.55** Furthermore, some companies, like Santos, suggested that they would be willing to dispense with confidentiality if a landholder requested that they do so.⁶⁵³ Dart Energy also indicated that a confidentiality clause ‘is certainly not required from our perspective; it is mainly to protect the landholder’s privacy’, and that it would be ‘no problem’ if a landholder asked for the clause to be removed.⁶⁵⁴

Concerns that an access agreement is not required for production

- 9.56** In addition, several Inquiry participants were concerned by the inconsistency that an access agreement is required for exploration but not for production. Mr Whitehouse stated that having an access agreement for one stage of coal seam development but not the other is ‘bizarre’: ‘Given the fact there is no clear distinction between exploration and production you need to look at the consequences of that. At present you need an access agreement to explore but you do not need one to produce, which is quite bizarre’.⁶⁵⁵
- 9.57** Furthermore, Ms Potts also advised that landholders do not have the legislative right to demand an access agreement for production:

Currently the legislation provides only that the access arrangement must be entered into before the miner begins its prospecting activities, its exploration activities. There is no legislative requirement for the miner to enter into an access arrangement for production activities. The assumption in the case law is that the access arrangement will continue for the entire term that the miner is undertaking activities on that particular land, but that is not the case according to the drafts of the access arrangements, for example the draft of the NSW Minerals Council template. What happens is that the term expires when the exploration expires. The landholder has no legislative right to demand an access arrangement for production.⁶⁵⁶

Response to concerns about access agreements

- 9.58** The coal seam gas industry maintained that it is in their interests to negotiate access agreements that produce mutually beneficial outcomes. According to Mr Rick Wilkinson, Chief Operating Officer of APPEA, the industry seeks to ‘work in coexistence’:

What the industry tries to do with landholders is to create a relationship of trust such that we are able to work in coexistence with the farmers and achieve our outcomes for the energy industry. There are several thousand agreements reached with farmers that indicate that we are doing that.⁶⁵⁷

- 9.59** Many coal seam gas companies demonstrated this intention by informing the Committee of the practices and processes they use to successfully negotiate an access agreement. For example, according to Mr Moraza of AGL Energy:

⁶⁵³ Submission 337, Santos, p 24.

⁶⁵⁴ Mr Needham and Mr de Weijer, Evidence, 8 December 2011, p 67.

⁶⁵⁵ Mr Whitehouse, Evidence, 7 October 2011, p 6.

⁶⁵⁶ Ms Potts, Evidence, 8 December 2011, p 72.

⁶⁵⁷ Mr Rick Wilkinson, Chief Operating Officer, Eastern Australia, Australian Petroleum Production and Exploration Association, Evidence, 12 December 2011, p 33.

It is fair to say that each and every one of the discussions or negotiations we have assessed on the facts and the unique circumstances that surround them. For example, a negotiation with Elizabeth Macarthur Institute at Camden is not the same sort of negotiation we would have with an individual landowner in, say, the Gloucester Basin.⁶⁵⁸

- 9.60** Inviting landholders to seek professional legal advice on the content of an agreement was also presented by many coal seam gas companies as a standard feature of their approach to negotiating access agreements. For example, AGL Energy and Dart Energy both said that they encourage landholders to have agreements independently reviewed, particularly by legal firms who are experienced in dealing with landholder issues.⁶⁵⁹
- 9.61** However, a number of Inquiry participants, such as the NSW Farmers Association, contended that there are still coal seam gas companies who are not advising landholders of their right to seek legal advice.⁶⁶⁰ Furthermore, some Inquiry participants insist that coal seam gas companies should cover the costs of all legal services engaged for the review of an access agreement, rather than only be required to pay for initial legal fees under legislation.⁶⁶¹
- 9.62** Some within the industry have acknowledged the poor behaviour of some explorers in their approach to landholders and the impact this has had on the community's response to coal seam gas developments. As expressed by Mr Baulderstone of Santos: 'There have clearly been some poor practices by some companies. There is a reason why there is community disquiet and unrest and in some cases fear from what has happened'.⁶⁶²
- 9.63** A number of coal seam gas companies, such as Santos, have pledged to be 'a leader in the industry and to do the right things and make sure we set the standard'.⁶⁶³ These companies advised the Committee that they have standards of conduct within their organisations which govern their approach to negotiating with landholders. For example, Santos revealed that their induction processes for staff engaging with landholders includes a focus on the features of positive communication – honesty, respect, courtesy, and advice 'within your limits'.⁶⁶⁴
- 9.64** Similarly, AGL Energy has a Code of Conduct which applies to all activities and employees, and has a 'dedicated land access and approvals team who are trained to interact with landholders and local communities in a fair and respectful manner'.⁶⁶⁵
- 9.65** The NSW Government told the Committee that amendments to the *Petroleum (Onshore) Act* in 2010 were designed to 'tighten up' the way agreements are made with landholders. For example, Mr Brad Mullard, Executive Director, Mineral Resources and Energy, DTIRIS,

⁶⁵⁸ Mr Moraza, Evidence, 17 November 2011, p 63.

⁶⁵⁹ Mr Moraza, Evidence, 17 November 2011, p 63; Mr Needham, Evidence, 8 December 2011, p 67.

⁶⁶⁰ Ms Brianna Casey, Senior Policy Manager, NSW Farmers' Association, Evidence, 17 November 2011, p 15.

⁶⁶¹ Ms Potts, Evidence, 8 December 2011, p 73.

⁶⁶² Mr Baulderstone, Evidence, 17 November 2011, p 5.

⁶⁶³ Mr Baulderstone, Evidence, 17 November 2011, p 5.

⁶⁶⁴ Answers to questions on notice taken during evidence 17 November 2011, Mr James Baulderstone, Vice President Eastern Australia, Santos, Attachment 1, p 14.

⁶⁶⁵ Answers to supplementary questions, received 21 December 2011, Mr Mike Moraza, Group General Manager, Upstream Gas, AGL Energy, p 3.

advised that the definition of 'landholder' was clarified so that others parties who may have an interest in the land, such as banks and easement holders, are not privy to the negotiations or agreements made with licence holders. Mr Mullard also stated that other amendments provide for licence holders to pay the legal fees of a landholder who seeks legal advice on an access agreement.⁶⁶⁶

9.66 Most significantly, however, Mr Mullard pointed to the recent legislative change requiring access agreements between landholders and licence holders to be written.⁶⁶⁷ There was no requirement for these agreements to be written prior to 2010.

9.67 Some Inquiry participants highlighted the importance of information in levelling the playing field. As expressed by Mr Whitehouse:

Ultimately, you are trying to ensure that all parties, and particularly landowners, are well informed... people need to be informed about what can be in these agreements, what has been the experience elsewhere and probably also there needs to be some level of information about the money involved.⁶⁶⁸

9.68 The Queensland Government has recognised this by funding a \$3.6 million training program to assist landholders in their negotiations with resource companies. The initiative is being rolled out through 'FarmShed' workshops run by AgForce, a peak organisation representing Queensland's rural producers, and will outline to landholders their rights and responsibilities under Queensland's new land access laws and provide detailed explanation on how to negotiate a successful Conduct and Compensation Agreement.⁶⁶⁹

9.69 The NSW Farmers' Association suggested that a similar undertaking should take place in New South Wales, recommending that the NSW Government fund the appointment of a dedicated officer within NSW Farmers. The officer would facilitate meetings with local landholders with respect to 'their rights and responsibilities when dealing with exploration, mining and energy companies'. The officer would also encourage better communication between landholders, the Government and the coal seam gas industry. NSW Farmers is seeking funding of \$150,000 per year, which they point out is 'a fraction' of the funding to AgForce Queensland.⁶⁷⁰

Calls for a template access agreement

9.70 The Committee heard on numerous occasions that a template access agreement would help to guide and inform landholders, and provide greater assurance that all land access issues are comprehensively considered.

⁶⁶⁶ Mr Mullard, Evidence, 17 November 2011, p 45.

⁶⁶⁷ Mr Mullard, Evidence, 17 November 2011, p 45.

⁶⁶⁸ Mr Whitehouse, Evidence, 7 October 2011, p 10.

⁶⁶⁹ Parliament of Australia, Senate, Rural Affairs and Transport References Committee, Inquiry into the management of the Murray-Darling Basin, Submission 358, Queensland Government, p 4.

⁶⁷⁰ Submission 335, p 25.

- 9.71** Mr Whitehouse maintained that ‘there is a need to have some standard template for access agreements. You are leaving a very unequal bargaining position between a major corporation and an individual landowner’.⁶⁷¹
- 9.72** Likewise, Cr Marshall of Gunnedah Shire Council suggested that a template access agreement would help to assure landholders that ‘they are not being duded’ and stated that ‘it removes the ability for neighbour to be pitted against neighbour’, highlighting the ‘corrosive impact’ coal seam gas issues are having on the community.⁶⁷²
- 9.73** Furthermore, Ms Potts asserted that a template access agreement is needed to provide a more neutral starting point from which negotiations can take place. She asserted that current practice is that coal seam gas companies provide the draft agreement that is modified and ultimately agreed upon. These drafts, Ms Potts warned, do not protect the rights of landholders:
- The drafts that I have seen which are provided by the miners certainly do not preserve and protect the rights of the landholder under the legislation as it exists. Those rights are written-off in the drafts which I have seen. Unless the landholder is aware of the write-off of those rights, that write-off is irrevocable under the legislation.⁶⁷³
- 9.74** As such, a number of Inquiry participants, such as the NSW Farmers’ Association, recommended that a template access agreement should include a base-level ‘minimum standard’ to which landholders can insert or amend different clauses.⁶⁷⁴ Moreover, Mr Johnsen from the Hunter region explained that it was not only ‘critical’ for there to be a template or standard access agreement but that arriving at this standard must be done through an ‘open process’ involving landholders.⁶⁷⁵
- 9.75** Ms Potts suggested that the template access agreement should be structured as an ‘umbrella agreement’, under which sub-agreements are made, for example, each time a new activity is proposed. Ms Potts suggested this type of agreement was a common form of legal agreement.⁶⁷⁶
- 9.76** Currently, there are a number of different access agreements being presented to landholders by various coal seam gas companies. Ms Simson from the NSW Farmers’ Association informed the Committee that they have seen ‘a huge range of access agreements’ and that ‘these agreements can range from detailed and reasonable documents to a half-pager which allows a mining company to come on to a landholder’s property for an indefinite amount of time in order to carry out indefinite work’.⁶⁷⁷
- 9.77** Indeed, the Committee was provided with samples of access agreements drafted by Santos, AGL Energy and Dart Energy, as well as the typical terms or requirements included in an

⁶⁷¹ Mr Whitehouse, Evidence, 7 October 2011, p 4.

⁶⁷² Cr Marshall, 16 November 2011, p 6.

⁶⁷³ Ms Potts, Evidence, 8 December 2011, p 69.

⁶⁷⁴ Ms Simson, Evidence, 17 November 2011, p 15.

⁶⁷⁵ Mr Johnsen, Evidence, 31 October 2011, p 47.

⁶⁷⁶ Ms Potts, Evidence, 8 December 2011, p 72.

⁶⁷⁷ Ms Simson, Evidence, 17 November 2011, p 67.

agreement by Metgasco. The documents varied in the content and detail with which activities or criteria were identified.⁶⁷⁸

- 9.78** A copy of an access agreement by Leichhardt Resources was also tabled with the Committee by Cr Katrina Humphries, Mayor of Moree Plains Shire Council, who commented on the inadequacy of this very critical agreement.⁶⁷⁹ In relation to this agreement, Bellata farmer Mrs Penny Blatchford stated that ‘there is nothing in this document that I would agree to’. She contended that the agreement was ‘not acceptable in any form... so there is no way I would sign it’.⁶⁸⁰

Response to calls for a template access agreement

- 9.79** The Committee received evidence that coal seam gas companies are cognisant of the difficulties in developing a template access agreement because they consider that the unique circumstances of a property vary greatly. As Santos asserted: ‘We recognise that in terms of land access and compensation, there is no “one size fits all” approach’.⁶⁸¹
- 9.80** A template access agreement is being developed with input from the NSW Farmers’ Association and APPEA. The NSW Government said that in this template ‘access arrangement conditions can be tailored to suit the requirements of each landholder and can include provisions for compensation’.⁶⁸²
- 9.81** In their evidence, NSW Farmers commented on the progress of negotiations on the template access agreement. At the hearing on 17 November 2011, Ms Brianna Casey, Senior Policy Manager of the NSW Farmers’ Association, clarified that discussions were underway to develop a template agreement on access to mineral resources, such as coal, but that discussions had ‘not commenced’ for a template agreement on access to petroleum resources, such as coal seam gas. Ms Casey said that they hoped to commence negotiations imminently:

It has only been recently that the Australian Petroleum Production and Exploration Association has been staffed to a point where we felt that we have been able to engage in these levels of discussion. We are in fact meeting with the Australian Petroleum Production and Exploration Association tomorrow about a range of issues and I would hope that we will commence that discussion about a template access agreement.

- 9.82** Since this evidence was provided to the Committee, the NSW Government released its *Draft Code of Practice for Coal Seam Gas Exploration*, which confirms that ‘a standard Access

⁶⁷⁸ Answers to questions on notice taken during evidence 17 November 2011, Mr James Baulderstone, Vice President Eastern Australia, Santos, Attachment 2; Answers to supplementary questions, received 13 March 2012, Mr David Kelly, Head of Land and Approvals, Upstream Gas, AGL Energy Ltd; Answers to questions on notice taken during evidence 8 December 2011, Mr Jason Needham, Exploration Operations Manager Australia, Dart Energy Ltd, p 1; Submission 287, Metgasco, p 23.

⁶⁷⁹ Cr Katrina Humphries, Mayor Moree Plains Shire Council, Evidence, 16 November 2011, p 4.

⁶⁸⁰ Mrs Penny Blatchford, Local landholder, Evidence, 16 November 2011, p 52.

⁶⁸¹ Answers to questions on notice taken during evidence 17 November 2011, Santos, p 2.

⁶⁸² Submission 642, NSW Government, p 28.

Arrangement template is being drawn up by the NSW Farmers Association and the Australian Petroleum Production and Exploration Association', similar to one available in Queensland.⁶⁸³

- 9.83** The Committee notes that the role being played by the NSW Government in developing the template access agreement is not clear. While the Draft Code does not refer to Government involvement in the process, in the NSW Government's submission to the Inquiry, it indicated that 'DTIRIS is currently working with the NSW Farmers' Association, the NSW Minerals Council and the Australian Petroleum Production and Exploration Association (APPEA) to develop a standard template for access arrangements'.⁶⁸⁴
- 9.84** The Draft Code provides some guidance on what should be contained in an access agreement. For example, the Draft Code explains that the *Petroleum (Onshore) Act* specifies a number of matters 'for possible inclusion' in an agreement, such as when and how the explorer can access the land, where the explorer can go, and what sort of activities may be carried out (for example, where drill sites are located), compensation to the landholder, and dispute resolution.⁶⁸⁵
- 9.85** In addition, the Draft Code states that 'where appropriate, access arrangements must address matters' such as acceptable noise levels and times, use of water on the property, identification of the explorer's employees, contractors and visitors, keeping the landholder informed of work progress and variations and providing details of all chemicals brought to or stored on the land.⁶⁸⁶
- 9.86** The Draft Code also recommends that landholders engage a solicitor to review an access agreement before they sign it, and advises that in supporting this 'the NSW Government will be approaching the NSW Law Society regarding the establishment of a register of lawyers who have been trained to advise landholders on access arrangements'. Furthermore, the Draft Code states that 'the explorer should be willing to reimburse all reasonable legal costs so the landholder isn't out of pocket'.⁶⁸⁷

Committee comment

- 9.87** It is anomalous that an access agreement is required for coal seam gas exploration but not production. The Committee, therefore, believes that the *Petroleum (Onshore) Act 1991* should be amended to address this issue.

Recommendation 17

That the NSW Government amend the *Petroleum (Onshore) Act 1991* to require a licence holder to enter into an access agreement with a landholder for coal seam gas production.

⁶⁸³ NSW Government, *Draft Code of Practice for Coal Seam Gas Exploration*, March 2012, p 9.

⁶⁸⁴ Submission 642, NSW Government, p 28.

⁶⁸⁵ NSW Government, *Draft Code of Practice for Coal Seam Gas Exploration*, March 2012, p 8.

⁶⁸⁶ NSW Government, *Draft Code of Practice for Coal Seam Gas Exploration*, March 2012, p 8.

⁶⁸⁷ NSW Government, *Draft Code of Practice for Coal Seam Gas Exploration*, March 2012, p 9.

- 9.88** In order to redress the unequal bargaining positions of landholders and licence holders when negotiating an access agreement, the Committee supports the development of a template access agreement which would cover both the exploration and production stages of coal seam gas and include a statement about the right of landholders to seek legal advice in relation to the agreement. In addition, landholders must be given the opportunity to seek legal advice about this agreement and to be reimbursed for reasonable costs of seeking this advice.
- 9.89** The Committee is disappointed that the Government appears not to have taken an active role in the development of the template access agreement, given that in their evidence they stressed the importance of this document.

Recommendation 18

That the NSW Government lead the development of a template access agreement in conjunction with the NSW Farmers' Association and the Australian Petroleum Production and Exploration Association, as a matter of priority. The template access agreement should:

- be comprehensive and cover both the exploration and production of coal seam gas, and
 - include a clear statement about the right of landholders to seek legal advice.
-

Recommendation 19

That the NSW Government require coal seam gas operators to reimburse landholders for reasonable legal costs incurred in the review of an access agreement.

- 9.90** The Committee agrees with the NSW Farmers' Association that landholders must be educated about their rights. To achieve this, the Committee believes that the NSW Government should take an active role in advising landholders on their dealings with coal seam gas companies. The Committee therefore recommends that the NSW Government recruit officers to inform landholders of their rights and responsibilities when dealing with coal seam gas operators. These officers should be located in the regional 'shop fronts' proposed in Recommendation 13.

Recommendation 20

That the NSW Government recruit officers to inform landholders of their rights and responsibilities when dealing with coal seam gas companies and locate these officers in regional 'shop fronts'.

Arbitration

9.91 If a landholder and licence holder are not able to come to an agreement about access to a property for exploration purposes, then they may enter into an arbitration process to resolve this dispute. A number of Inquiry participants highlighted specific concerns about the role and cost of arbitration.

Role of arbitration

9.92 During the course of the Inquiry, a number of Inquiry participants expressed differing views on the role of arbitration. For example, some feel that its purpose is not to provide an opportunity for landholders to deny access, but for licence holders to demand it. According to Bellata farmer Ms Tydd, arbitration is perceived as the licence holder's 'full stop'.⁶⁸⁸

9.93 This was also the view expressed by Ms Simson of the NSW Farmers' Association, who described arbitration as farmers 'negotiating with a gun to their heads', where landholders are told to "sign this document or we'll drag you through arbitration and have the arbitrator sign it for you".⁶⁸⁹ Ms Simson explained that farmers are feeling disempowered because 'currently at the end of the day, even if farmers pursue it right through arbitration and to the Land and Environment Court access must be awarded'.⁶⁹⁰

9.94 Other Inquiry participants disagreed, however, suggesting that access is not always a guaranteed outcome of arbitration. For example, legal practitioner Ms Potts said that 'the right is there in the legislation' for arbitrators to refuse access. Ms Potts informed the Committee that her position is supported by a legal judgement made under the *Mining Act 1992*.⁶⁹¹ The decision shows that 'if there was inadequate protection of the land in the access arrangement or in the operations suggested by the miner, the arbitrator could deny access'. Ms Potts indicated that there have been a number of occasions when an arbitrator has refused access in relation to conventional coal mining activity, and suggested that more guidance should be given to arbitrators on the circumstances under this can be done.⁶⁹²

9.95 While this may be the case, Mr Whitehouse pointed out that 'there is no binding requirement for either party to observe the decision of the arbitrator', as either party can then escalate the matter to the Land and Environment Court for a final ruling. Mr Whitehouse observed that the arbitrator is 'in fact, not really an arbitrator' but 'more of a conciliator'.⁶⁹³

9.96 The Committee received little direct evidence from the NSW Government to clarify or explain the role of arbitration. Mr Paterson of DTIRIS maintained that, in negotiating an

⁶⁸⁸ Ms Tydd, Evidence, 16 November 2011, p 52.

⁶⁸⁹ Ms Simson, Evidence, 17 November 2011, p 13.

⁶⁹⁰ Ms Simson, Evidence, 17 November 2011, p 18.

⁶⁹¹ Ms Potts reported that the Mining Act carries the same provisions as the Petroleum (Onshore) Act with regard to the arbitrator's rights and powers.

⁶⁹² Ms Potts, Evidence, 8 December 2011, p 74.

⁶⁹³ Mr Whitehouse, Evidence, 7 October 2011, p 2.

access agreement, ‘the dominant outcome is agreement’, and that arbitration only occurs in a very small number of cases.⁶⁹⁴

- 9.97** On the issue of arbitration, the Department of Primary Industries website states that ‘the first matter to be determined is whether the holder should have access to the land concerned’ and advises that ‘the arbitrator is able to deny access for exploration to all or part of the land if this is justified’. The website also maintains, however, that ‘an arbitrator’s first duty is to bring the parties to a conciliated agreement’.⁶⁹⁵

Cost of arbitration

- 9.98** Several Inquiry participants criticised aspects of the arbitration process and, in particular, the costs to landholders of pursuing arbitration. For example, according to Mr Whitehouse, ‘the dispute resolution process is cumbersome and user unfriendly’. He argued that having the Land and Environment Court as the final authority in determining access has made the dispute process costly and time consuming:

The change from the mining warden to having the jurisdiction in the Land and Environment Court has simply made the process more costly, more bureaucratic and with no special knowledge of mining in the court, as opposed to the previous system. It certainly is a lot friendlier to the companies, but not so friendly to the operators. The process for resolving access agreements by arbitration, compulsory arbitration and appeal to the Land and Environment Court can go on for years.⁶⁹⁶

- 9.99** This view was echoed by the Richmond Wilson Combined Water Users’ Association who noted that it is ‘just not viable’ for landholders to seek arbitration given the costs to landholders.⁶⁹⁷ Mr Chris Magner, a representative of the Association, suggested that a low-cost alternative should be available if disagreements arise over the terms of an access agreement:

The big issue appears to us to be how to arbitrate. Arbitration at the moment is probably the most expensive process. If you end up in the Land and Environment Court that will break most farmers. Most people would be very hesitant about going there. We would be looking at a low-cost method, perhaps something that could be developed in one of the government departments or by going to an outside body, but preferably within a government department, so that issues can be resolved.⁶⁹⁸

- 9.100** Several Inquiry participants made recommendations to reduce the cost of the arbitration process for landholders. For example, Mr Nari Sahukar, Acting Policy Director, Environmental Defender’s Office, suggested that the cost of arbitration should be borne

⁶⁹⁴ Mr Paterson, Evidence, 12 December 2011, p 18.

⁶⁹⁵ Department of Primary Industries, *Minerals and Petroleum*, accessed 26 March 2012, <www.dpi.nsw.gov.au/minerals/titles/landholders-rights/arbitration_process>.

⁶⁹⁶ Mr Whitehouse, Evidence, 7 October 2011, p 10.

⁶⁹⁷ Mr Chris Magner, Richmond Wilson Combined Water Users’ Association, Evidence, 8 December 2011, p 56.

⁶⁹⁸ Mr Magner, Evidence, 8 December 2011, p 55.

entirely by the licence holder because ‘it is not something that the landholder would have to deal with if it was not for the interest of the proponent’.⁶⁹⁹

- 9.101** In addition, it was suggested that landholders should be allowed legal representation in the arbitration process. Ms Potts said that legal representation of landholders should not be subject to the consent of the arbitrator or licence holder.⁷⁰⁰

Committee comment

- 9.102** The Committee believes that if a landholder is required to or requests to engage in arbitration over an access agreement, the reasonable costs of this process should be reimbursed by the relevant coal seam gas company. This measure would ensure that the cost of arbitration is not a disincentive for participating in the process.

Recommendation 21

That the NSW Government require coal seam gas companies to reimburse landholders for the reasonable costs of arbitration to resolve disputes about access agreements.

Compensation

- 9.103** Compensation to landholders was a significant issue during the course of the Inquiry. Some Inquiry participants said that there is little guidance for determining what the most appropriate compensation to landholders is and whether this compensation is adequate to address the disruption to their homes and businesses and the potential impacts on their properties.
- 9.104** According to Mr Whitehouse, under the *Petroleum (Onshore) Act*, ‘the approach towards compensation is unregulated, secretive and puts land owners at a significant disadvantage’.⁷⁰¹ Indeed, the NSW Farmers’ Association argued that the circumstances which give rise to compensation are ‘extremely limited and do not represent the true cost to the landholder of coal seam gas exploration and production’.⁷⁰²

Compensation currently being offered

- 9.105** A number of coal seam gas companies informed the Committee about the monetary and non-monetary arrangements they are currently offering as compensation to landholders.
- 9.106** For example, Santos advised that they offer a \$5,000 payment for non-permanent works such as coreholes plus in-kind works. In-kind works may include maintenance of existing roadways

⁶⁹⁹ Mr Nari Sahukar, Acting Policy Director, Environmental Defender’s Office, Evidence, 8 December 2011, p 16.

⁷⁰⁰ Submission 672, Ms Marylou Potts, p 6.

⁷⁰¹ Mr Whitehouse, Evidence, 7 October 2011, p 6.

⁷⁰² Submission 335, p 22.

and replacement of fencing, use of machinery on-site, or repair of dam walls.⁷⁰³ In addition ‘if it is a pilot well that remains on the property the landholder receives between approximately \$1,500-\$3,000 per well per annum’.⁷⁰⁴ Santos told the Committee that their compensation arrangements consider ‘the value of the land affected, the impact on amenity and reasonable legal cost that the landowner may incur’, and advised that these payments are ‘reviewed periodically’.⁷⁰⁵

- 9.107** AGL Energy currently pays on average a \$3,000 to \$5,000 one off payment for short term exploration wells. The total average annual compensation paid for production wells to June 2011 was \$2,382 per well.⁷⁰⁶ AGL further advised that its ‘current methodology for compensation’ consists of a land valuation to determine an appropriate rate per square metre which is then applied to all land used for coal seam gas activities, including roads and gathering lines; works in kind, such as installing new gates, fencing or cattle grids; and flexible planning of access roads and gathering lines. Further, they indicated that where land values are low, an alternative approach is to base the compensation assessment on the impact on land use and business, rather than land value.⁷⁰⁷
- 9.108** While Metgasco did not report the payments they currently offer to landholders, they stated that compensation is ‘determined on a case-by-case basis but are calculated primarily on the basis that some parts of the land will be temporarily unavailable for use by the landowner’.⁷⁰⁸

Should there be a standard range of compensation payments?

- 9.109** Some Inquiry participants suggested that there should be a standard range of compensation payments to give landholders some assurance that, as Cr Marshall previously expressed, they are not being ‘duded’ or ‘pitted against neighbour’,⁷⁰⁹ and more importantly, so that there is a starting point from which landholders can negotiate the most appropriate compensation for their situation.
- 9.110** Mr Johnsen reflected this view, stating that any agreement should ‘require minimum standards of remuneration and remediation to the landowner throughout the whole process, from exploration to production’.⁷¹⁰ While he accepted that some landholders may be able to negotiate better terms of compensation, Mr Johnsen cited experiences from Roma in Queensland where some landholders were reportedly being ‘ripped off’ compared to others:

An example we had on our visit to Roma, in particular, was that there were landowners who were happy to accept \$500 per annum per well and other landowners who received a minimum of \$5,000 per annum per well. It was cynically or otherwise explained to us that those people who were for some reason happy to accept \$500 per

⁷⁰³ Submission 337, p 24.

⁷⁰⁴ Answers to supplementary questions, received 31 January 2012, Mr James Baulderstone, Vice President, Eastern Australia, Santos, Question 14(a).

⁷⁰⁵ Submission 337, p 24.

⁷⁰⁶ Answers to supplementary questions, received 21 December 2011, Mr Moraza, Question 17, p 16.

⁷⁰⁷ Answers to supplementary questions, received 21 December 2011, Mr Moraza, Question 17, p 16.

⁷⁰⁸ Submission 287, Metgasco, p 22.

⁷⁰⁹ Cr Marshall, Evidence, 16 November 2011, p 6.

⁷¹⁰ Mr Johnsen, Evidence, 31 October 2011, p 47.

annum per well thought that that was a reasonable amount of money based on their own position. We all know that in reality they were being ripped off. That needs to change. There needs to be a minimum level and a minimum standard...⁷¹¹

- 9.111** Beyond a ‘minimum standard’, other Inquiry participants advocated a standard range of compensation for specific coal seam gas activities. This was supported by Narrabri farmers Mr Owen Lane and Mr Peter Gett, both of whom have signed access agreements. For instance, Mr Gett argued that ‘there should be a standardisation of what an exploratory well should bring a landholder and what a permanent production well should bring’.⁷¹² This outcome was also preferable for Mr Lane, who pointed to the deficiencies in an alternative model based on the royalties from the resource being extracted: ‘I don’t know because if you get a royalty for something that is wonderful, it is good; but if you get a royalty for an empty well, that is not so good.’⁷¹³

Response to calls for standard compensation

- 9.112** Some within the coal seam gas industry indicated support for a standardised approach to compensation. For example, Mr de Weijer of Dart Energy stated that, in order to achieve a level playing field, he would ‘probably support’ a standardised approach to compensation. He explained, however, that in all negotiations it is imperative to remain flexible because every landholder is unique:

I think it is important to allow flexibility as well because every landowner is unique and his or her property is unique as well. Sometimes we get a landowner and he says, “Okay, I really want this road to be fixed”, and we make that part of the compensation that we give him, or he wants a fence put up somewhere and he wants the well in a particular area. As long as that flexibility is there I think a standardised approach across the industry in the State—in fact in Australia—would probably be beneficial.⁷¹⁴

- 9.113** Other coal seam gas companies were more cautious in their response to standard compensation. AGL Energy, for instance, stated that it ‘does not support an approach which would see compensation based on a standard payment range contained in guidelines’.⁷¹⁵ AGL cited a number of reasons for taking this position, including their understanding that the *Petroleum (Onshore) Act* ‘gives statutory right to compensation and contains mechanisms for this to be determined in the absence of an agreement’, that the amount of compensation depends on ‘a range of variable factors’, and that the amounts of payments made to landholders are generally confidential.⁷¹⁶

⁷¹¹ Mr Johnsen, Evidence, 31 October 2011, p 47.

⁷¹² Mr Peter Gett, Local landholder, Evidence, 15 November 2011, p 11.

⁷¹³ Mr Owen Lane, Local landholder, Evidence, 15 November 2010, p 11.

⁷¹⁴ Mr de Weijer, Evidence, 8 December 2011, p 68.

⁷¹⁵ Answers to supplementary questions, received 21 December 2011, Mr Moraza, Question 3, p 4.

⁷¹⁶ Answers to supplementary questions, received 21 December 2011, Mr Moraza, Question 3, p 4.

The adequacy of compensation

9.114 Many Inquiry participants discussed the adequacy of the compensation arrangements currently on offer. On the one hand, landholders who have agreed to compensation terms, such as Mr Lane, highlighted the positive impact of having wells on his land and indicated how pleased he was with what he has received in return: ‘...it has brought so many good things into my life – money, work, new bore’.⁷¹⁷ Mr Gett also expressed satisfaction with the compensation he is receiving: ‘I am happy with what I got’.

9.115 On the other hand, however, many Inquiry participants contended that the compensation payments being offered now are grossly inadequate. This was the view of Ms Rosemary Nankivell of the Carooona Coal Action Group who argued that compared to the value of properties on the Liverpool Plains, the compensation payments being discussed are ‘not nearly adequate’:

If you are receiving \$5,000 a well per year and you are sitting on a property that is worth a couple of million dollars and you have the value of that property sliced by a fifth, that sort of compensation is not nearly adequate.⁷¹⁸

9.116 Furthermore, Ms Nankivell said that neighbouring properties would also be affected, but would not be compensated: ‘Communities like the Liverpool Plains survive because we are close-knit communities. If we do something on our property it affects properties all around us’.⁷¹⁹

9.117 Mr Tim Duffy, a farmer and a Gunnedah representative of the NSW Farmers’ Association, also questioned the adequacy of compensation payments for valuable properties such as his own:

Compensation at the moment is in the order of \$5,000 per well per year. To try and return 10 per cent on my \$1.5 million investment that would require me to have 30 wells on my farm. Along with those 30 wells, in order to generate that gas and pump it, it will need a compressing station, water treatment station and a pumping station. The compressing station requires a 3,000 horse power diesel engine running 24 hours a day. We are going to need access roads, 24 hour access for Santos technicians, and a complete loss of lifestyle where our farm will be totally industrialised. I could live with that if I was going to be compensated appropriately, but I would take the same measures that my neighbour across the road has and that is become an absentee farmer, fracturing the community that I have been brought up in because there is no way I can live in that environment. The end result of this is enormous amounts of stress for me, my neighbours and for other members of the farming community.⁷²⁰

⁷¹⁷ Mr Lane, Evidence, 15 November 2011, p 4.

⁷¹⁸ Ms Rosemary Nankivell, Carooona Coal Action Group and Mullaley Gas Pipeline Accord, Evidence, 16 November 2011, p 31.

⁷¹⁹ Ms Nankivell, Evidence, 16 November 2011, p 31.

⁷²⁰ Mr Tim Duffy, Member, NSW Farmers’ Association (Boggabri, Gunnedah, Pottinger District Councils), Evidence, 16 November 2011, p 40.

- 9.118** Some Inquiry participants highlighted other problems with determining an appropriate compensation payment to landholders. For example, Mr James Bishop of Mullaley Gas Pipeline Accord, commented on the inequity between what is being paid to landholders and the value of the gas being extracted:

We have to remember it has been suggested that a gas well will produce somewhere in the vicinity of \$800,000 to \$1 million per well. A farmer is receiving, if he is lucky, \$2,500-\$2,600 per year. The inequity is there to start with.⁷²¹

- 9.119** Despite questions over the adequacy of compensation payments, other Inquiry participants pointed to the potential for coal seam gas wells to provide farmers with a guaranteed source of income in difficult times, such as drought. According to Mr Wilkinson of APPEA:

...as much as 45 per cent of broadacre farmers have off-farm wages coming on. So these are difficult times for agriculture with almost one half of the broadacre farms having wages and salaries coming in and that is something that coal seam gas can definitely help with, as we increase employment opportunities in those areas.⁷²²

- 9.120** However, for some people, no amount of money can compensate for the potential damage caused by coal seam gas development. According to Ms Nankivell, a guaranteed income was ‘short term gain for a lot of pain’:

I do not believe that any sort of guaranteed income from a gas company, when you look at the potential damage to the underground water, the complete destruction of the underground water, would in any way make up for the value. You must remember that many of our properties have been in families for generations. It is a very short term gain for a lot of pain.⁷²³

- 9.121** Mr Bishop also asserted that ‘most farmers are not interested in the money’. According to Mr Bishop, many landholders believe that ‘this angle of compensation has been worked over and over by the gas companies’. He maintained that landholders just ‘want to get on to continue producing food and they are not going to have lifestyle, land or water affected’.

- 9.122** This view was echoed by Ms Ramsay of the Group Against Gas Kyogle, who declared that ‘its not about the dollar’ but rather the ability to continue farming: ‘All I have heard today is “compensation”. I do not want your money; I want my land. I want the right to farm in the way that I have always farmed’.⁷²⁴

Need for transparency

- 9.123** Some Inquiry participants asserted that transparency is key to negotiating appropriate compensation arrangements. For example, Richmond Dairies argued that ‘inequality in the compensation of farmers can be addressed by a transparent system that clearly reflects the value a coal seam gas company places on a farm’.⁷²⁵

⁷²¹ Mr James Bishop, Mullaley Gas Pipeline Accord, Evidence, 16 November 2011, p 31.

⁷²² Mr Wilkinson, Evidence, 12 December 2011, p 35.

⁷²³ Ms Nankivell, Evidence, 16 November 2011, p 31.

⁷²⁴ Ms Ramsay, Evidence, 21 September 2011, p 28.

⁷²⁵ Submission 903, Richmond Dairies, p 2.

- 9.124 Similarly, Mr Neil Dobbin, Group Executive, Rural Banking, Rabobank, also suggested that a lack of transparency and communication is an ‘impediment’ to fair compensation:

One of the present impediments to fair compensation is the lack of transparency and communication between the coal seam gas mining companies and landholders around the true scale and intensity of exploration and extraction activities on the land... The intention of coal seam gas mining companies must be communicated to landholders upfront and transparently. The layout of coal seam gas infrastructure, which are wells, roads, et cetera, need to be agreed upon between the mining company and the landholder.⁷²⁶

- 9.125 Mr Dobbin suggested that this issue could be partly addressed by offering an upfront compensation to landholders for the ‘acquisition of land utilised for coal seam gas mining activities’ and to ‘accommodate loss in asset value and productive capacity and provide for unintended consequences’.⁷²⁷

Response to claims of inadequate compensation

- 9.126 Some coal seam gas companies acknowledged that poor payments have been offered in the past but argued that the industry is at a point now where it can determine how compensation should be approached going forward. According to Mr Baulderstone of Santos: ‘I think we have a choice to go down a number of routes as far as compensation goes. There are stories out there – particularly in the early days of industry – that very low amounts of money were offered to farmers to access their properties’.⁷²⁸
- 9.127 While the NSW Government did not present a particular view to the Committee with regard to compensation, when asked generally about the terms and conditions of an agreement, Mr Paterson, Director General of DTIRIS, confirmed that it was the Government’s position that it is really a matter between the parties, and ‘we are not party to those agreements’.⁷²⁹
- 9.128 In the *Draft Code of Practice for Coal Seam Gas Exploration*, the NSW Government notes that ‘compensation is an important part of the agreement’, and further indicated that landholders ‘must be compensated for reasonable costs associated with their time and legal costs’ and ‘should also be paid to offset the inconvenience, noise and deprivation of part of their land’. They also advised that compensation ‘need not always be monetary in nature’ which ‘may be worth more than the actual monetary compensation’, and suggested that opportunities to provide temporary employment or contract work to landholders may also be provided in addition to compensation.

⁷²⁶ Mr Neil Dobbin, Group Executive, Rural Banking, Rabobank, Evidence, 12 December 2011, p 75.

⁷²⁷ Mr Dobbin, Evidence, 12 December 2011, p 75.

⁷²⁸ Mr Baulderstone, Evidence, 17 November 2011, p 7.

⁷²⁹ Mr Paterson, Evidence, 17 November 2011, p 46.

Committee comment

- 9.129** The Committee considers that landholders should be better informed about the potential monetary compensation for hosting coal seam gas activities on their properties. At the same time, the Committee understands that individual landholders may not want to disclose the value of the compensation they are being paid.
- 9.130** To bring about a greater parity in the bargaining position of landholders on whose properties coal seam gas wells are located, the Committee recommends that the template access agreement for exploration and production take a default position whereby the landholder be compensated in the sum of \$5,000 per well head per annum.

Recommendation 22

That the NSW Government ensure that the template access agreement for exploration and production take a default position whereby the landholder be compensated in the sum of \$5,000 per well head per annum.

Property values

- 9.131** The Committee received extensive and conflicting evidence on the impact of coal seam gas developments on property values. On the one hand, many Inquiry participants suggested that coal seam gas activities have a negative impact on land values, citing anecdotal evidence to support this view. Other Inquiry participants, including those within the industry, maintained that coal seam gas developments do not diminish land values and argued that, in many cases, a guaranteed source of income from gas wells on a property provides an opportunity for land values to increase.

Concerns about impact on property values

- 9.132** Many Inquiry participants argued that land values would diminish significantly if coal seam gas activities were to take place on a property. For example, Mr Dobbin of Rabobank stated that land assets are likely to be ‘severely discounted’ for a number of reasons, including a reduction in area of productive land, operational risks, the effect on property aesthetics, and the risk of future project expansion:

There will be a reduction in productivity and efficiency, particularly with precision farming, with the presence of infrastructure, wells, roads, pipelines, et cetera... The potential residual impact on property includes the risk of contamination of water and soil... There are operational risks of coal seam gas mining activities on the property, water access rights to the property and loss of privacy. There are the aesthetics of the property and a risk of future project expansion... We also see a number of unintended consequences arising from a reduction in rural land values. These include a corresponding reduction of credit available throughout rural communities from lower land values and serviceability.⁷³⁰

⁷³⁰ Mr Dobbin, Evidence, 12 December 2011, p 76.

9.133 A number of Inquiry participants shared the expectation that land values would fall, with some speculating that land values have already reduced even before activities have reached the production phase. For example, Ms Judi Sheedy, a representative of the NSW Farmers' Association in the Gunnedah district, insisted that 'already in our area we have seen a reduction in land values of 30 per cent and this is before any full blown production has occurred'.⁷³¹

9.134 Other Inquiry participants maintained that the effect on property values has meant that land sales have ceased altogether in some affected areas. This view was expressed by Mr Martin of the Southern Highlands Coal Action Group who described the phenomenon as though 'a big cloud has come over the area'. Mr Alan Lindsay, also of the Southern Highlands Coal Action Group, argued that before mining and extraction proposals were put forward for the Southern Highlands, properties were being sold without any problem. Now, he maintained, 'no land transactions are taking place':

The impact at the moment is that no land transactions are taking place. We do not know what the final impact will be. Talk to any real estate agent around the Southern Highlands—we know there is a potential global recession—but before these issues came up, the coal seam gas and coal mining issue, properties were being transacted without any degree of difficulty. The process has ground to a halt.⁷³²

9.135 The Committee notes the anecdotal nature of much of this evidence but also acknowledges the personal experiences of a number of Inquiry participants who reported on the direct impact of coal seam gas activity on their ability to sell or buy land. For example, Mr Duffy, who lives near Gunnedah, explained that his property had failed to sell at auction and that the bids on offer reflected a substantial loss in value. He asserted that concerns surrounding Santos' nearby Kahlua pilot site had discouraged people from buying his land:

The agent who took our prospective buyers around... valued our property between \$1.3 and \$1.5 million for 1,500 acres. Each of the eight prospective buyers all expressed concern about what is happening with the gas. We actually went to auction about a month ago. We had two registered bidders. On advice of the agent he suggested that we put in an initial vendor's bid of \$900,000. The two registered bidders did not pursue that. So the auction failed. I spoke to both of the registered bidders afterwards and they replied that their concern about the gas was such that they were not prepared to take the risk. On the strength of that I now do not have the option of doing as I was choosing to do... The substantial asset I have built up over 25 years is probably one third the value.⁷³³

9.136 Similarly, the Committee heard from Bellata farmer Ms Tydd, who stated the she and her husband had been actively looking to buy a property but chose not to pursue their search because of proposals to develop coal seam gas in their area:

⁷³¹ Ms Judi Sheedy, Executive Councillor and Chair of Gunnedah District Council, NSW Farmers' Association (Boggabri, Gunnedah, Pottinger District Councils), Evidence, 16 November 2011, p 40.

⁷³² Mr Alan Lindsay, Southern Highlands Coal Action Group, Evidence, 9 December 2011, p 24.

⁷³³ Mr Duffy, Evidence, 16 November 2011, p 40.

My husband and I for the last five years have been actively in the property market attending auctions looking to buy a property to expand our own personal landholding. The minute those people arrived on our front gate I said to my husband, "It stops now." We have not attended one more auction... If someone is looking to sell property in our area, I will not be looking to buy it.⁷³⁴

- 9.137** The reluctance to buy properties in farming areas was also observed by Mr Dobbin, who said that 'a lot of our clients are saying, "I am not going to buy any more country because I am not sure what is going to happen"'.⁷³⁵
- 9.138** According to several Inquiry participants, it is this uncertainty which is consuming many landholders, particularly farmers who value their property as superannuation. According to the NSW Farmers' Association, many farmers rely on the knowledge that 'they can fund their retirement either by selling the asset or being supported by the next generation who takes it on'.⁷³⁶ They explained that certainty for the current and next generations about the future of their properties is being threatened by the 'insecurity of CSG exploration'.⁷³⁷

Response to concerns about impacts on property values

- 9.139** While many Inquiry participants argued that property values are already decreasing and will continue to decrease with the advent of coal seam gas activity, several contended that there has been no impact on the ability of property owners to sell land that has development on or surrounding it, and that property values have not been affected.
- 9.140** For example, Mr Gett, who currently hosts wells on his property in Narrabri, informed the Committee that he had subdivided his property and had 'no problem' with selling a section of his land which was less than one kilometre away from a gas well.⁷³⁸
- 9.141** Similarly, Mr Moraza of AGL Energy, advised that in AGL's ten year experience of gas production in Camden, they have not observed any degradation in land values as a result of hosting or being located near gas wells. Mr Moraza acknowledged the concern that has been expressed by the communities in which they operate but stated that they 'have not simply seen any evidence' to suggest a negative impact on property values. Instead, Mr Moraza told the Committee of a property in Camden that has three coal seam gas wells on it that has been bought and sold twice. According to Mr Moraza, the sale 'has met or exceeded the vendor's expectations on both of those transactions'.⁷³⁹

⁷³⁴ Ms Tydd, Evidence, 16 November 2011, p 51

⁷³⁵ Mr Dobbin, Evidence, 12 December 2011, p 76.

⁷³⁶ Submission 335, p 26.

⁷³⁷ Submission 335, p 26.

⁷³⁸ Mr Gett, Evidence, 15 November 2011, p 9.

⁷³⁹ Mr Moraza, Evidence, 17 November 2011, p 68.

- 9.142** In relation to the situation in Queensland, the Queensland Government maintained that there is ‘insufficient’ data based on the ‘infancy’ of the industry and ‘subdued state of the rural property market’ to provide definitive evidence about the impact if coal seam gas operations on land values.⁷⁴⁰
- 9.143** As discussed earlier in the Chapter, the potential for landholders to be provided with a guaranteed income from hosting coal seam gas wells was also raised during the Inquiry. While some rejected the notion that a guaranteed income would compensate for a loss in land value, others maintained that it would increase the value of land.
- 9.144** Mr Lane, who hosts gas wells on his property, believed that when coal seam gas developments are accepted by the community, the value of his land will increase because it has an income-generating component to it:

In 5 or 10 or 15 years’ time when this all becomes accepted just as oil wells and coalmines and things are, I think it will increase the value of my property. When people see that they do not blow up and do silly things, they will see a property that actually makes money and you do not have to go to work to get it. So it will increase the value of the land. That is my belief.⁷⁴¹

- 9.145** Likewise, Mr Gett stated that the guaranteed income ‘will add value to the place, not devalue it’. He acknowledged that current public perception was that coal seam gas developments were detrimental to property values but nonetheless declared that ‘I would welcome it if they want to negotiate more wells’.⁷⁴²
- 9.146** Mr Dobbin also acknowledged the potential for coal seam gas activity to increase the value of land, but argued that he had not seen any evidence of this occurring to date:

I am sure that if there was no detriment to the security and there was certainty it could, as you rightly said, add value to the land, which would be fantastic for the farmer. But I do not see a lot of evidence of that at this stage. But most definitely it could happen.⁷⁴³

Should landholders be compensated for declines in property values?

- 9.147** According to APPEA, if it were proven that coal seam gas developments negatively impacted on a property’s value, ‘such an impact would be compensable under NSW law’.⁷⁴⁴ The Committee received no further evidence to clarify or explain this statement, however, a number of Inquiry participants argued clear measures are needed to ensure that property values are maintained or landholders are compensated appropriately for any drop in property values.

⁷⁴⁰ Rural Affairs and Transport References Committee, Inquiry into the management of the Murray-Darling Basin, Submission 358, Queensland Government, p 4.

⁷⁴¹ Mr Lane, Evidence, 15 November 2011, p 6.

⁷⁴² Mr Gett, Evidence, 15 November 2011, p 7.

⁷⁴³ Mr Dobbin, Evidence, 12 December 2011, p 79.

⁷⁴⁴ Submission 447, p 14.

- 9.148** For example, the NSW Farmers' Association suggested that, given the concerns about the potential loss of land value, an independent valuation should be conducted prior to any coal seam gas operations being conducted on any land. They asserted that this would 'provide a baseline to help landholders seek compensation where devaluation occurs'.⁷⁴⁵
- 9.149** This recommendation was supported by Ms Potts who also asserted that a valuation should take place before an access agreement is entered into so that if the landholder sold the property, the diminution of value would be compensated by the coal seam gas company.⁷⁴⁶

Committee comment

- 9.150** The Committee received conflicting evidence on whether coal seam gas activities will reduce property values. While this is an issue of significant concern to landholders, the industry is in its early stages in New South Wales and the Committee is not in a position to draw any conclusions on this matter.

⁷⁴⁵ Submission 335, p 26.

⁷⁴⁶ Ms Potts, Evidence, 8 December 2011, p 71.

Chapter 10 Agriculture

This Chapter examines the impact of coal seam gas development on agriculture and food production, and in particular, on lands of significant strategic agricultural value in regions across the State.

Can coal seam gas and agriculture coexist?

10.1 A key concern for many Inquiry participants is whether coal seam gas development can effectively co-exist with agriculture. Many warned that to proceed without certainty that our agricultural interests are protected would be reckless. According to Ms Fiona Simson, President of the NSW Farmers' Association: 'Without that proof, proceeding to jeopardise our water and some of our best agricultural and food producing lands is irresponsible at best and complicit at worst'.⁷⁴⁷

Support for proceeding with caution

10.2 Inquiry participants cautioned against sacrificing long-term agricultural activity and food security for the short-term returns of coal seam gas extraction. Mr Greg McNamara, Chairman of Norco Co-operative, for example, asked: 'Do we take the short-term gain of actually taking 50 years of gas or do we crucify our prime agricultural land and lose it forever?'.⁷⁴⁸

10.3 The North East Forest Alliance asserted that 'governments consistently favour short-term thinking. Mining royalties that will last a decade or two are favoured over long-term agricultural productivity and food security'.⁷⁴⁹

10.4 Cr Adam Marshall, in his role as Vice President of the Shires Association of NSW, argued that it is imperative to first establish whether there is 'room for everyone and, if there is, determine where they should be located so that they do not affect existing industries'.⁷⁵⁰ Cr Marshall stated that 'we do not want to see an industry come into a region and flourish at the expense of existing productive industries.'

10.5 Ms Judi Sheedy, a Gunnedah representative of the NSW Farmers' Association, called on the Government to take a cautious approach: 'We need to stop the gas rush and we need to protect our food and fibre bowls now'.⁷⁵¹

⁷⁴⁷ Ms Fiona Simson, President, NSW Farmers' Association, Evidence, 17 November 2011, p 14.

⁷⁴⁸ Mr Greg McNamara, Chairman, Norco Co-operative, Evidence, 21 September 2011, p 39.

⁷⁴⁹ Submission 340, North East Forest Alliance, p 5.

⁷⁵⁰ Cr Adam Marshall, Vice President, Shires Association of NSW, Evidence, 8 December 2011, p 8.

⁷⁵¹ Ms Judi Sheedy, Executive Councillor and Chair of Gunnedah District Council, NSW Farmers' Association (Boggabri, Gunnedah, Pottinger District Councils), Evidence, 16 November 2011, p 40.

Concerns about the impact on agriculture

- 10.6** In calling for a more cautious approach to the coal seam gas industry, many Inquiry participants referred to their concerns about the potential impact of coal seam gas development on agricultural land and thus food production.
- 10.7** The NSW Farmers' Association said that 'it goes without saying that land is a fundamental input for agricultural production'.⁷⁵² The Association is particularly concerned about the loss of arable land for food production. According to Ms Simson of the NSW Farmers' Association, there is less than six per cent arable land left in Australia for agricultural activity and food production.⁷⁵³ Therefore, NSW Farmers' argued that 'food security has the potential to be an issue in Australia of the same magnitude as water and fuel security'.⁷⁵⁴
- 10.8** Other Inquiry participants are highlighted the loss of arable land to other uses. For example, the Australian Property Institute, NSW Division asserted that:
- The relentless consumption of precious arable land for expansion of coastal and regional cities is poorly recognised as having adverse implications. The competition for such land currently favours new more economically valuable land uses such as CSG mining, rather than the maintenance of this scarce arable resource.⁷⁵⁵
- 10.9** Mr Doug Cush concluded that 'it is food that is the most important thing. At the end of the day if you eroding away the small base that we have left here we will have nothing and will not be able to feed ourselves'.⁷⁵⁶
- 10.10** Aside from an adverse impact on the quantity of food produced in Australia, a number of Inquiry participants suggested that coals seam gas developments could result in potential contamination of food supplies. For example, the NSW Farmers' Association argued that 'developing industrial sites alongside grazing enterprises exposes livestock to a host of foreign chemicals which can potentially lead to food safety issues'.⁷⁵⁷
- 10.11** In addition to effects on the quantity and quality of food production, Inquiry participants raised concerns about the impact of coal seam gas development on the viability of particular agricultural industries.
- 10.12** For example, in relation to cropping land, the NSW Farmers' Association explained that modern farming practices involve a range of 'precision cropping techniques'. The Association asserted that these practices are incompatible with the infrastructure associated with coal seam gas developments, and concluded that 'the industry cannot co-exist with cropping'.⁷⁵⁸

⁷⁵² Submission 335, NSW Farmers' Association, p 28.

⁷⁵³ Ms Simson, Evidence, 17 November 2011, p 20.

⁷⁵⁴ Submission 335, p 27.

⁷⁵⁵ Submission 884, Australian Property Institute, NSW Division, p 2.

⁷⁵⁶ Mr Doug Cush, Local landholder, Evidence, 16 November 2011, p 53.

⁷⁵⁷ Submission 335, p 28.

⁷⁵⁸ Submission 335, p 28.

- 10.13** Durum wheat producers Mr Robert and Mrs Penny Blatchford informed the Committee that ‘as a broadacre dryland farmer – continuing to farm on a day to day basis alongside mining would be impossible’.⁷⁵⁹ Similarly, Ms Natalie Tydd described the size of cropping machinery and the impediments to its use with coal seam gas infrastructure on her property, such as access roads, gas wells and pipelines.⁷⁶⁰
- 10.14** Mr Jeff Collingwood, Milk Supply Manager, Norco Co-operative, advised that coal seam gas wells would have a profound impact on his dairy farm:
- To overlay another business enterprise such as coal seam gas on top of an existing highly productive dairy enterprise is quite problematic... Taking key parts of a dairy farm property for coal seam gas may well make that dairy farm unviable.⁷⁶¹
- 10.15** Organic farms may also be affected, according to Ms Georgina Ramsay, an organic farmer from Kyogle:
- To be an organic farmer... with a gas well on my land that is going to flare off aerial-borne chemicals and having constant drilling—just the procedure of having a coal seam gas well does not adhere to having clean, green food.⁷⁶²
- 10.16** Other Inquiry participants, such as Mr Neil Dobbin, Group Executive, Rural Banking Rabobank, suggested that grazing land may not be as severely impacted by coal seam gas developments as ‘the very expensive prime agricultural...and irrigation lands’. Mr Dobbin noted that some grazing properties in Queensland have benefited from coal seam gas development, stating that ‘we are not saying to you that it is all bad’.⁷⁶³
- 10.17** The NSW Farmers’ Association acknowledged that the potential for coexistence with grazing is better than that of cropping because graziers are better able to utilise pockets of land. However, the Association argued that ‘this presents its own unique challenges’ in terms of possible food contamination.⁷⁶⁴
- 10.18** Given the potential encroachment on arable land and impacts on the viability of particular agricultural sectors, Inquiry participants raised concerns about the adequacy of food production. A particular issue for Inquiry participants was our ability to supply food to global markets, such as the burgeoning Asian middle class.
- 10.19** Mr Cush explained that there is a growing appetite for Australian produce in Asia, and pointed out that, beyond this market, we should consider the need to supply food to the populations of developing nations. He asserted that ‘if the people of the world are starving they are going to come here’.⁷⁶⁵

⁷⁵⁹ Submission 397, Mr Robert and Mrs Penny Blatchford, p 3; see also Submission 73, Mrs Natalie Tydd, p 2 and Submission 42, Mr Doug Cush, p 3.

⁷⁶⁰ Submission 73, p 2.

⁷⁶¹ Mr Jeff Collingwood, Milk Supply Manager, Norco Co-operative, Evidence, 21 September 2011, p 36.

⁷⁶² Ms Georgina Ramsay, Group Against Gas Kyogle, Evidence, 21 September 2011, p 28.

⁷⁶³ Mr Neil Dobbin, Group Executive, Rural Banking Rabobank, Evidence, 12 December 2011, p 75

⁷⁶⁴ Submission 335, p 28.

⁷⁶⁵ Mr Cush, Evidence, 16 November 2011, p 53.

- 10.20** Mr McNamara of Norco attributed the international interest in Australian food to the ‘clean, green’ image of Australian products:

One of the opportunities we have found is to sell the clean green image. I know we all talk about clean green as the stable environment we live in but that is exactly what the Asian community looks for. They have caused damage to the integrity of their own brands and they are looking for others. Now they are looking for Australian products.⁷⁶⁶

The call for ‘no go’ zones

- 10.21** In response to concerns about impacts on agriculture and the need to pursue coal seam gas extraction with caution, a number of Inquiry participants suggested that coal seam gas development, as it stands, cannot coexist with agriculture and food production in many areas across the State.
- 10.22** As such, Inquiry participants repeatedly called for ‘no go’ zones to be established in New South Wales to protect defined areas, particularly highly productive agricultural land. Many Inquiry participants discussed how these zones should be determined, including whether it is appropriate to draw ‘lines on maps’. A number of Inquiry participants also commented on whether the establishment of ‘no go’ zones would impede the rights of landholders.

Support for ‘no go’ zones

- 10.23** Numerous Inquiry participants insisted that highly productive agricultural land should be exempt from any coal seam gas development. According to Ms Simson, it is critical to identify and protect ‘strategic’ agricultural lands because of the ‘triple bottom line analysis’ which considers not just the biophysical attributes of an area but its social and economic value.⁷⁶⁷ She asserted:

If we look at some of the areas with very deep soils and very complex aquifer systems where impacts are not easily assessable and not easily measurable, there has to be a question asked: Is this valuable agricultural land that we should preserve into the future? You cannot make land like that anymore. I think most farmers would be sympathetic to that argument and would not seek to destroy some of this land.⁷⁶⁸

- 10.24** This view was echoed by Mr Graeme Healy of the Barrington-Gloucester-Stroud Preservation Alliance who argued that ‘defined areas’ should be ‘quarantined from extractive mining because alternative land use is considered to be more sustainable, more productive and more socially and environmentally desirable’.⁷⁶⁹

⁷⁶⁶ Mr McNamara, Evidence, 21 September 2011, p 36.

⁷⁶⁷ Ms Simson, Evidence, 17 November 2011, p 20.

⁷⁶⁸ Ms Simson, Evidence, 17 November 2011, p 16.

⁷⁶⁹ Mr Graeme Healy, Chairperson, Barrington-Gloucester-Stroud Preservation Alliance, Evidence, 31 October 2011, p 18.

10.25 The Committee also received evidence from local government indicating their support for identifying and protecting certain agricultural areas from coal seam gas development. For example, the Upper Hunter Shire Council stated: ‘Council supports the premise of identifying strategic agricultural land where mining and CSG development would be prohibited’.⁷⁷⁰ Likewise, the Local Government and Shires Associations stated that ‘Local Government backs other stakeholders in calling for recognition of the importance of food security and the protection of productive agricultural land and water resources’.⁷⁷¹

10.26 Cr Robyn Faber, Mayor of Narrabri Shire Council highlighted the need to take a considered approach to determining suitable areas for development:

The Crown owns the gas under the ground. They do not have to make it a free for all and say, “Here is a grid of the State. You can go over there and there and, by the way, do whatever you like.” That is why everyone is so upset...What we need is a proper strategy on the part of the Government to say, “We have considered everything. This is the area where we will allow development. There is potential there for the next 100 years. By the way, our next plan will be to move into this area and that area.” We will all have certainty, there is no free for all and there is no trying to get a quick quid out of this.⁷⁷²

10.27 Ms Simson also sought leadership from the Government in extending its protection of the State’s environmental assets to its ‘food-producing lands’:

Just as the State seeks to protect some of its native vegetation, just as the State seeks to protect its marine parks, just as the State seeks to protect some of its very great resources, we believe that the State should also...protect some of its great food-producing lands.⁷⁷³

10.28 In addition to this issue of establishing ‘no go’ zones on strategic agricultural land, numerous Inquiry participants, particularly at the Committee’s hearings and site visits in regional areas, called for ‘no go’ zones to be established in other areas across the State. At the Committee’s Mittagong hearing, witnesses stressed the importance of the area as a water catchment for Sydney. At Narrabri, witnesses spoke of the uniquely fertile soils and rich agricultural land of the Liverpool Plains. At Lismore, witnesses described the area as a ‘green cauldron’ and remarked on its natural beauty and tourism potential. At Taree, residents described how the Mid North Coast depends on its waterways for tourism and economic benefits. Evidence from Hunter Valley residents pointed to area’s famous vineyards and horse studs.

How should ‘no go’ zones be determined?

10.29 A number of Inquiry participants discussed how best to determine ‘no go’ zones which should be exempt from coal seam gas development. They also raised the issue of whether it is desirable or achievable to draw ‘lines on maps’ to identify ‘no go’ zones. While Mr Dobbin of Rabobank said that ‘mapping is a very good idea’, he acknowledged the difficulty in making

⁷⁷⁰ Supplementary submission 326a, Upper Hunter Shire Council, p 4.

⁷⁷¹ Submission 587, Local Government and Shires Associations, p 5.

⁷⁷² Cr Robyn Faber, Mayor, Narrabri Shire Council, Evidence, 16 November 2011, p 10.

⁷⁷³ Ms Simson, Evidence, 17 November 2011, p 16.

the ‘big decisions’ about where lines are drawn.⁷⁷⁴ However, he argued that ‘it can be achieved’ and under some circumstances is ‘probably self-evident’.⁷⁷⁵ While Mr Dobbin recognised that it would be unfortunate for those who are ‘outside the zone’, he expressed the view that ‘no matter what you do someone will always be hurt in the process. That is a part of life’. Mr Dobbin concluded that ‘it is better to preserve some of the pristine agricultural lands and at least have them saved.’⁷⁷⁶

10.30 However, some argued that it is not as simple as ‘drawing lines on maps’. For example, Mr Peter Epov of the Manning Alliance asserted that ‘regions are critical’ and that ‘regions should not be considered through lines on a map’. Instead, Mr Epov suggested that geography and geology must be taken into account together with a host of other factors before determining the areas that are acceptable and unacceptable for coal seam gas activity.⁷⁷⁷

10.31 Cr Col Murray, Chairperson, Namoi Councils and Mayor, Tamworth Regional Council, argued that, rather than drawing lines, it is necessary to establish the associated risks of a particular area and whether they are unacceptable in order to determine if a coal seam gas development should go ahead:

I believe this risk-based approach is the answer. I do not think the Government can come out and draw lines on maps and follow contours and watercourses and underground aquifers or anything. We need to establish the valuable and unacceptable risk areas to go into. That may be quantified by the type and productivity and the sorts of land we see in some of the high-value grain-producing areas et cetera. Then we need to understand the associated risks. There may be a lot of risks that we can take and which will be acceptable to the community, but it is not about drawing lines on maps. If the Government goes down that path, we will be sitting around these sorts of tables for the next hundred years still arguing with each other.⁷⁷⁸

Impact on property rights

10.32 Inquiry participants were questioned on the issue of whether ‘no-go’ zones would impede the property rights of landholders, including their ability to earn an income from coal seam gas activities on their land.

10.33 A number of Inquiry participants expressed the view that landholders already face a number of restrictions on the activities they can conduct on their land. For example, beef cattle farmer, Mr Bruce Robertson, argued that ‘I am not allowed to whack a factory on my block in Manly. I cannot erect a block of flats on it; I can only have a single dwelling such as the one that exists now. Even that is constrained with how much I am allowed to build on it’. Mr Robertson maintained that ‘restricting people’s ability to make income off their land is not something that does not already occur’.⁷⁷⁹

⁷⁷⁴ Mr Dobbin, Evidence, 12 December 2011, p 77.

⁷⁷⁵ Mr Dobbin, Evidence, 12 December 2011, p 79.

⁷⁷⁶ Mr Dobbin, Evidence, 12 December 2011, p 77.

⁷⁷⁷ Mr Peter Epov, Chair, Manning Alliance, Evidence, 31 October 2011, p 32.

⁷⁷⁸ Cr Col Murray, Chairperson, Namoi Councils and Mayor, Tamworth Regional Council, Evidence, 16 November 2011, p 10.

⁷⁷⁹ Mr Bruce Robertson, Local landholders, Evidence, 31 October 2011, p 38.

- 10.34** Similarly, Mr Dobbin used the example of restrictions on subdividing agricultural land for small hobbies farms. He maintained that it is critical to balance the ‘bigger picture’ of protecting strategic agricultural land with the rights of individual landholders:

If you have got prime agricultural land, to me it is very important to preserve that. I will give you an example. Often a lot of councils will say you cannot subdivide agricultural land into small hobbies farms so that they can preserve it. Sometimes there are conditions that take away people’s rights as you quite rightly say, but I think the big picture here is about protecting some of the most pristine areas in Australia. A lot of the Liverpool Plains and even up to the Cecil Plains in Queensland are really prime lands that we should protect for our future.⁷⁸⁰

- 10.35** This view was reflected from a broader planning perspective by Cr Marshall, in his role as Mayor of Gunnedah Shire Council, who asserted that the State Government has set limits on landholder activity at every level of the planning system: ‘We do that now with our SEPPs, State environmental planning policies and LEPs, local environmental plans. We do that at all levels of the planning system’.⁷⁸¹

Committee comment

- 10.36** Many Inquiry participants called for the protection of highly productive agricultural land. Some advocated for ‘no go’ zones to be established which would prohibit any coal seam gas activity. The NSW Government recently announced the Strategic Regional Land Use Policy to protect strategic agricultural land. This policy will be examined later in the Chapter.

Balanced development

- 10.37** While some Inquiry participants called for ‘no go’ zones to be established, others believed that the coal seam gas and agricultural industries can be pursued alongside each other in New South Wales. According to Mr Peter Gett, a Narrabri farmer whose property is currently home to three wells: ‘We have got to have it both ways: We need the energy and we need agriculture. There has to be a happy medium’. He recognised that striking this ‘happy medium’ may be difficult but necessary nonetheless: ‘It is a hard one but you are going to have to find it so we can have sheep, cattle, wheat and gas’.⁷⁸²
- 10.38** Likewise, Mr Owen Lane, also a farmer from Narrabri who hosts coal seam gas development on his land, acknowledged the public fear about the impact of coal seam gas activities but maintained that, in his experience, the impact on the land is minimal:

I think a lot of people are scared. They see the big clearing on the pictures and they think, “This is going to destroy my place” but at the end of the day, once it turns back into a production well and the pipelines are in, it is a little square not much bigger than this room. That is all it is; just a gas well in the middle with a little cage fence around it.⁷⁸³

⁷⁸⁰ Mr Dobbin, Evidence, p 81.

⁷⁸¹ Cr Marshall, Evidence, 16 November 2011, p 10.

⁷⁸² Mr Peter Gett, Local landholder, Evidence, 15 November 2011, p 14.

⁷⁸³ Mr Owen Lane, Evidence, 15 November 2011, p 8.

- 10.39** Even the NSW Farmers' Association recognised that the two industries could coexist in certain areas provided there is 'balanced development'. According to Ms Simson, 'there are some areas in this State where this [coal seam gas] industry can exist'.⁷⁸⁴ However, she also maintained that there are many other areas where 'the land is so valuable that it is unique' that the industry cannot and should not proceed.⁷⁸⁵
- 10.40** This view was expressed by many Inquiry participants, particularly from farming communities, who argued that while some locations may be appropriate for coal seam gas development, others are clearly not. For example, Cr Murray argued:
- There are a lot of areas in this State where I certainly would not have too much difficulty in supporting coal seam gas extraction. Once we identified the risks, they can be very easily managed in a lot of cases. But, as supported by our submission, the two no-go zones are the prime agricultural land risk and the surface and underground aquifer risk.⁷⁸⁶
- 10.41** The industry peak body, the Australian Petroleum Production and Exploration Association (APPEA) advised that 'there are already in existence CSG developments on properties that demonstrate CSG operations and normal farming and livestock operations can coexist'.⁷⁸⁷
- 10.42** This view was reflected by AGL Energy which is currently New South Wales' largest producer of gas for commercial consumption. Mr Mike Moraza, Group General Manager, Upstream Gas of AGL Energy, stated that coexistence with residential and farming 'has occurred quite successfully in the last 10 years'.⁷⁸⁸
- 10.43** According to Santos, their existing operations also demonstrate how successfully coal seam gas activity can work in conjunction with agriculture, and that this reflects how 'productive coexistence is an essential objective for us'.⁷⁸⁹ Santos advised that the surface footprint of coal seam gas extraction is 'small and temporary in nature', and that, while the well construction phase requires one hectare of land for approximately a year, the gas well itself eventually requires only a 25 metre by 25 metre block for the well's productive life.⁷⁹⁰ Santos drew attention to the example of the Kahlua pilot site north-west of Gunnedah where drilling rigs were stationed alongside cattle grazing during construction.⁷⁹¹
- 10.44** APPEA maintained that coal seam gas development 'does not destroy land productivity as more invasive resource industries may and there is flexibility in the placement of CSG production facilities which do not permanently alienate the land'.⁷⁹²

⁷⁸⁴ Ms Simson, Evidence, 17 November 2011, p 18.

⁷⁸⁵ Ms Simson, Evidence, 17 November 2011, p 16.

⁷⁸⁶ Cr Murray, Evidence, 16 November 2011, p 8.

⁷⁸⁷ Submission 447, Australian Petroleum Production and Exploration Association, p 14.

⁷⁸⁸ Mr Mike Moraza, Group General Manager, Upstream Gas, AGL Energy, Evidence, 17 November 2011, p 62.

⁷⁸⁹ Mr James Baulderstone, Vice President Eastern Australia, Santos, Evidence, 17 November 2011, p 3.

⁷⁹⁰ Submission 337, Santos, p 24.

⁷⁹¹ Submission 337, p 23.

⁷⁹² Submission 447, p 14.

Measures to address concerns about coexistence

- 10.45** According to the NSW Government, ‘balanced co-existence of mining (including CSG) and agriculture is not only possible, it is essential’.⁷⁹³ In its submission to this Inquiry, the NSW Government declared a commitment to striking ‘the right balance between resource development, continued agricultural production and environmental protection’.⁷⁹⁴

The Strategic Regional Land Use Policy and the ‘Gateway’ process

- 10.46** The NSW Government released its Strategic Regional Land Use Policy in March 2012. According to the Government, the Policy ‘identifies and protects high value agricultural land’ and also provides ‘a tough new regime to regulate coal seam gas exploration’.⁷⁹⁵ Other initiatives, such as the *Guideline for agricultural impact statements*, *Draft Aquifer Interference Policy – Stage 1* and *Draft Code of Practice for Coal Seam Gas Exploration*, were also introduced in response to the growing community concern about the impact of coal mining and coal seam gas activity on agricultural land and water resources.
- 10.47** The Strategic Regional Land Use Policy does not establish ‘no go’ zones, but rather identifies land of strategic agricultural value that is intended to be protected by a new ‘Gateway’ assessment process. The Gateway process will assess applications for mining or coal seam gas activities on or within two kilometers of strategic agricultural land. Gateway assessments are to be undertaken by an independent panel of experts whose decision will be final and binding on the NSW Government. The assessment panel will consider potential deleterious impacts of coal seam gas proposals such as subsidence, reduced soil fertility and possible contamination or depletion of water resources.
- 10.48** According to the Policy, there are two categories of strategic agricultural land – biophysical strategic agricultural land and critical industry clusters. Biophysical strategic agricultural land is characterised by high soil fertility and a high level of access to water, and covers an area of more than 20 hectares in size. Critical industry clusters are concentrations of highly productive industries, contribute to the identity of a region and provide significant employment opportunities.
- 10.49** The Gateway process will only apply to areas where a strategic regional land use plan is in force. Strategic regional land use plans, which specifically address the unique features of a region and contain maps of identified strategic agricultural land within that region, have only been released for two regions: the Upper Hunter and New England North West. Additional plans are being prepared for the Central West, Southern Highlands, Murrumbidgee, Alpine and West regions. The Government advised that the next two areas to be mapped will be the Southern Highlands and Central West, and these plans will be finalised in 2012. The plans for the remaining regions of the State will be finalised by 2015.
- 10.50** For areas where a strategic regional land use plan is not in force, proponents of coal seam gas developments are required to submit an Agricultural Impact Statement where they are proposing to undertake coal seam gas activities that are considered to be state significant (ie all

⁷⁹³ Submission 642, NSW Government, p 2.

⁷⁹⁴ Submission 642, p 2.

⁷⁹⁵ NSW Government, *Strategic Regional Land Use Policy: Frequently Asked Questions*, March 2012, p 1.

production, and exploration involving more than five wells). In conjunction with the release of the Strategic Regional Land Use Policy in March 2012, the NSW Government released draft guidelines on the information required to be submitted in an Agricultural Impact Statement.

- 10.51** In addition to the Strategic Regional Land Use Policy, the NSW Government announced other initiatives to protect strategic agricultural land, for example, the *Draft Aquifer Interference Policy* (discussed in Chapter 4) and the *Draft Code of Practice for Coal Seam Gas Exploration* (discussed in Chapters 8 and 9).
- 10.52** The Committee notes that in Queensland, legislation to protect strategic cropping land came into force in January 2012. The aim of the legislation is to ‘protect such land from those developments that lead to its permanent alienation or diminished productivity’.⁷⁹⁶ The strategic cropping land ‘trigger map’ is a starting point for identifying strategic cropping land based on soil, land and climate information.⁷⁹⁷ Once land is identified as potential strategic cropping land, it is then subject to an on-the-ground assessment against certain defined criteria to determine whether it meets the definition. The strategic cropping land legislation provides that coal seam gas developments with a footprint greater than 3,000 square metres, and which will cause permanent damage to strategic cropping land, must not proceed except in exceptional circumstances.⁷⁹⁸

Committee comment

- 10.53** The Committee is hopeful that the Strategic Regional Land Use Policy will strike an appropriate balance between protecting the most valuable agricultural land and the development of the coal seam gas industry. However, it remains to be seen whether the Policy will prevent coal seam gas development encroaching on land deemed to be of significant strategic value, as called for by Inquiry participants.
- 10.54** The Committee notes that, in areas where a strategic regional land use plan is not in force, an Agricultural Impact Statement is only required for exploration activities involving more than five wells. The Committee recommends that an Agricultural Impact Statement be prepared for all exploration licence applications.

Recommendation 23

That the NSW Government require an Agricultural Impact Statement to be prepared for all exploration licence applications.

⁷⁹⁶ Queensland Government, Department of Local Government and Planning, accessed 28 March 2012 <www.dlgp.qld.gov.au/statewide-planning/strategic-cropping-land.html>

⁷⁹⁷ Queensland Government, Environment and Resource Management, accessed 28 March 2012 <www.derm.qld.gov.au/land/planning/strategic-cropping/mapping.html>

⁷⁹⁸ Queensland Government, Environment and Resource Management, *State Planning Policy 1/12: Protection of Queensland’s strategic cropping land: Explanatory statement*, p 1, accessed 28 March 2012 <www.derm.qld.gov.au/land/planning/pdf/strategic-cropping/planning-policy-cropping-land.pdf>

- 10.55** The Committee notes that there are deficiencies in the Policy, for example, coastal and urban areas are not covered. The Committee questions how the unique characteristics of these areas will be protected. In addition, the Policy does not adequately recognise the value of the tourism industry. The Committee expects that the NSW Government will address these issues during the consultation phase on the Policy.
- 10.56** Nevertheless, the Policy attempts to protect some of the most valuable agricultural land in the State. The Committee therefore urges the NSW Government to expedite the development of the remaining strategic regional land use plans for the Central West, Southern Highlands, Murrumbidgee, Alpine, Western and coastal regions.

Recommendation 24

That the NSW Government expedite the development of the remaining strategic regional land use plans for the Central West, Southern Highlands, Murrumbidgee, Alpine, Western and coastal regions.

Chapter 11 Economic impacts

A number of Inquiry participants said that the coal seam gas industry can deliver significant economic benefits to New South Wales, including in regional areas. The coal seam gas industry, they argue, has the potential to deliver thousands of new jobs and billions of dollars in investment to regional areas. For the State, the coal seam gas industry could generate billions of dollars in royalties. If the predicted royalties eventuate, coal seam gas could become a major driver of the State's economic growth, as is the case in Queensland. Those living in regional areas, where most coal seam gas activity is occurring, have argued that they should share in the royalties payable to the State, and that this funding could allow them to address an infrastructure backlog as well as compensating them for other impacts. However, as with many of the key issues examined by this Inquiry, the evidence on this issue is contested: many other Inquiry participants countered that the industry's economic benefits have been overstated, and do not justify the industry's expansion in New South Wales.

Regional jobs and investment

11.1 Some Inquiry participants said that the coal seam gas industry can create thousands of jobs, and deliver billions of dollars in investment, in the regional areas where most coal seam gas reserves are located. It was also suggested that the greater availability and decreased price of gas may encourage the establishment of new businesses, and make existing businesses more competitive. However, other Inquiry participants questioned these claims. They acknowledged that the industry may create jobs in construction but said that long-term, there would be few ongoing job opportunities. In addition, Inquiry participants were suspicious that many of the jobs would go to 'fly-in, fly-out' workers, rather than local residents and indigenous communities.

Potential to deliver regional jobs and investment

11.2 In relation to the industry's potential economic benefits, and in particular its potential to create jobs in regional areas, the NSW Government advised that:

The coal seam gas industry has the potential to create thousands of regional jobs, and add billions of dollars to the State economy, reduce our dependence on imported petroleum for transport, and create new industries around the availability of gas as a feedstock.⁷⁹⁹

11.3 The importance of job creation and investment in regional areas was described by Mr James Baulderstone, Vice President, Eastern Australia, Santos:

I am passionate about rural communities having investment. I am from a rural community myself, and I know a number on the Committee are as well. We know that we need to create jobs in those communities, we know that we need to create investment in those communities.⁸⁰⁰

⁷⁹⁹ NSW Government, Submission 642, p 4.

⁸⁰⁰ Mr James Baulderstone, Vice President Eastern Australia, Santos, Evidence, 17 November 2011, pp 7-8.

- 11.4** According to Mr Baulderstone, these new jobs may come from direct employment or from flow-on benefits to local businesses contracted to provide goods or services to the industry, or from businesses meeting the needs of the influx of new residents:

This is a potentially significant industry. With the industry will come investments, as we have described, both in local businesses – whether it is manufacturing fence posts or pipelines to be drilled or the cars and various jobs that we give – and with that comes an influx of people. That is very good for local communities.

If you were to go to a place like Roma, for example, it has increased substantially in size over the past 10 years off the back of an industry such as ours.⁸⁰¹

- 11.5** Mr Peter Henderson, Managing Director, Metgasco said that the company is committed to benefiting the Northern Rivers region in which it is based, which has a high level of unemployment:

We can make an important contribution to the Northern Rivers region by generating employment and business opportunities, providing additional income to landowners and supporting community organisations. This is particularly important because the region has one of the lowest incomes per capita and the lowest labour force participation rate in the country. Metgasco is committed to building a strong regional energy business in northern New South Wales and to creating jobs and economic opportunities for local residents.⁸⁰²

- 11.6** Ms Glenda McLoughlin, Chief Financial Officer and Executive Director, Metgasco, said that if the company moved to full production, it would directly employ 500-600 full-time staff and create 1,700-1,800 temporary jobs in construction. On the issue of job creation, Ms McLoughlin observed that: ‘The jobs multiply out. It is very significant in our industry. We do believe that we can create quite significant direct and indirect employment in this area which has a very high unemployment rate’.⁸⁰³

- 11.7** Ms McLoughlin also suggested that Metgasco is committed to supporting local employment as opposed to relying on a fly-in, fly-out workforce. She said that Metgasco is prepared to invest in training local residents to ensure that they have the requisite skills:

I am one of the founders of Metgasco. I have been involved in the company since the company was listed. From the day that we listed the company we have always had a commitment to local employment in the Northern Rivers region. We have established a local office in Casino where we employ 15 full-time staff. We do not have any fly-in fly-out teams, other than flying up from Sydney with our management team going up to Sydney to oversee operations. To demonstrate our commitment to local employment, we have hired people into our operations team that do not have experience in the oil and gas industry. We have put them through a specialised training program through one of the local TAFEs. We obviously need to balance local employment with having experienced oil and gas industry professionals involved in

⁸⁰¹ Mr Baulderstone, Evidence, 17 November 2011, p 10.

⁸⁰² Mr Peter Henderson, Managing Director, Metgasco, Evidence, 8 December 2011, p 37.

⁸⁰³ Ms Glenda McLoughlin, Chief Financial Officer and Executive Director, Metgasco, Evidence, 8 December 2011, p 38.

our operations. We take great care to ensure that we have got the right balance and that we are promoting local employment.⁸⁰⁴

- 11.8** Mr Baulderstone said that Santos' coal seam gas operations would create at least 1,000 jobs in regional NSW and inject hundreds of millions of dollars of investment into regional areas.⁸⁰⁵ Santos advised that they plan to spend \$1 billion on exploration activities in the next 3-5 years, with a potential \$16 billion invested between now and 2035. Santos further advised that 'this is by no means an investment based on a fly-in, fly-out operation ... most of our Energy NSW team already live in the State, with the majority of the Narrabri workforce living locally'.⁸⁰⁶ Santos referred to its track record in Queensland, where it said its policy of 'encouraging employees to live locally wherever possible' had resulted in 100 employees living in Roma and surrounding areas.⁸⁰⁷ In addition Santos stated that it employs 1,800 people to work on the Santos Gladstone LNG project.
- 11.9** Santos advised that it had commissioned Allens Consulting Group to model the economic impacts of a fully-developed coal seam gas industry in their area of interest in northwestern NSW. The report found that the benefits of coal seam gas development could include:
- \$470 million annual boost to the Gross Regional Product of Northwest NSW, or an extra \$8.5 billion to 2035.
 - \$821 million annual increase in NSW Gross State Product, or an extra \$15.2 billion to 2035.
 - Approximately 3,000 ongoing full-time positions, with many based in regional communities.⁸⁰⁸
- 11.10** AGL Energy also drew the Committee's attention to the results of a report commissioned from ACIL Tasman on the economic significance of the coal seam gas industry in NSW. The report found that the industry has the potential to affect long-term employment across NSW; generate a substantial number of jobs during drilling and exploration; and affect demand for labour services across the NSW economy due to the significant quantities of NSW-sourced goods and services required during construction and production.⁸⁰⁹ The report found that if the coal seam gas industry was not developed, there would be 1,361 less full-time jobs each year.⁸¹⁰
- 11.11** The Committee heard that in Queensland, where the coal seam gas industry is at a much more advanced stage than NSW, it is delivering significant economic benefits. The NSW Business Chamber indicated that the coal seam gas industry in Queensland is expected to generate 18,000 jobs and increase the Gross State Product by \$3.2 billion (or 1 per cent). The Business

⁸⁰⁴ Ms McLoughlin, Evidence, 8 December 2011, p 38.

⁸⁰⁵ Mr Baulderstone, Evidence, 17 November 2011, p 3.

⁸⁰⁶ Answers to supplementary questions, received 31 January 2012, Mr James Baulderstone, Vice President Eastern Australia, Santos, Question 3, p 4.

⁸⁰⁷ Answers to supplementary questions, received 31 January 2012, Mr Baulderstone, Question 3, p 4.

⁸⁰⁸ Answers to supplementary questions, received 31 January 2012, Mr Baulderstone, Question 3, p 4.

⁸⁰⁹ Answers to supplementary questions, received 21 December 2011, Mr Mike Moraza, Group General Manager Upstream Gas, AGL Energy, p 6.

⁸¹⁰ Answers to supplementary questions, received 21 December 2011, Mr Moraza, p 6.

Chamber observed that: ‘... the Queensland Government has described the development of the industry as a “once in a generation opportunity for a generation of employment”’.⁸¹¹

- 11.12** However, NSW Farmers cautioned against expecting the job creation benefits for NSW to be similar to those in Queensland. Extrapolating from the claim that the industry will generate 5,000 jobs in Queensland, peaking at 18,000 jobs, NSW Farmers argued that the employment benefits in NSW could be as little as 900 jobs, given that NSW has only 5 per cent of Australia’s coal seam resources while Queensland has closer to 95 per cent.⁸¹²

Concerns about job creation potential

- 11.13** A number of Inquiry participants, however, questioned the coal seam gas companies’ assurances regarding employment creation in regional areas. Ms Judi Sheedy, a Gunnedah representative of the NSW Farmers’ Association, said that the industry would generate minimal employment opportunities during the exploration phase, and that this situation would not improve when the industry reaches production. Like many other Inquiry participants, Ms Sheedy was concerned about the industry’s potential use of fly-in, fly-out employees. Ms Sheedy said:

What happens is that in the exploration phase it is actually contract workers who are brought into the region. It does help the local economy in terms of accommodation and food, but they fly in and fly out. In terms of Santos, until recently there was one employee who actually lived in Gunnedah. Everybody else flies in on Monday morning on Brindabella from Brisbane and they fly out either on Tuesday or Friday afternoon. In terms of bringing local jobs, we are yet to see that. I think there are a couple of admin girls now, but that is it. In terms of training, we have yet to see any evidence of that. Once you actually have production happening, it is a very low human resource industry.⁸¹³

- 11.14** The Committee notes that the House of Representatives is currently conducting an inquiry into the advantages and disadvantages of fly-in, fly-out workforce practices.⁸¹⁴
- 11.15** The NSW Farmers’ Association was also concerned that any jobs created by the coal seam gas industry could be short-lived: ‘Unlike other extractive industries, CSG extraction involves a short labour-intensive construction period while wells and infrastructure are checked, followed by 35 years of intermittent well checks which can be conducted by a non-resident workforce’.⁸¹⁵

⁸¹¹ Submission 258, NSW Business Chamber, p 2.

⁸¹² Submission 335, NSW Farmers’ Association, p 29.

⁸¹³ Ms Judi Sheedy, Executive Councillor and Chair of Gunnedah District Council, NSW Farmers’ Association (Boggabri, Gunnedah, Pottinger District Councils), Evidence, 16 November 2011, p 44.

⁸¹⁴ Parliament of Australia, House of Representatives, Standing Committee on Regional Australia, *Inquiry into the use of ‘fly-in, fly-out’ (FIFO) workforce practices in regional Australia*, accessed 19 March 2012 <aph.gov.au/Parliamentary_Business/Committees/House_of_Representatives_Committees?url=/ra/fifodido/index.htm>

⁸¹⁵ Submission 335, p 29.

- 11.16** Mr Craig Trindall, a traditional land owner of the Gomeroi nation, criticised mining companies for flying in outsiders instead of employing local residents: ‘... all these big mining companies fly in their experts from all overseas and pay exorbitant rates of money at the expense of local people and professions within Australia’.⁸¹⁶
- 11.17** Cr John Rosenbaum, Deputy Mayor, Gloucester Shire Council, acknowledged that the industry would deliver short-term benefits by creating jobs in its early stages but said that there is limited potential for long-term job creation. He argued that the industry’s potential for job creation needs to be balanced against the people who would move away from the region due to the development of the coal seam gas industry:

These transitional workers are only there for a short time. It might take five years. After five years the coal seam gas industry may employ 15 or 30 people. There will be a lot of people who create a lot of wealth in the community who will move away from Gloucester so it does not balance out. Tourism will suffer and the retirees who come here and bring a lot of wealth to the area and contribute enormously to community life like ours will suffer. Nobody wants to live alongside a gas well.⁸¹⁷

Impacts on regional businesses

- 11.18** It was also suggested by some Inquiry participants that increased availability of gas in regional areas could stimulate the emergence of new businesses of industries. For example, Mr Robbert de Weijer, Chief Executive Officer, Australia, Dart Energy referred to an agreement that Dart had signed with ‘Maria’s Farm Veggies’ at Fullerton Cove, near Port Stephens.⁸¹⁸ ‘Maria’s Farm Veggies’ is a glasshouse project that intends to produce fresh vegetables. Dart advised that it will supply the gas needed to produce electricity and hot water, and that the CO₂ produced by the power plant will be distributed to the vegetables to improve crop yields and plant robustness. Dart claimed that the project would create 125 jobs in the Newcastle area.
- 11.19** Access to cheaper energy sources may also benefit regional businesses by making them more competitive. Richmond Dairies is a Casino-based dairy business. They advised that they are ‘heavily reliant upon steam generated by Liquefied Petroleum Gas (LPG) fuelled boilers’ and that they pay substantially higher costs for this fuel than their main competitors based in Victoria. Richmond Dairies indicated that ‘with access to fuel at prices consistent with Victorian processors, the business can remain economically viable without resorting to cost reduction measures such as dropping the price paid to farmers for their milk’.⁸¹⁹

⁸¹⁶ Mr Craig Trindall, Traditional landowner, Gomeroi Nation, Evidence, 16 November 2011, p 13.

⁸¹⁷ Cr John Rosenbaum, Deputy Mayor, Gloucester Shire Council, Evidence, 31 October 2011, p 10.

⁸¹⁸ Mr Robbert de Weijer, Chief Executive Officer Australia, Dart Energy Ltd, Evidence, 8 December 2011, pp 61-62.

⁸¹⁹ Submission 903, Richmond Dairies Pty Ltd, p 1.

- 11.20** In their evidence Richmond Dairies said that they are currently negotiating an agreement with Metgasco to supply their factory with gas. They said that this would reduce their costs by approximately 50 per cent and would bring their costs into line with those of their competitors. They also noted that using coal seam gas would significantly reduce the factory's greenhouse gas emissions.⁸²⁰
- 11.21** However, Inquiry participants also said that the development of the coal seam gas industry could create a 'two speed economy' as they said has happened with the coal mining industry. That is, the coal seam gas industry may create jobs and wealth for its employees, but could have negative impacts on other residents that were not engaged in the coal seam gas industry.
- 11.22** It was argued that in some regions, such as the Hunter Valley or North Coast, the coal seam gas industry would have a particularly negative impact on the tourism industry, and that any jobs or revenue created by coal seam gas would be offset by jobs and revenue lost in the tourism sector. Mr Thomas Davey, Chairperson of Tourism Advancing Gloucester, argued that 'mining kills tourism':

The [tourism] industry in Gloucester generates about \$28 million worth of tourism dollars per year, which is not bad going for a small shire of about 5,000 people. I note that in our accompanying shires in Manning, greater Taree generates \$140 million and Great Lakes is another \$140 million, so when you put those three together we are quite a sizeable chunk of the tourism business on the mid North Coast. The good thing about this particular industry is that most of it is retained in the community, so the \$28 million earned in Gloucester stays in Gloucester ...⁸²¹

- 11.23** Inquiry participants also said that the mining industry draws skilled workers away from local businesses, with an adverse impact on the local economy. Mr Alistair Donaldson, representing the NSW Farmers' Association, told the Committee that he had observed this occurring in his home town of Narrabri:

One day a couple of months ago I went to town to get some dents knocked out of my car. That particular business had lost all his staff. The next stop was to get my car serviced: That business had lost his staff. The resources industry is cherry-picking every job out of the local market and creating a business environment that is untenable. We have some grave fears for that.⁸²²

Impacts on regional infrastructure

- 11.24** The Local Government and Shires Associations of NSW described a variety of infrastructure and labour market impacts experienced by regional areas as a result of resource sector activity. These include:
- negative impacts on local transport road and rail networks due to increased movements in terms of transporting freight as well as employees driving to mine sites

⁸²⁰ Submission 903, p 1.

⁸²¹ Mr Thomas Davey, Chairperson, Tourism Advancing Gloucester, Evidence, 31 October 2011, p 33.

⁸²² Mr Alastair Donaldson, Member, NSW Farmers' Association (Boggabri, Gunnedah Pottinger District Councils), Evidence, 16 November 2011, p 39.

- decreased housing affordability and increased rents as mining industry employees compete in the same housing markets as those outside the mining industry
- limited labour supply and higher price of labour, as the mining industry can attract workers away from other industries due to higher wages, and depletes the number of qualified people available to work in non-mining areas.⁸²³

11.25 The Associations also noted that resources development will impact on social and community infrastructure, with the expected population influx of new residents placing greater strain on health, education and law and order services.⁸²⁴ The Associations observed that in Queensland, mining communities are experiencing extreme housing pressure, transport impacts, and ‘poaching’ of employees due to offers of higher salaries in the mining industry. The Associations argued that a mechanism needs to be put in place to ensure that the regions where mining is taking place also enjoy the benefits of the mining boom:

Councils wish to benefit from the economic development and growth from the resource sector, however Local Government’s experience is that the finances are not “trickling down” and hence the local communities are not seeing the benefits.⁸²⁵

11.26 The Associations noted that councils such as Gunnedah Council have ‘expressed the view that there should be compulsory community contribution programs established by companies which receive project approval from the Government’.⁸²⁶ The Associations also advocated that mining companies be required to prepare social impact studies prior to development to outline how they would address these impacts.

11.27 Commenting on the infrastructure needs of regional areas in NSW, the Associations advised that:

Local government needs additional sources of revenue if it is to address infrastructure funding shortfalls and to remain financially viable. A permanent share of mining royalties would provide one such source. It is fair that the NSW Government’s revenue windfall generated by the mining boom would be shared with Local Government generally and with additional recognition of those communities impacted by mining.⁸²⁷

11.28 The following section will consider whether a portion of the coal seam gas royalties paid to the NSW Government should be directed to regional councils to compensate for the potential impacts of the coal seam gas industry.

⁸²³ Submission 587, Local Government and Shires Associations of NSW, p 6.

⁸²⁴ Submission 587, p 8.

⁸²⁵ Answers to questions on notice taken during evidence 8 December 2011, Local Government and Shires Associations of NSW, p 2.

⁸²⁶ Submission 587, p 8.

⁸²⁷ Submission 587, p 7.

Training programs

11.29 Some of those Inquiry participants who were critical of the mining companies for relying on a fly-in, fly-out workforce said that this could be avoided if mining companies made a much more significant effort to employ and train local residents. Mr Trindall said that coal seam gas companies should be much better at establishing training programs up-front so that residents of regional communities, including indigenous people, have the skills the coal seam gas companies need. In his evidence, Mr Trindall said that:

I think there needs to be investment in the training beforehand. How long have these people had the licences in Narrabri and around this area? Why was not there training set up in advance to train and skill up not only Aboriginal people but all of the community so they can use those people once things kick off in a commercial capacity? I do not think there was enough effort made in the first instance.⁸²⁸

11.30 Mr Michael Anderson, also a traditional land owner of the Gomeroi nation, highlighted the need for vocational training programs to produce the tradespeople needed by the industry, such as welders, boilermakers and plumbers. Mr Anderson said that this would avoid the need for a fly-in, fly-out workforce.

11.31 Mr Anderson said that numerous training programs have been delivered to ensure that local residents have the pre-qualifications necessary to move into apprenticeships. However, Mr Anderson said that local residents are not being offered apprenticeships in the mining industry, which is instead bringing in tradespeople from the city.⁸²⁹ Mr Anderson said: 'I know at home in a little country town called Goodooga we have got Aboriginal people out there with certificates coming out of their ears ... They have been trained stupid but they cannot get a job'.⁸³⁰

11.32 Mr Trindall argued that the mining industry should be required to undertake an audit of the training skills required for specific jobs and whether locals TAFE's have been asked to deliver training in that area.⁸³¹ Mr Trindall suggested that it was unlikely that there would be a link between the training on offer and the skills needed by the mining industry.

11.33 The Committee also heard that local businesses who invest in good staff training programs are at a disadvantage because their workers are often lost to the mining industry. Mr Donaldson said:

A major stock carting business in Tamworth sold recently. It put particular emphasis on training all its truck drivers. Of course, what happened is that it just trains them and loses them to the mining industry: train, lose, train, lose. They just sold the business and gave up. This is what is going to happen.⁸³²

⁸²⁸ Mr Trindall, Evidence, 16 November 2011, p 15.

⁸²⁹ Mr Trindall, Evidence, 16 November 2011, p 15.

⁸³⁰ Mr Michael Anderson, Traditional landowner, Gomeroi Nation, Evidence, 16 November 2011, p 16.

⁸³¹ Mr Trindall, Evidence, 16 November 2011, p 16.

⁸³² Mr Donaldson, Evidence, 16 November 2011, p 44.

Indigenous employment

11.34 In his evidence, Mr Warren Mundine, Chief Executive Officer, Native Title Services Corp, said that indigenous communities see employment opportunities as one of the main benefits that could be delivered by the coal seam gas development. However he said that employment opportunities should not come at the expense of cultural heritage or native title rights: ‘Aboriginal people should not be forced to choose between their rights and economic outcomes. In fact, we believe that they can go hand in hand through proper native title processes and working together’.⁸³³

11.35 Mr Mundine called for a partnership between the Government, the coal seam gas industry and the indigenous community to fully realise the industry’s potential employment benefits for indigenous people. He said that:

These strategies must address education and training, career progress and mentoring, and ensure that Aboriginal employment is not limited solely to field work but provides opportunities for staff to be trained for managerial positions and that local traditional owners are prioritised to receive opportunities.⁸³⁴

11.36 Mr Mundine urged the coal seam gas industry to look to the progress made by some coal mining companies in developing employment and educational opportunities for indigenous people:

Where the skill base is not there they put in place training programs, skilling-up programs and mentoring programs within those communities. Looking at joint ventures you see a number of subcontractors working with indigenous businesses and trying to build those businesses...

Then you have a look at some of the educational programs and trust arrangements that have been set up working for indigenous groups. There are quite a number of them. The whole basis of that is in regard to education. You will see that some of the larger companies now invest a lot of time, money and resources into indigenous education for a number of different charities and organisations out there, as well as within their companies. I praise them for the work that they do. There are some groups of companies that are still not doing that and need to pick up their game in this area.⁸³⁵

11.37 However, the Native Title Services Corp cautioned against expecting that the coal seam gas industry could deliver the same number of employment opportunities for indigenous people as would be expected of a large coal mining project:

... [CSG] infrastructure generally occurs on a much smaller scale when compared to large mining projects with activity concentrated on a central site. As a result, CSG related infrastructure may not present a great opportunity to advance the economic and social circumstance of Aboriginal people affected by CSG activity.⁸³⁶

⁸³³ Mr Warren Mundine, Chief Executive Officer, Native Title Services Corp, Evidence, 12 December 2011, p 41.

⁸³⁴ Mr Mundine, Evidence, 12 December 2011, p 42.

⁸³⁵ Mr Mundine, Evidence, 12 December 2011, p 47.

⁸³⁶ Submission 334, Native Title Services Corp, p 6.

Committee comment

- 11.38** The Committee acknowledges the potential economic benefits of the coal seam gas industry in regional areas, and in particular its potential to create jobs and deliver investment. However, we believe that there is insufficient modelling on the industry's benefits for regional areas. For example, in relation to job creation, there are discrepancies in the figures put forward: Santos' modelling suggests that its activities alone would create 3,000 full-time positions, 'with many based in regional communities', while the ACIL Tasman report found that if the coal seam gas industry was *not* developed, there would be 1,361 less full-time jobs each year across the State.
- 11.39** In addition to the uncertainty about the number of jobs that may be created, it was suggested that even if the coal seam gas industry creates jobs in regional areas, these jobs could go to fly in, fly out workers rather than local residents, as can happen with the mining industry. The Committee also heard that the mining industry can distort local economies by attracting the limited skills base away from local businesses, or by reducing the viability of other important local industries such as tourism. The growth of the mining industry can also lead to a range of infrastructure impacts including increased use of local roads, decreased housing affordability, and greater strain on community services such as health, education and law and order.
- 11.40** More information needs to be made available on the industry's job creation potential. The community needs to know the number of jobs that may be created and where they are likely to be based. We believe that this information is crucial if the community is to have a balanced debate on the industry's potential benefits, as well as its risks, in order to come to an informed view of whether they support the industry proceeding in New South Wales.

Recommendation 25

That the NSW Government prepare and publish projections of the employment opportunities that could be created by the coal seam gas industry in regional areas.

State royalties

- 11.41** It was suggested that coal seam gas royalties collected by the NSW Government could run into the billions of dollars. However, some Inquiry participants expressed concern that the five-year royalty holiday, and phasing-in of the full royalty rate of 10 per cent, could significantly decrease the royalties to be collected. Numerous regional residents called for the royalties paid by the industry to be returned to the regions where most of that wealth is generated, and which are most affected by coal seam gas development. Local councils strongly argued that they need additional funding to address infrastructure backlogs and that they should be compensated for the adverse impacts of the industry. They said that this could be achieved if they shared in coal seam gas royalties.

Royalties payable to the State

- 11.42** The NSW Government did not provide any estimates of projected coal seam gas royalties. On this issue, the submission from the NSW Government said that: ‘... the magnitude of the royalty stream would vary on a case-by-case basis and would be only one of the factors taken into consideration in determining whether the development would be in the best interests of the NSW community...’.⁸³⁷
- 11.43** When questioned on whether the NSW Government had done any modelling of expected royalties, Mr Brad Mullard, Executive Director, Mineral Resources and Energy, Department of Trade and Investment, Regional Infrastructure and Services, said:
- We have not done the modelling. At this point in time, as Mr Paterson has said, the industry is actually still in an extremely early stage of development. The industry in New South Wales is in an exploration phase. The number of wells and how many might end up in terms of production fields we really will not know until a lot more exploration is done or the exploration that is currently under way is undertaken.⁸³⁸
- 11.44** The Committee did however receive some evidence from coal seam gas companies on the royalties that they may pay to the NSW Government. For example, Santos said that their activities in the Gunnedah Basin would provide ‘significant’ royalty payments to the NSW Government, envisaged to be \$150 million per year,⁸³⁹ or \$3 billion in total, over the next 20 years.⁸⁴⁰ Metgasco also provided a ‘conservative’ estimate of anticipated royalties:
- For Metgasco’s proposed LNG plant, with LNG sales of 1.5 million tonnes/year, the project is estimated to realise total revenues of \$29 billion over its 20 year life and total royalties the NSW Government over this time period are estimated to be \$1.1 billion.⁸⁴¹
- 11.45** The amount of money paid in royalties will be affected by the five-year royalty holiday that applies to coal seam gas production in NSW, and the lower rates of royalties that are paid until the tenth year of production. The royalty holiday was introduced in the 1992 Petroleum (Onshore) Regulation⁸⁴² and is thought to have been instituted as an incentive for coal seam gas development to occur in NSW.⁸⁴³ The royalty holiday lasts for five years from the first date of commercial production,⁸⁴⁴ which is taken to be the first commercial production of any coal seam gas well within a petroleum title. That is, the royalty holiday does not apply to each individual well, but lasts for five years from the first commercial production that occurs within the title. After the first five years of commercial production royalties are imposed at an initial

⁸³⁷ Submission 642, p 31.

⁸³⁸ Mr Brad Mullard, Executive Director, Mineral Resources and Energy, Department of Trade and Investment, Regional Infrastructure and Services, Evidence, 17 November 2011, p 49.

⁸³⁹ Submission 337, Santos, p 23.

⁸⁴⁰ Mr Baulderstone, Evidence, 17 November 2011, p 3.

⁸⁴¹ Submission 287, Metgasco, pp 27-28.

⁸⁴² Montoya, D, ‘Coal seam gas royalties in Australian States and Territories’, *NSW Parliamentary Library e-brief*, January 2012, p 3.

⁸⁴³ Montoya, D, ‘Coal seam gas royalties in Australian States and Territories’, *NSW Parliamentary Library e-brief*, January 2012, p 3.

⁸⁴⁴ *Petroleum (Onshore) Regulation 2007*, cl 23.

rate of 6 per cent per year, rising by 1 per cent each year until reaching the maximum rate of ten per cent at ten years. The royalties are calculated based on the 'well-head value' of the petroleum, which is the revenue from the sale of the petroleum after deducting downstream costs.⁸⁴⁵

11.46 Research conducted by the NSW Parliamentary Library shows that NSW is the only State or Territory in Australia to have a royalty holiday for petroleum production. All other States and Territories impose a royalty rate of at least ten per cent per year from the commencement of production.⁸⁴⁶

11.47 A number of Inquiry participants were critical of the five-year royalty holiday. For example, the Lock the Gate Alliance said:

Industry experience in NSW has shown that peak production of wells often occurs in the first few years of the life of a well with production dropping off significantly after that.

This means that under the current arrangements, NSW will miss out on the build of royalties that would be payable if a fixed 10% rates was in place.⁸⁴⁷

11.48 NSW Farmers also observed that because coal seam gas production from any well peaks within five years and declines from there on, the five-year royalty holiday '...will have a serious impact on the royalties recoverable from CSG production in NSW'.⁸⁴⁸

11.49 The royalty holiday was also criticised on a second front, namely that it encourages rapid development of the industry. The Environmental Defender's Office argued that the five-year royalty holiday 'is a considerable incentive for accelerated development of the CSG industry'. The Environment Defender's Office recommended that the royalty holiday be re-considered because it creates an 'artificial incentive for CSG activities, at the very time that stakeholders are urging a more precautionary approach'.⁸⁴⁹

Calls to direct funding to regional areas

11.50 During this Inquiry the Committee received a large amount of evidence from local government, both through written submissions and in oral evidence. Many of the local councillors who appeared as witnesses argued that because the impacts of the coal seam gas industry would largely be borne in regional areas, that a share of the royalties generated by the industry should be returned to local areas to compensate them for the industry's impacts.

11.51 The Local Government and Shires Associations of NSW advocated that the NSW Government adopt a model similar to the 'Royalties for Regions' program implemented in

⁸⁴⁵ Montoya, D, 'Coal seam gas royalties in Australian States and Territories', *NSW Parliamentary Library e-brief*, January 2012, p 3.

⁸⁴⁶ Montoya, D, 'Coal seam gas royalties in Australian States and Territories', *NSW Parliamentary Library e-brief*, January 2012, p 5.

⁸⁴⁷ Submission 280, Lock the Gate Alliance, p 15.

⁸⁴⁸ Submission 335, p 30.

⁸⁴⁹ Submission 359, Environmental Defender's Office NSW, p 21.

Western Australia in 2008.⁸⁵⁰ The ‘Royalties for Regions’ program returns 25 per cent of Western Australia’s annual mining and onshore petroleum royalties to regional areas. Local councils were provided with \$54 million in direct funding in 2011-12. Under the model a percentage of the royalties are returned to all regional areas, whether they are affected by mining or not, and additional funding is provided to those communities that are directly affected by mining activity.⁸⁵¹ The Associations noted that local governments in Western Australia have welcomed the program, and that ‘... much of the infrastructure backlog could not be addressed if not for this welcomed fund’.⁸⁵²

- 11.52** The Associations recommended that the ‘Royalties for Regions’ scheme be established with two funding pools: first, for all regional areas to address infrastructure backlogs, and second, for mining-affected regions to address the major impacts on affected communities.⁸⁵³
- 11.53** The Committee was also informed that as with regional communities in general, indigenous communities are not benefiting from mining royalties. Mr Trindall, a traditional land owner of the Gomeroi nation, said that:

We ask: Where is the economic commitment to traditional owners? Our resources are being exploited and the wealth is being distributed outside of our communities. We are not a party to the economic benefits and we want that to change. Corporate responsibility needs to be extended and shared with traditional owners. I find it incredibly ironic that organisations such as local councils are advocating for royalties, yet there is no mention of economical benefits for the area’s First Nations peoples.⁸⁵⁴

- 11.54** Mr Trindall recommended that ‘... a legislative framework needs to be developed that includes provisions for proponents to commit to sharing economic benefits with First Nations peoples from where our natural resources are being exploited’.⁸⁵⁵

Views of coal seam gas industry on directing funding to the regions

- 11.55** Coal seam gas companies said that they would welcome a discussion about how the anticipated royalties could be used to better benefit regional communities. Mr Baulderstone of Santos said that while the growth of regional communities due to coal seam gas development is positive, it also imposes some challenges:

With that positive thing come some challenges, such as hospital beds, more roads, the need for more ambulances and those sorts of things. What we do as a company is work with the Government – the Government receives royalties on behalf of the population in the general State to invest back into those rural communities. We look

⁸⁵⁰ Answers to questions on notice taken during evidence 8 December 2011, Local Government and Shires Association, p 3.

⁸⁵¹ Submission 587, p 7.

⁸⁵² Answers to questions on notice taken during evidence 8 December 2011, Local Government and Shires Associations of NSW, p 3.

⁸⁵³ Submission 587, p 8.

⁸⁵⁴ Mr Trindall, Evidence, 16 November 2011, p 12.

⁸⁵⁵ Mr Trindall, Evidence, 16 November 2011, p 12.

to work with the Government to make sure that the right money flows back into those communities ...⁸⁵⁶

- 11.56** Mr Baulderstone concluded that: ‘There is a large amount of royalty payments about to be created. Whom that goes to is a discussion that I think we need to have’.⁸⁵⁷
- 11.57** Metgasco also supported the idea of a greater amount of the royalties flowing to the regional areas where coal seam gas activity is taking place. Mr Henderson suggested that these royalties could be spent on local infrastructure projects:

We expect the employment and business opportunities created will have a direct positive benefit. However, the need for infrastructure and general support for the overall community should not be forgotten. We recommend that the requests from local councils for more support from the State level be given consideration. Some of the royalties we pay could be spent on local infrastructure projects like the upgrade of the Pacific Highway, building the second Grafton Bridge or having a 24-hour police station in Casino. Metgasco would support that sort of initiative.⁸⁵⁸

- 11.58** Mr Sam Crafter, Manager of Community and Government Relations NSW, Santos, noted that in addition to welcoming a discussion on how coal seam gas royalties could better benefit regional areas, coal seam gas companies such as Santos are already providing in-kind benefits through a variety of community support measures. For example, Santos’ community support activities in Queensland include the redevelopment of the Roma airport, new housing projects in Roma and Gladstone, and co-funding a regional rescue helicopter service. In relation to NSW, Mr Crafter said: ‘We have a range of community events and things that we sponsor on the ground. It is at a small level at this stage in New South Wales but as we grow we work very closely with the local governments in our regions’.⁸⁵⁹ Santos said that it provided \$100,000 towards video conferencing equipment for the new Gunnedah Rural Health Centre.⁸⁶⁰

Power to impose rates on coal seam gas projects

- 11.59** Aside from supporting a ‘Royalties for Regions’ program, Cr Robyn Faber, Mayor of Narrabri Shire Council, said that local councils do not have the power to impose rates on coal seam gas projects, as they do with coal mining projects, and that they should be given this power:

... local government needs the petroleum Act and the Local Government Act to be amended to enable a local government resource extraction rate to be struck so that this industry contributes its fair share to the provision of basic services and infrastructure, like all shire residents. The Local Government Act does not provide for resources other than coal and metaliferous extraction to be rated.⁸⁶¹

⁸⁵⁶ Mr Baulderstone, Evidence, 17 November 2011, p 10.

⁸⁵⁷ Mr Baulderstone, Evidence, 16 November 2011, pp 7-8.

⁸⁵⁸ Mr Henderson, Evidence, 8 December 2011, p 37.

⁸⁵⁹ Mr Sam Crafter, Manager Community and Government Relations NSW, Santos, Evidence, 17 November 2011, p 10.

⁸⁶⁰ Submission 337, p 22.

⁸⁶¹ Cr Robyn Faber, Mayor, Narrabri Shire Council, Evidence, 16 November 2011, p 1.

- 11.60** Cr Faber said that the ability to impose rates was a separate discussion from that of ‘Royalties for Regions’, as that program is about sharing the benefits of mining with the community generally, whereas the issue of rates is about requiring a direct payment from coal seam companies to compensate for usage of local infrastructure, such as roads:

Chair, I think the royalties for regions generally covers a wide range of things and there is a perception on my part that everyone in West Australia expects to benefit overall from those royalties. I am more concerned about the ability of people who are directly using our resources in our shire to pay their way; whether it is grain being carted from Coonamble across our shire to get to Narrabri to a train and wrecking our roads or coal seam gas trucks driving and causing us to repair roads. The Act allows us to rate other forms of resource extraction but I guess because we never had it, it is not in the Act. We must have that ability to rate.⁸⁶²

- 11.61** Cr Faber explained that local councils calculate rates based on usage of the land’s surface, but that it would be difficult to do this for the coal seam gas industry as it is expected to have a small surface footprint. Even though coal seam gas development used a smaller land surface than mines, Cr Faber said that: ‘We just do not have any power to rate gas but they are making the same impacts on our infrastructure. Their staff are using the same facilities – the swimming pools, the halls, whatever – as the miners are. Why should they be excluded?’⁸⁶³

Committee comment

- 11.62** Potential coal seam gas royalties could provide a significant new revenue stream for the NSW Government. However, it is impossible to determine the significance of coal seam gas royalties for the State Budget, given that the Government did not provide any figures on estimated royalties. The only indication of the potential value of coal seam gas royalties came in the evidence from Santos and Metgasco, which suggested that their combined royalties would amount to \$4 billion over 20 years.
- 11.63** To provide information on potential royalties, the Committee recommends that the NSW Government continue to publish forward estimates of the royalties expected to be paid by the coal seam gas industry.

Recommendation 26

That the NSW Government continue to publish forward estimates of the royalties expected to be paid by the coal seam gas industry.

- 11.64** The Committee is concerned that coal seam gas royalties could be lower than would otherwise be the case due to the five-year royalty holiday and phasing-in of the full royalty rate. The Committee questions the rationale for the royalty holiday. It seems that the royalty holiday was designed to provide an incentive for coal seam gas development to occur in New South Wales, but this is unnecessary given that the pace of development is one of the key concerns of Inquiry participants. The Committee notes that New South Wales is the only State with a

⁸⁶² Cr Faber, Evidence, 16 November 2011, p 6.

⁸⁶³ Cr Faber, Evidence, 16 November 2011, p 9.

royalty holiday on petroleum production. The Committee recommends that the NSW Government require coal seam gas companies to pay the full ten per cent royalty rate from the first date of production, and that coal seam gas companies be advised of this at the time of their exploration licence application or renewal.

- 11.65** However, it is possible that the concerns over the royalty holiday may be overstated. The royalty holiday applies from the first date of commercial production of the first well within a petroleum title, rather than applying from the date that each well begins producing. This lessens the impact of concerns that, because the production of coal seam gas peaks during the first few years of a well's life and declines thereafter, the royalty holiday will significantly diminish royalties payable. The Committee observes that while the royalty holiday will have a substantial effect for the early wells drilled on a title, the royalty holiday will have no impact on the royalties paid on coal seam gas produced from wells drilled five or more years after the beginning of commercial production within a petroleum title.

Recommendation 27

That should the coal seam gas industry proceed in New South Wales, the NSW Government should require coal seam gas companies to pay the full royalty rate from the first date of production under a petroleum title, and that coal seam gas companies be advised of this at the time of their exploration licence application or renewal.

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- 11.66** The Committee is sympathetic to the evidence from local councils calling for a fair share of royalties to be returned to the regions, as happens in Western Australia. The Committee considers that the NSW Government should establish a 'Royalties for Regions' scheme to ensure that economic benefits of the coal seam gas industry are seen in those regions experiencing the social and other pressures of the industry. The NSW Government should collaborate with the Local Government and Shires Associations in designing the scheme, and determining how to apportion royalty payments.

Recommendation 28

That should the coal seam gas industry proceed in New South Wales, the NSW Government should collaborate with the Local Government and Shires Associations of NSW to develop a 'Royalties for Regions' program similar to that operating in Western Australia.

Chapter 12 Energy

During the Inquiry, coal seam gas proponents argued that developing the coal seam gas industry in New South Wales will facilitate energy at affordable prices. They also suggested that as a clean, green energy source, developing the coal seam gas industry will decrease our greenhouse gas emissions by decreasing our dependence on other fossil fuels such as coal. However, a number of Inquiry participants refuted these assertions. They argued that coal seam gas will have minimal impact on energy security and may lead to increases in gas prices. They also called into question the environmental credentials of coal seam gas. This Chapter considers the conflicting evidence regarding the potential for coal seam gas to provide a cheap, secure, relatively clean source of energy for New South Wales.

Energy demand, security and prices

- 12.1** Inquiry participants told the Committee that demand for gas is expected to increase significantly and that we need to look to new sources of supply, because we are unlikely to get additional supplies from our existing sources in South Australia and Victoria. It was argued that developing domestic gas supplies in New South Wales would not only enhance energy security but would also decrease our vulnerability to price increases. On the other hand, it was said that coal seam gas produced in New South Wales is likely to be exported and that this may drive up prices.

Gas supply, demand and usage in New South Wales

- 12.2** Gas meets a variety of energy needs in New South Wales. According to the NSW Government, ‘... the use of gas for domestic cooking, heating, hot water, sophisticated manufacturing and a wide range of other uses is a day to day reality in NSW⁸⁶⁴ and demand for this energy source will continue to grow:

Changes in the energy sector mean gas will be of growing importance for the State. Gas will be increasingly used to generate electricity and consumers are increasingly seeking to use gas in their homes and businesses in order to reduce their overall energy costs and carbon emissions.⁸⁶⁵

- 12.3** At present gas contributes ten per cent of total primary energy use in New South Wales, coal contributes 48 per cent and oil 38 per cent. Gas consumption has more than doubled since the mid 1980s, with a steep increase in demand in the past two years due to the commissioning of three gas-fired power stations.⁸⁶⁶
- 12.4** The NSW Government indicated that gas demand is projected to increase further: ‘Under a forecast medium growth scenario, over the next 20 years gas demand in NSW is forecast to more than triple to around 550 PJ per annum, at an average annual growth rate of 6.9%’.⁸⁶⁷

⁸⁶⁴ Submission 642, NSW Government, p 4.

⁸⁶⁵ Submission 642, p 1.

⁸⁶⁶ Submission 642, p 8.

⁸⁶⁷ Submission 642, p 10.

- 12.5** In support of this point, Mr Robbert de Weijer, Chief Executive Officer, Australia, Dart Energy, also commented on the projected increase in demand and the role of coal seam gas in meeting this demand, noting:

... gas demand is going to triple over the next 20 years, so when you look at demand versus supply forecast over the next 20 years you see a gap emerging of roughly 400 PJ per annum. That is a huge amount of gas. Our point is, looking at it from a New South Wales perspective, we have the gas in the ground that we believe can be produced safely in an environmental manner ...⁸⁶⁸

- 12.6** The NSW Government also suggested that coal seam gas can fill the anticipated gap between supply and demand, given that coal seam gas reserves in New South Wales represent over 250 years of gas supply at the projected consumption level of 550 PJ per annum.⁸⁶⁹

Energy security

- 12.7** The Committee was told by the NSW Government that ‘for the past 30 years NSW has relied upon secure supplies of gas from South Australia and Victoria’⁸⁷⁰ and that New South Wales faces potential shortages of gas, as these supplies are nearing depletion:

Currently, NSW only produces a very small percentage (approximately 6%) of its own gas demands and is heavily dependent on gas supplies from interstate, primarily from South Australia and Victoria. Evidence suggests that these sources may be depleting in the foreseeable future, therefore NSW needs to take action to maintain and increase the State’s energy security whilst reducing greenhouse gas emissions.⁸⁷¹

- 12.8** Mr Mike Moraza, Group General Manager, Upstream Gas, AGL Energy, explained that if New South Wales is not successful in extending its soon-to-expire contracts with Victorian and South Australian suppliers, then New South Wales would face gas shortages:

I remind the Committee that we are the largest supplier of natural gas in this State, as we have been for decades. The contracts that we hold run into decline from 2015 onwards. These were contracts signed with Cooper basin producers such as Santos and Gippsland producers such as Esso BHP. In the absence of extending those contracts – which we are certainly talking to those producers to do, without much success at the moment, but we are certainly talking to them – we would face a situation in New South Wales where we would be in deficit for natural gas from about four years onwards.⁸⁷²

- 12.9** Mr Mark Paterson, Director General, Department of Trade and Investment, Regional Infrastructure and Services, observed that ‘...unless indigenous sources of gas are identified then significant pressure both in availability and price could come on from our key external

⁸⁶⁸ Mr Robbert de Weijer, Chief Executive Officer Australia, Dart Energy Ltd, Evidence, 8 December 2011, p 62.

⁸⁶⁹ Submission 642, p 2.

⁸⁷⁰ Submission 642, p 1.

⁸⁷¹ Submission 642, p 7.

⁸⁷² Mr Mike Moraza, Group General Manager, Upstream Gas, AGL Energy Ltd, Evidence, 17 November 2011, p 66.

sources'.⁸⁷³ Mr Moraza also commented on the impact of restricted supply on the price of gas: 'If I were to project the situation out ten years, there would be a material increase in energy prices in this State, because this State would be wholly reliant on importing natural gas from other States'.⁸⁷⁴

12.10 According to Mr Moraza, the failure to tap into domestic sources of coal seam gas could result in disruptions to supply:

It is not uncommon and I can think of four situations in the last ten years where there has been a major disruption of natural gas supply. In the State of Victoria, the disruption to the natural gas supply that occurred at Longford resulted in some 10 to 14 days of nil supply of natural gas. People were taking cold showers and that went on for a couple of weeks. The security of supply, absent domestic gas in New South Wales, will be materially diminished ...⁸⁷⁵

12.11 The NSW Government indicated that it is committed to 'promoting energy security through a more diverse energy mix' and 'reducing and diversifying away from our dependence on coal'.⁸⁷⁶ In addition to developing domestic sources of gas in New South Wales, the NSW Government said that it will also seek to access coal seam gas produced in Queensland.⁸⁷⁷

12.12 Other Inquiry participants suggested that developing coal seam gas reserves in New South Wales will not enhance our energy security but rather, satisfy the demand for gas from international markets, especially Asia. According to Beyond Zero Emissions: 'CSG demand is driven overwhelmingly by demand for export LNG from overseas, primarily from Asia'.⁸⁷⁸

12.13 Ms Elaine Prior, Director and Senior Analyst, Citi Investment Research and Analysis, briefed the Committee on a paper that she produced examining the lifecycle emissions of coal seam gas and liquefied natural gas compared to coal. Ms Prior observed that 'the Australian CSG industry will primarily produce Liquefied Natural Gas (LNG) for export to countries including China, Japan and Korea'.⁸⁷⁹

12.14 However, this view was not shared by TRU Energy who argued that coal seam gas developed in New South Wales '... will be more attractive for domestic consumption because the costs of exporting the gas to Queensland would be expected to make it less competitive for export markets compared to locally developed Queensland options'.⁸⁸⁰

⁸⁷³ Mr Mark Paterson, Director General, Department of Trade and Investment, Regional Infrastructure and Services, Evidence, 12 December 2011, p 11.

⁸⁷⁴ Submission 642, p 7.

⁸⁷⁵ Submission 642, p 7.

⁸⁷⁶ Submission 642, p 4.

⁸⁷⁷ Submission 642, p 7.

⁸⁷⁸ Submission 355, Beyond Zero Emissions, p 3.

⁸⁷⁹ Prior, E and Koenders, D, Citi Group Analysis: *Coal Seam Gas and Greenhouse Emissions: Comparing Lifecycle Emissions for CSG/LNG vs Coal*, August 2011, p 3.

⁸⁸⁰ Submission 370, TRUenergy p 6.

Energy prices

- 12.15** As noted above, in addition to disruptions in supply, inadequate energy supplies may also lead to significant price increases. According to Mr Paterson: ‘... I expect that there will be significant pressure on gas prices in New South Wales, unless indigenous supplies are developed and brought to market in New South Wales’.⁸⁸¹
- 12.16** The Energy Supply Association of Australia also noted that ‘... energy security for NSW can only be enhanced by the presence of localised gas production. This will also likely entail lower transportation costs than for gas imported from other parts of Australia, which should in turn beneficially impact on retail prices’.⁸⁸²
- 12.17** This view is shared by some of the coal seam gas companies. For example, Mr de Weijer of Dart Energy said that if coal seam gas reserves were not developed in New South Wales, in ten years we would see a shortage of gas, investment would fall and prices would increase.⁸⁸³ The Australian Petroleum Production and Exploration Association (APPEA) advised that if coal seam gas reserves are not developed in New South Wales, the impact on the gas market would be ‘wholesale gas prices between 20% and 25% higher in NSW, Victoria, South Australia and Tasmania; 8% to 9% higher in Queensland by 2030’.⁸⁸⁴ In relation to electricity prices, the impact would be that ‘NSW wholesale electricity prices on average 7.4% higher relative to the Base Scenario over the period 2020 to 2030’.⁸⁸⁵
- 12.18** However, it was also asserted that if coal seam gas produced in New South Wales is exported, gas prices in Eastern Australia would be linked to the prices paid in the global gas market and gas prices could increase. TRU Energy informed the Committee that:
- ... there is a reasonable risk that pricing in the east coast domestic market, may rise towards export parity levels – which will significantly impact on gas pricing to domestic consumers ... Consequently, further exploration and proving up of CSG acreage in NSW would be beneficial in firming up domestic supply options for the state going forward.⁸⁸⁶
- 12.19** A similar view was put forward by the Energy Supply Association of Australia: ‘... the likelihood of LNG sales into the Asian markets means that domestic gas prices on the east coast may rise, potentially to export parity/netback over time’.⁸⁸⁷
- 12.20** Beyond Zero Emissions expressed the concern about the extent of energy price rises due to the linking of domestic gas prices to the international market:

⁸⁸¹ Mr Paterson, Evidence, 12 December 2011, p 19.

⁸⁸² Submission 418, Energy Supply Association of Australia, p 2.

⁸⁸³ Mr de Weijer, Evidence, 8 December 2011, p 62.

⁸⁸⁴ Submission 447, Australian Petroleum Production and Exploration Association, p 5.

⁸⁸⁵ Submission 447, p 5.

⁸⁸⁶ Submission 370, p 2.

⁸⁸⁷ Submission 418, p 3.

Gas prices in Australia are currently around \$3-4 GJ. Over the last decade however, international gas prices have been as high as \$12 GJ ... When LNG trains begin exporting Australian gas to Asia in large quantities, domestic gas prices are expected to be linked to international prices.⁸⁸⁸

- 12.21** The Committee notes that other jurisdictions have considered or implemented gas reservation policies designed to enhance energy security and contain gas price increases. The Western Australian Government introduced a Domestic Gas Reservation Policy in 2006 to set aside some of the gas produced from reserves off the Western Australian coast for domestic use. The Policy requires proponents of export gas projects to commit a percentage (up to 15 per cent) of their gas for domestic use, as a condition of access to Western Australian land for the location of processing facilities. The price of the gas sold onto the domestic market is determined through commercial negotiations between gas producers and the consumers of that gas. The Policy is intended to ensure that sufficient supplies of gas are available at competitive prices to underpin Western Australia's energy security and economic development.⁸⁸⁹
- 12.22** The Queensland Government also examined a form of gas reservation policy in 2009 but rather than requiring all gas projects to set aside a percentage of their gas for domestic use, the Government decided to reserve the right to set aside future gas fields for domestic supply, if needed.⁸⁹⁰ A Gas Commissioner, appointed in July 2010, will undertake an annual Gas Market Review in consultation with industry stakeholders and provide advice to the Queensland Government on the supply and demand factors of the State's gas market. The Queensland Government will then use this advice to decide whether to activate Protective Gas Production Land Reserve provisions in the *Gas Security Amendment Act 2011* (Qld).⁸⁹¹

Committee comment

- 12.23** The Inquiry received highly conflicting evidence in regard to the potential impact of the coal seam gas industry on energy security and the price of gas in New South Wales. It appears likely that when coal seam gas produced in Queensland begins to be exported to Asia, gas prices will increase, as Australia's East Coast gas market will be influenced by the higher gas prices paid internationally. Price rises are likely regardless of whether we develop coal seam gas reserves in New South Wales.

⁸⁸⁸ Submission 355, p 7.

⁸⁸⁹ Western Australia Department of the Premier and Cabinet, *WA Government Policy on Securing Domestic Gas Supplies*, October 2006, pp 2 and 6, accessed 4 April 2012, <[www.dmp.wa.gov.au/documents/DomGas_Policy\(1\).pdf](http://www.dmp.wa.gov.au/documents/DomGas_Policy(1).pdf)>.

⁸⁹⁰ Queensland Government, *Queensland's LNG Industry: A once in a generation opportunity for a generation of employment*, November 2010, p 4, accessed 5 April 2012, <www.industry.qld.gov.au/lng/documents/LNGBlueprint-Progress-Report-Part1.pdf>.

⁸⁹¹ Hon Stirling Hinchcliffe MP, Minister for Employment Skills and Mining, *Queensland Gas Legislation shores up domestic reserves*, accessed 5 April 2012, <www.cabinet.qld.gov.au/mms/statementDisplaySingle.aspx?id=74731>.

- 12.24** The Committee considers that reserving a portion of coal seam gas produced in New South Wales for domestic use could assist in containing price increases, and could enhance energy security. The Committee therefore recommends that New South Wales implement a Domestic Gas Reservation Policy modelled on that introduced in Western Australia.

Recommendation 29

That should the coal seam gas industry proceed in New South Wales, the NSW Government should implement a domestic gas reservation policy, under which a proportion of the coal seam gas produced in New South Wales would be reserved for domestic use, similar to the policy in Western Australia.

- 12.25** Gas plays an important role in meeting energy needs in New South Wales, and demand is projected to triple in the next twenty years. Given that New South Wales is reliant on depleting gas supplies from interstate, the Committee considers that New South Wales must develop its own coal seam gas reserves if it is to enhance its energy security and contain gas price increases.

Greenhouse gas emissions

- 12.26** Under the Inquiry's terms of reference, the Committee was requested to examine the greenhouse gas emissions of coal seam gas compared to other energy sources. The science on this issue is hotly contested and in particular, whether the greenhouse gas emissions produced by coal seam gas are lower than those produced by coal, and whether the fugitive emissions produced by coal seam gas are accounted for when calculating the greenhouse gas emissions of coal seam gas.
- 12.27** Many Inquiry participants argued that the doubts about the environmental credentials of coal seam gas are a good reason not to move ahead with this industry, but to instead focus our efforts on developing renewable energy sources.

Are the greenhouse gas emissions of coal seam gas lower than coal?

- 12.28** Coal seam gas is seen by some Inquiry participants as an important transition fuel to move New South Wales from its current dependence on high-carbon emitting fossil fuels such as coal to a greener energy future. The NSW Government described coal seam gas as an 'abundant new cleaner energy resource'⁸⁹² and argued that 'gas is a useful fuel source which will assist NSW to reduce the amount of coal fired electricity and therefore greenhouse gas emissions'.⁸⁹³

⁸⁹² Submission 642, p 4.

⁸⁹³ Submission 642, p 4.

- 12.29** The industry association APPEA also promoted the low-cost environmental benefits of coal seam gas: ‘Australia’s natural gas reserves have the unique potential to significantly reduce greenhouse gas emissions at low cost’.⁸⁹⁴
- 12.30** This argument relies on the claim that the greenhouse gas emissions of energy produced from coal seam gas are significantly lower than those of energy produced by coal. APPEA advised the Committee that there is ‘clear evidence and scientific consensus’ on this issue.⁸⁹⁵ According to APPEA: ‘When used in its own right to generate electricity, the energy produced from CSG produces up to 70 per cent less greenhouse gas emissions than current coal-fired power generation’.⁸⁹⁶
- 12.31** However, the industry’s claim that coal seam gas produces 70 per cent less greenhouse gas emissions than energy generated by coal was disputed by other Inquiry participants. The Lock the Gate Alliance asserted that:
- The ‘70% less’ figure is not only cherry picking the best possible combination of gas-fired power plants and the most polluting brown coal and least efficient coal fired power stations; it also fails to include the emissions involved in producing the gas – the drilling, fracking, compressing, pumping, liquefying and transporting the gas; nor the loss of carbon-storing forests and woodlands cleared to make way for wells and pipes.⁸⁹⁷
- 12.32** Mr Mark Ogge, Operations Director, Beyond Zero Emissions also expressed a similar view:
- That claim refers to a comparison with coal but it picks the absolute theoretical best gas plant you could build and compares it to the absolute worst coal plant you could find in China. In reality, if you are making a serious comparison you should compare an open cycle gas plant, which is where the gas is used in China and Australia, and not a combined cycle gas turbine and you would choose a brand new supercritical plant such as Kogan Creek, which has emission levels similar to an open-cycle gas plant.⁸⁹⁸
- 12.33** Environmental groups also questioned the appropriateness of comparing coal seam gas with coal. According to Mr Ogge, such a comparison is ‘misleading’ because coal seam gas ‘... is displacing renewable and nuclear power. In both Australia and overseas the comparison should be made with renewable energy, because that is what it is mostly replacing’.⁸⁹⁹
- 12.34** The claim that the greenhouse gas emissions of coal seam gas are lower than those of coal fired power generation has been called into question by a recent study by Worley Parsons, which compared the life cycle greenhouse gas emissions for a range of energy sources. The study found that:

⁸⁹⁴ Submission 447, p 4.

⁸⁹⁵ Submission 447, p 9.

⁸⁹⁶ Submission 447, p 4.

⁸⁹⁷ Submission 280a, Lock the Gate Alliance, p 6.

⁸⁹⁸ Mr Mark Ogge, Operations Director, Beyond Zero Emissions, Evidence, 12 December 2011, p 2.

⁸⁹⁹ Mr Ogge, Evidence, 12 December 2011, p 2.

... if methane leakage approaches the elevated levels recently reported in some US gas fields (circa 4% of gas production) and assuming a 20-year methane GWP [global warming potential], the GHG [greenhouse gas] intensity of CSG-LNG generation is on a par with sub-critical coal-fired power generation.⁹⁰⁰

12.35 The study also found that ‘coal seam gas LNG is approximately 13-20% more GHG [greenhouse gas] intensive across its life cycle, on a life-for-like basis, than conventional LNG’.⁹⁰¹

12.36 However, Mr Rick Wilkinson, APPEA’s Chief Operating Officer, Eastern Australia said that even if the most inefficient gas-fired power plant was compared with the most efficient coal-fired power plant, the energy produced by coal seam gas still has lower greenhouse gas emissions than coal:

If we took the worst case, which is an open cycle gas-fired plant, the most inefficient plant we have in Australia, and compared that with the very best coal-fired plant in the world, of which there are none in Australia, the ultra super critical coal-fired plant, you still get the same result that gas is better than coal.⁹⁰²

Fugitive emissions

12.37 Fugitive emissions are at the core of the question of whether coal seam gas produces lower greenhouse gas emissions than other fossil fuels such as coal. Fugitive emissions are essentially methane ‘leaks’ or venting of methane into the atmosphere during the extraction, processing and transportation of coal seam gas.⁹⁰³ Beyond Zero Emissions advised that there are several points in the coal seam gas lifecycle at which fugitive emissions can be released into the atmosphere: when drilling a well, during well ‘completion’, when ‘flow back’ waters are removed from the ground, or from production equipment.⁹⁰⁴

12.38 Ms Prior of Citi Investment Research and Analysis advised that the efficiency of the consuming power station is the most important factor in determining the greenhouse gas emissions of coal seam gas, although she also noted that fugitive emissions also have a role to play.⁹⁰⁵ In relation to fugitive emissions, Ms Prior said that they are ‘heavily determined’ by the operating practices of coal seam gas companies.⁹⁰⁶

⁹⁰⁰ Hardisty P, Clark T, Hynes G, ‘Life Cycle Greenhouse Gas Emissions from Electricity Generation: A Comparative Analysis of Australian Energy Sources’, *Energies*, 2012, 5, p 873.

⁹⁰¹ Hardisty P, Clark T, Hynes G, ‘Life Cycle Greenhouse Gas Emissions from Electricity Generation: A Comparative Analysis of Australian Energy Sources’, *Energies*, 2012, 5, p 873.

⁹⁰² Mr Rick Wilkinson, Chief Operating Officer, Australian Petroleum Production and Exploration Association, Evidence, 12 December 2011, p 31.

⁹⁰³ Submission 642, p 12.

⁹⁰⁴ Submission 355, p 5.

⁹⁰⁵ Prior, E and Koenders, D, *Citi Group Analysis: Coal Seam Gas and Greenhouse Emissions: Comparing Lifecycle Emissions for CSG/LNG vs Coal*, August 2011, p 7.

⁹⁰⁶ Ms Elaine Prior, Director and Senior Analyst, Citi Investment Research and Analysis, Evidence, 12 December 2011, p 66.

- 12.39** In relation to the ‘70 per cent less’ claim made by APPEA, the NSW Government acknowledged that this figure is based on the assumption that coal seam gas projects ‘... apply best practice in GHG [greenhouse gas] and environmental management, especially to the prevention of venting and leaks in upstream operations’.⁹⁰⁷
- 12.40** According to Beyond Zero Emissions, fugitive emissions are of such concern because ‘methane is a far more powerful greenhouse gas than carbon dioxide’.⁹⁰⁸ To demonstrate the extent to which fugitive emissions can increase the carbon footprint of coal seam gas, Beyond Zero Emissions advised that if 1 per cent of the coal seam gas produced in a gas field was lost to fugitive methane emissions over 100 years, this would result in a 7 per cent increase in the greenhouse impact of that field.⁹⁰⁹

Level of fugitive emissions

- 12.41** Inquiry participants disputed the level of fugitive emissions associated with the production of coal seam gas. In commenting on the fugitive emissions of the coal seam gas industry, the NSW Government stated that: ‘CSG is likely to have lower fugitive emission intensity as compared to natural gas or LNG’, although the Government also noted that ‘the fugitive emissions depend on several mine specific factors and is difficult to provide general comparisons’.⁹¹⁰
- 12.42** Mr Ogge, however, described the industry estimate as involving ‘ridiculously low numbers’ and remarked that: ‘I find it hard to imagine that in five years time those numbers will be accepted’.⁹¹¹ Mr Ogge referred to work done by the US Department of Energy in the Powder River Basin, in Wyoming, USA on fugitive emissions from coal seam gas, which he described as ‘the only example of proper measuring of fugitive emissions’.⁹¹² The submission from Beyond Zero Emissions advised that:

In Wyoming in the United State engineers working on CSG technologies have found that the amount lost as entrained gas varies from 2 per cent of total well yield to 30 per cent, with a typical well at present losing 15 per cent of its output as entrained gas (US Department of Energy 2010).⁹¹³

- 12.43** Beyond Zero Emissions pointed out that ‘in Australia the big projects in Queensland are assuming 0.1 per cent, so there is a large discrepancy there’.⁹¹⁴

⁹⁰⁷ Submission 642, p 13.

⁹⁰⁸ Submission 355, p 5.

⁹⁰⁹ Submission 355, p 5.

⁹¹⁰ Submission 642, p 13.

⁹¹¹ Mr Ogge, Evidence, 12 December 2011, p 5.

⁹¹² Mr Ogge, Evidence, 12 December 2011, p 3.

⁹¹³ Submission 355, p 5.

⁹¹⁴ Mr Ogge, Evidence, 12 December 2011, p 2.

- 12.44** Ms Prior noted that her work assumed fugitive emissions of 0.1 per cent ‘based on industry projections’.⁹¹⁵ Ms Prior advised that even if she had assumed a ten-fold higher figure for fugitive emissions, this would not change her conclusion that coal seam gas generally has lower greenhouse gas emissions than coal:

We then investigated whether the conclusions would change materially if instead we assumed that 1.1 per cent of gas escapes as fugitives, a quantity that we think is unlikely to occur. This added about 6 per cent to 7 per cent to the total life cycle emissions of CSG/LNG and did not change our conclusion that gas is generally better than coal.⁹¹⁶

- 12.45** It was suggested that a lack of research may be behind the variation in figures for the fugitive emissions produced by the coal seam gas industry and environment groups. For example, a study commissioned by the City of Sydney found that:

... direct measurement of life cycle GHG [greenhouse gas] emissions from CSG will be required in Australia to reach firm conclusions on the scale of the GHG benefits from CSG compared with coal. Unfortunately there is a dearth of studies looking specifically at emissions of CSG ...⁹¹⁷

- 12.46** Beyond Zero Emissions also claimed that there has been minimal research on fugitive emissions produced by the coal seam gas industry, either in Australia or overseas:

Very little research has been conducted anywhere in the world to fully quantify the fugitive emissions associated with “unconventional” gas production ... Currently, despite thousands of wells in production in QLD, and tens of thousands more approved, there has been no research done specifically on the fugitive of lifecycle emissions of CSG.⁹¹⁸

- 12.47** However, Mr Wilkinson countered that there is no mystery about the level of fugitive emissions. He said that the coal seam gas industry is required to monitor, measure or estimate all of its emissions, including fugitive emissions, and report them under the *National Greenhouse and Energy Reporting Act 2007 (Commonwealth)*.⁹¹⁹

- 12.48** Regardless of the dispute around the level of fugitive emissions associated with the coal seam gas industry, APPEA concluded that ‘fugitive emissions ... make no difference to the fundamental point that emissions associated with gas-fired electricity are up to 70 per cent fewer than traditional sources of electricity generation’.⁹²⁰

- 12.49** Further, Mr Wilkinson said that the industry is open to revising its standard figure of 0.1 per cent as new information becomes available: ‘The 0.1 per cent is the current standard that we work to. As more information comes in, and it will over time – they have been reviewed in the past and will be reviewed in the future – we take that into consideration with the industry’.⁹²¹

⁹¹⁵ Ms Prior, Evidence, 12 December 2011, p 66.

⁹¹⁶ Ms Prior, Evidence, 12 December 2011, p 66-67.

⁹¹⁷ Submission 339a, City of Sydney, Attachment 1, p 5.

⁹¹⁸ Submission 355, p 5.

⁹¹⁹ Submission 447, p 9.

⁹²⁰ Submission 447, p 9.

⁹²¹ Mr Wilkinson, Evidence, 12 December 2011, p 33.

Migratory emissions

- 12.50** Migratory emissions are a particular type of fugitive emission. These are emissions that may occur if gas escapes through fissures that may open up in the ground as a result of fracking, or escape through existing boreholes, rather than the gas escaping through the well that has been drilled by the coal seam gas company. Mr Ogge advised the Committee that for Beyond Zero Emissions, migratory emissions are ‘our really big concern about fugitive emissions ...’.⁹²²
- 12.51** Mr Ogge argued that research is needed to establish if migratory emissions are indeed occurring, given their potential to increase the greenhouse gas emissions of the coal seam gas industry:

We are really worried that we will be drawing up a certain amount of gas through the wells but then will be losing a massive amount of the total amount of methane through fissures and old bore holes and wells across Australia, and that is just not measured. So the work really needs to be done to find out whether that is happening. We just do not know. There is a lot of anecdotal evidence to suggest this, but we just do not know. We just want the work to be done to establish whether or not it is happening.⁹²³

Coal seam gas industry and fugitive emissions

- 12.52** Mr Wilkinson observed that it is in the industry’s best interests to understand and capture fugitive emissions:

It is in the industry’s best interest to understand about fugitive emissions for three reasons: firstly, for safety; secondly, the impact on the environment, which we need to report on a regular basis; and thirdly, it is valuable gas. We make money by capturing it and selling it on to customers, not releasing it to the atmosphere. The figure of 0.1 per cent is a small volume.⁹²⁴

- 12.53** Ms Prior agreed that coal seam gas companies have strong incentives to address fugitive emissions: first, because the gas itself is valuable if it can be captured and sold, and second, because fugitive emissions will attract a carbon price.⁹²⁵ Ms Prior said that she would therefore expect coal seam gas companies to take steps to minimise fugitive emissions: ‘... we are convinced that there are engineering solutions to the issue of fugitives... Why would companies risk the industry’s future rather than implement engineering solutions?’⁹²⁶
- 12.54** The Committee heard that best-practice operating practices are the key to minimising fugitive emissions: ‘Actual emissions will depend on operating practices, including what equipment is installed and how it is operated and maintained. Challenges include the large number of wells

⁹²² Mr Ogge, Evidence, 12 December 2011, p 4.

⁹²³ Mr Ogge, Evidence, 12 December 2011, p 4.

⁹²⁴ Mr Wilkinson, Evidence, 12 December 2011, p 33.

⁹²⁵ Ms Prior, Evidence, 12 December 2011, p 67.

⁹²⁶ Ms Prior, Evidence, 12 December 2011, p 67.

required for CSG operations, creating many sites to be managed'.⁹²⁷ In relation to what operational practices may be implemented by coal seam gas companies, Ms Prior advised that:

The infrastructure will be new, so should be in good condition. Technically sound well completions should avoid potential problems including gas leaks... Flaring rather than venting of gas converts methane to CO₂, which has a lower global warming potential⁹²⁸

12.55 In response to questioning, Mr de Weijer of Dart Energy advised that his company has the skills to minimise fugitive emissions:

We have got some of the best drilling engineers in the business. Also from a surface facilities perspective, we have got some of the top people there. It is all about how you design, construct and operate your wells and your facilities. Basically you want to avoid any pipe work from leaking in whatever way you can ...

It is all about how you design and construct the wells and the facilities and make sure that you have got some safeguarding around it as well, like leak detection, automatic shutdown systems, et cetera.⁹²⁹

12.56 Although Mr Ogge acknowledged that coal seam gas companies may be willing to prevent fugitive emissions, he argued that this is not happening in all instances; first, because the technical knowledge may not exist, and second, because it may too expensive:

A certain percentage of emissions just cannot be captured. In particular, there is some venting, but also migratory emissions. And with well completions and well makeovers, they just do not know how to capture them. I am sure in most circumstances they do try to minimise the fugitive emissions, but there is also the equation that it costs a lot of money to change the equipment and practices you are using in order to do so.⁹³⁰

Measures to address fugitive emissions

12.57 As noted previously, Inquiry participants told the Committee that there is little information on the level of fugitive emissions produced by coal seam gas operations in Australia. In his evidence, Mr Ogge said that Beyond Zero Emissions is so concerned about the issue of fugitive emissions that they are going to start doing their own monitoring:

... we feel strongly that it is important to get a handle on what the real emissions are from coal seam gas. So Beyond Zero Emissions is procuring laser methane measuring equipment that can measure methane in the atmosphere accurately to the level of parts per billion from about 150 metres away. We are building a dispersion calculation model which we can use as well. We are arranging access with landowners and we are going to get out there and start measuring what the actual fugitive emissions are

⁹²⁷ Prior, E and Koenders, D, *Citi Group Analysis: Coal Seam Gas and Greenhouse Emissions: Comparing Lifecycle Emissions for CSG/LNG vs Coal*, August 2011, p 12.

⁹²⁸ Prior, E and Koenders, D, *Citi Group Analysis: Coal Seam Gas and Greenhouse Emissions: Comparing Lifecycle Emissions for CSG/LNG vs Coal*, August 2011, pp 12-13.

⁹²⁹ Mr de Weijer, Evidence, 8 December 2011, p 66.

⁹³⁰ Mr Ogge, Evidence, 12 December 2011, p 6.

because we think it is important and we are concerned that it is not being measured properly by Government and industry.⁹³¹

- 12.58** Mr Ogge indicated that the organisation is reluctant to take on this role: ‘It is actually going to cost a hell of a lot of money and be really hard work. So we would much prefer it was done by an independent body that is answerable to government’.⁹³²
- 12.59** In addition to recommending further studies on the lifecycle greenhouse gas emissions of coal seam gas, the Environmental Defender’s Office recommended that the assessment of greenhouse gas emissions be mandated at the time that an environmental impact assessment is conducted, including an assessment of the proponent’s plans to minimise emissions.⁹³³ Further, the Environmental Defender’s Office recommended that decision makers be required to consider greenhouse gas emissions when assessing development applications under the *Environmental Planning and Assessment Act 1979* and applications for exploration or production titles under the *Petroleum (Onshore) Act 1991*.
- 12.60** A similar view was expressed by the study commissioned by the City of Sydney’s, which recommended that: ‘Monitoring and reporting of fugitive emissions should be required for exploration and production, with a view to developing minimum standards under consent conditions’.⁹³⁴

Calls for development of renewable energy sources

- 12.61** Given concerns about the levels of greenhouse gas emissions generated by coal seam gas, numerous Inquiry participants called for the development of renewable energy sources. According to the Group Against Gas Kyogle: ‘We believe that governments should be moving rapidly to renewable energy technologies instead of locking in a dependence on fossil fuels ...’.⁹³⁵ The Mid Western Community Action Network also called on the Government to ‘... invest time and finance into renewable energy, as so many smart, forward thinking countries are doing overseas (eg. Germany and Spain) ...’.⁹³⁶ The Nimbin Environment Centre and Tweed Richmond Organic Producers’ Association drew attention to the limited life span of coal seam gas: ‘This short burst of fossil energy supply is dwarfed by the length and magnitude of environmental destruction left in CSG’s toxic wake’.⁹³⁷
- 12.62** Other participants suggested that renewable energy is more expensive than energy sources such as coal seam gas. While acknowledging that this may be the case at present, Mr Ogge argued that the cost of renewable energy is decreasing relative to the cost of gas, which he expected to increase rapidly in Australia.⁹³⁸ He informed the Committee that:

⁹³¹ Mr Ogge, Evidence, 12 December 2011, p 3.

⁹³² Mr Ogge, Evidence, 12 December 2011, p 4.

⁹³³ Answers to questions on notice taken during evidence 8 December 2011, Mr Jeff Smith, Director, Environmental Defender’s Office, p 1.

⁹³⁴ Submission 339a, Attachment 1, p 7.

⁹³⁵ Submission 348, Group Against Gas Kyogle, p 37.

⁹³⁶ Submission 342, Mid Western Community Action Network, p 4.

⁹³⁷ Submission 338, Nimbin Environment Centre and Tweed Richmond Organic Producers’ Organisation, p 2.

⁹³⁸ Mr Ogge, Evidence, 12 December 2011, p2.

... it is well established that there are a lot of commercial off-the-shelf renewable energy technologies that can provide energy more reliably than coal seam gas. One of the main ones is solar photovoltaic energy which is reducing in cost and has reduced by 38 per cent this year. Leading world economies such as Germany are heavily involved in installing this form of energy... The use of wind energy has increased around the world by about 30 per cent per annum, and the cost of this form of energy is reducing rapidly. Solar thermal power, which has a base load capacity and utilises energy storage, is being rolled out on a large scale in both Spain and the United States with big plans for North Africa and other areas as well.⁹³⁹

12.63 Another concern raised by some participants was that renewable energy may not be able to meet the need for baseload or peaking power supply. The NSW Government explained that to meet fluctuations in demand for electricity throughout the year, two types of plants are usually used: base load plants that operate 24 hours a day and peaking plants that come online only when demand rises.⁹⁴⁰

12.64 Mr Paterson of DTIRIS noted that because they are intermittent sources of energy, alternative sources of energy such as wind and solar need to be complemented by a baseload or peaking energy supply:

Certainly there is no question that both wind and solar are intermittent sources of generation and in the absence of back-up or support generating systems then if you relied solely on the intermittent generation of wind and solar you could well face brownouts or blackouts. So it is argued that you need something in the ball park of 80 per cent capacity in reserve to be able to cater for the fluctuations in wind and solar. I have certainly read at different points in time that wind operates in the sweet spot, that is, the best, most reliable form of generation about 10 per cent of the time. It is highly variable at other times and often at times of peak load when it is hottest, when it is coldest, it gets really hot or really cold because you have no wind. So you need back-up forms of base load generating capacity to be able to underpin wind and solar.⁹⁴¹

12.65 Beyond Zero Emissions described as ‘very outdated’⁹⁴² the assertion that a fossil fuel such as gas is needed to act as back up for renewable energy sources, asserting that coal seam gas is ‘unnecessary for either baseload or peak energy supply in NSW’.⁹⁴³ Mr Ogge pointed specifically to the potential for solarthermal technology to meet baseload power needs and compensate for the variability of wind and solar energy.

12.66 Mr Ogge pointed to overseas examples, in Spain and the USA, where solarthermal plants are in operation or are being constructed.⁹⁴⁴ Mr Ogge described the way that solarthermal technology operates:

Solar thermal is almost entirely the same as a coal plant, in that all the steam set and generation are exactly the same, but rather than having a coalmine you have mirrors

⁹³⁹ Mr Ogge, Evidence, 12 December 2011, p2.

⁹⁴⁰ Submission 642, p 15.

⁹⁴¹ Mr Paterson, Evidence, 12 December 2011, p 10.

⁹⁴² Mr Ogge, Evidence, 12 December 2011, p 8.

⁹⁴³ Submission 642, p 10.

⁹⁴⁴ Mr Ogge, Evidence, 12 December 2011, p 5.

that concentrate the sun's energy onto a receiver, and that produces heat. That heat can then be flashed to steam and drives a conventional coal-style turbine.

The thing about that is that, because it is producing heat rather than electricity directly, you can actually store that heat. The way to do that is to use a working fluid of molten salts ... and that fluid is heated to about 600 degrees. That salt is then stored in a large, highly-insulated tank, and as you need heat during the middle of the night you dispatch some of that heat to a heat exchange and that creates steam and drives a generator and produces electricity and sends it out to grid. So you can have renewable solar energy 24 hours a day. It is essentially a base load form of power, or a dispatchable form of power.⁹⁴⁵

- 12.67** However, the NSW Government said that gas has an important role to play in meeting baseload and peaking demands, and acting as back-up for renewable energy sources: '... gas can play an important role in ensuring demand can continue to be met when fluctuations in output of other generation is occurring'.⁹⁴⁶

Committee comment

- 12.68** In their evidence, Inquiry participants presented very different views on the likely greenhouse gas emissions of coal seam gas activities. The Committee notes that the single biggest determinant of greenhouse gas emissions is the efficiency of the consuming power station. However, greenhouse gas emissions are also influenced by the nature and extent of fugitive emissions. The dispute around the likely level of fugitive emissions arises in part because many of the studies to date rely on US figures relating to the production of shale gas. The Committee notes that fugitive emissions also arise in the coal mining industry.
- 12.69** While it is impossible to reach a definitive conclusion as to the greenhouse gas emissions of Australian coal seam gas, the Committee considers it likely that *at worst* the greenhouse gas emissions of energy produced from coal seam gas would be equal to those produced from coal. We believe that the dispute around the nature and extent of greenhouse gas emissions should not prevent the development of the coal seam gas industry in New South Wales.
- 12.70** The Committee considers that coal seam gas companies should be required to minimise fugitive emissions. The Committee recommends that it be a condition of consent for production proposals that fugitive emissions be restricted to an upper limit of 0.1%, based on the evidence that this is the standard level of fugitive emissions assumed by the coal seam gas industry.

Recommendation 30

That the NSW Government include in all conditions of consent a requirement for petroleum production to minimise fugitive emissions and to comply with an upper limit of 0.1 per cent fugitive emissions.

⁹⁴⁵ Mr Ogge, Evidence, 12 December 2011, p 5.

⁹⁴⁶ Submission 642, p 16.

Chapter 13 Regulation

This Chapter examines various issues regarding the regulation of the coal seam gas industry. Inquiry participants raised a number of concerns about the regulatory regime including fragmentation, inadequate monitoring and enforcement, ineffective complaints handling, and insufficient resourcing. A number of potential areas for reform were suggested, beginning with a less fragmented, more transparent approach to regulation and the allocation of additional resources. Perhaps most importantly, the Committee heard that New South Wales needs to learn the lessons of Queensland's experience of regulating the coal seam gas industry.

Concerns about the regulatory framework

- 13.1** This section considers Inquiry participants' concerns about the regulation of the coal seam gas industry, and the response to these concerns from coal seam gas companies and the NSW Government.

Importance of effective regulation

- 13.2** A number of Inquiry participants, including Ms Fiona Simson, President, NSW Farmers' Association, highlighted the importance of effective regulation of the coal seam gas industry in New South Wales. According to Ms Simson:

To put it simply, farmers do not want assurances from coal seam gas companies. They want assurances from the law. If these companies were genuine in their claims they would also be seeking the same thing.⁹⁴⁷

- 13.3** Mr James Baulderstone, Vice President, Eastern Australia, Santos, also stressed the importance of putting the right regulatory regime in place:

Key to me is making sure that regulation is right. Without the right regulation communities do not have trust or faith in any industry, including ourselves. So I think it is very important that these sorts of reviews happen and improvements get made. Santos has been very open that we support strong regulation because it actually hits the bar.⁹⁴⁸

Concerns about fragmentation

- 13.4** Numerous Inquiry participants raised concerns about the fragmentation of the regulatory regime. The evidence indicated that at least four government agencies are responsible for regulating the coal seam gas industry in New South Wales, namely the:

- Division of Resources and Energy (under the umbrella of Department of Trade and Investment, Regional Infrastructures and Services (DTIRIS))

⁹⁴⁷ Ms Fiona Simson, President, NSW Farmers' Association, Evidence, 17 November 2011, p 14.

⁹⁴⁸ Mr James Baulderstone, Vice President Eastern Australia, Santos, Evidence, 17 November 2011, p 6.

- Office of Water (within the Department of Primary Industries, also under the umbrella of DTIRIS)
- Department of Planning and Infrastructure (under the umbrella of Premier and Cabinet)
- Office of Environment and Heritage (within the Department of Premier and Cabinet).

13.5 The NSW Ombudsman informed the Committee that monitoring and enforcement responsibilities are shared these several agencies, leading to a ‘lack of clarity’ about how these responsibilities should be exercised, and in particular confusion about who is responsible for investigating environmental incidents at coal seam gas sites.⁹⁴⁹ The Ombudsman observed that:

It is commonly thought that as these incidents concern environmental issues, they come under the purview of the Environmental Protection and Regulation Group (EPRG, formerly the Environmental Protection Authority), however in practice they are dealt with by DTIRIS and the Office of Water.⁹⁵⁰

13.6 The Ombudsman said that ‘our inquiries suggest that despite being the environmental regulator, the EPRG in the Office of Environment and Heritage has only an advisory role in regard to coal seam gas environmental issues’.⁹⁵¹

13.7 The Ombudsman not only pointed to a fragmentation of responsibilities across NSW Government agencies, and confusion over the division of those responsibilities, but also identified a potential conflict of interest in the role of DTIRIS. DTIRIS is responsible for promoting the industry and issuing licences on the one hand, and taking enforcement action against licensees on the other. The Ombudsman concluded that ‘there are obvious challenges for one agency in advocating for businesses and industries across the state while at the same time being an independent arbitrator of regulatory issues in relation to those same industries’.⁹⁵²

13.8 A number of Inquiry participants called for a more coordinated Government approach, with the Environmental Defender’s Office observing that consultation between Government agencies is ‘fundamental’ given the range of potential coal seam gas impacts, for example on health, the environment, primary industries and planning.⁹⁵³

13.9 Santos described the adverse impacts for industry that arise from not having a coordinated Government response to coal seam gas proposals:

The range of approvals needed to allow CSG projects to proceed involves a number of Departments and a number of Ministers who have to issue licences, permits, authorities, with separate timeframes and conditions. These approvals are often interrelated and interdependent and can be contradictory if there is not a whole of Government approach to the proposed project.⁹⁵⁴

⁹⁴⁹ Submission 436, NSW Ombudsman, p 2.

⁹⁵⁰ Submission 436, p 2.

⁹⁵¹ Submission 436, p 2.

⁹⁵² Submission 436, p 1.

⁹⁵³ Submission 359, Environmental Defender’s Office, p 9.

⁹⁵⁴ Submission 337, Santos, p 19.

- 13.10** Ms Jacqui Kirkby of the Scenic Hills Association remarked that as a result of the fragmented regulatory regime, it is difficult for community members to report complaints and to engage with industry regulators on issues of concern:

One of the problems that I personally ran into was trying to find out which department is responsible for what part of this industry, because it seems to me that there are at least four ... I gather in talking to other people in the Camden gas project who have tried to report problems that they have had the same issue, that they get pushed from one department to another.⁹⁵⁵

Concerns about ineffective monitoring and enforcement

- 13.11** A number of Inquiry participants claimed that the regulatory regime is also hampered by ineffective monitoring and enforcement. The importance of monitoring and enforcement was highlighted by Cr Larry Whipper, Deputy Mayor, Wingecarribee Shire Council: ‘... all the legislation in the world does not work unless there is compliance and there is regulation and there is policing of those conditions...’.⁹⁵⁶

- 13.12** Many participants questioned whether the NSW Government could effectively monitor the coal seam gas industry, given the scale of exploration activity taking place State-wide. In his evidence, Mr Peter Martin of the Southern Highlands Action Group said:

What I am saying is who is watching what these companies are doing? ... With the volume and scale of activity going on across this State you have got numerous examples of this sort of behaviour, where are the policemen?⁹⁵⁷

- 13.13** Campbelltown City Council has within its local area the AGL Energy site at Camden, which has been operating for close to ten years. Mr Jeff Lawrence, Director of Planning, Campbelltown City Council, said: ‘... we would be more satisfied if monitoring were not based on exception or incident but, rather, on a more regular and programmed approach’.⁹⁵⁸

- 13.14** Dr Mariann Lloyd-Smith, Senior Adviser, National Toxics Network, also advocated effective monitoring of compliance with licence conditions, as long as it is accompanied by tougher enforcement action in the event of a breach:

We do need proper monitoring of both surface water and groundwater bores, but the most important thing is that if you monitor and find an issue you have to respond. There is no point in putting conditions on licences – you may have 300 or 400 conditions on a licence, but what is the point if those conditions are broken and no action is taken?⁹⁵⁹

⁹⁵⁵ Ms Jacqui Kirkby, Scenic Hills Association, Evidence, 9 December 2011, p 33.

⁹⁵⁶ Cr Larry Whipper, Deputy Mayor, Wingecarribee Shire Council, Evidence, 9 December 2011, p 12.

⁹⁵⁷ Mr Peter Martin, Southern Highlands Coal Action Group, Evidence, 9 December 2011, p 26.

⁹⁵⁸ Mr Jeff Lawrence, Director, Planning and Environment, Campbelltown City Council, Evidence, 9 December 2011, p 14.

⁹⁵⁹ Dr Mariann Lloyd-Smith, Senior Adviser, National Toxics Network Inc, Evidence, 21 September 2011, p 14.

13.15 Inquiry participants also expressed dissatisfaction with the response to complaints raised with either the NSW Government or coal seam gas companies. These complaints cover various issues, ranging from concerns about poor behaviour by coal seam gas companies, such as approaching a landholder for access to their property in an aggressive way, to reports of environmental pollution or other instances of non-compliance with the regulatory regime.

13.16 A number of Inquiry participants who claimed to have observed instances of environmental pollution said that they either did not know the proper channels for reporting complaints, or that they were ‘brushed off’ if they contacted the relevant authorities. Mr Dean Draper, a Northern Rivers resident, described his difficulties in reporting an instance of alleged environment pollution: ‘I went to the council, then I went to the company, and then I went to the newspapers. Then it was fixed ...’.⁹⁶⁰ Mr Draper said that there needs to be a clear mechanism for reporting non-compliance to Government authorities:

The local authorities need a bigger role. I need someone to take my concerns to – that will not just say, “Contact the company”, like the Richmond Valley Council did to me when I brought evidence of damaged wells leaking and overflowing.⁹⁶¹

13.17 Mr Anthony Pickard, a landholder whose property is adjacent to the Pilliga Forest, was asked whether he had reported instances of alleged environmental pollution to the relevant authorities so they could take appropriate action, Mr Pickard responded: ‘We do. We report it directly to the authority. In fact, you have examples: 26 complaints went off to DPI. So far I have not heard a word back from them...’.⁹⁶² Mr Pickard advised that he started submitting complaints at Christmas 2010 and had made a large number of complaints through to July 2011. As at November 2011 Mr Pickard said that the Department of Primary Industries had not responded to his complaints.⁹⁶³

13.18 Inquiry participants suggested that the ability of the Government to respond adequately to complaints is constrained by inadequate resources.

13.19 Mr Tim Duddy, representing the NSW Farmers’ Mining Reference Group, indicated that compliance activities are inadequate because there are not enough appropriately-skilled officers to undertake monitoring and enforcement activities:

... nor are there any resources on the ground that can be enforced that their processes are wrong because there are so few officers that understand. Anyone in the Office of Water that understood has left and gone to work in private practice somewhere.⁹⁶⁴

13.20 In relation to monitoring of potential impacts on water resources, the Ombudsman informed the Committee that:

⁹⁶⁰ Mr Dean Draper, Local landholder, Evidence, 21 September 2011, p 41.

⁹⁶¹ Mr Draper, Evidence, 21 September 2011, p 41.

⁹⁶² Mr Anthony Pickard, Local landholder, Evidence, 16 November 2011, p 77.

⁹⁶³ Mr Pickard, Evidence, 16 November 2011, p 77.

⁹⁶⁴ Mr Tim Duddy, Member, NSW Farmers’ Association (Boggabri, Gunnedah, Pottinger District Councils), Evidence, 16 November 2011, p 43.

... we understand that there are fewer than 20 inspectors in the Office of Water who perform a compliance or enforcement function in relation to the use of water across the state. Given the breadth of responsibilities and the geographical spread of water related matters across NSW, it is difficult to see this as adequate for ensuring appropriately robust compliance and enforcement.⁹⁶⁵

- 13.21** Some community members contended that, in the absence of effective monitoring to ensure compliance with the regulatory framework, community members feel compelled to police the industry themselves. In the words of Ms Boudicca Cerese, a member of the Group Against Gas Kyogle: ‘There is currently inadequate NSW Government monitoring of coal seam gas operations. The public has had to become the monitors of this industry’.⁹⁶⁶
- 13.22** The Environmental Defender’s Office said that the NSW Government should not by default leave monitoring in the hands of the community: ‘Communities lack the resources or expertise to continually monitor industry developments in these areas. Inadequate monitoring and enforcement may promote a culture of minimal compliance’.⁹⁶⁷

Allegations of environmental pollution

- 13.23** A number of Inquiry participants made specific allegations of environmental pollution by coal seam gas companies. They claimed that these instances demonstrate the inadequacy of monitoring and enforcement activities, as well as showing the unresponsive nature of the complaints system.
- 13.24** Allegations of environmental pollution were a particular theme at the Committee’s hearings in rural and regional areas. In Narrabri, witnesses accused Eastern Star Gas (now taken over by Santos) of breaching environmental regulations in its operations in the Pilliga State Forest. Numerous examples were provided in the oral evidence and written submission from local landholder Mr Pickard, who referred to incidences such as unlined and overflowing drill ponds (which could lead to chemicals contaminating the soil and water), spills of produced water (which could contaminate surface and groundwater), inappropriate disposal of solid waste from drill sites, and direct venting of gas into the atmosphere.⁹⁶⁸
- 13.25** The Northern Inland Council for the Environment also cited instances of alleged pollution in the Pilliga Forest, including finding eight dead frogs adjacent to a well and tree die-back in areas adjacent to water treatment works.⁹⁶⁹ Ms Carmel Flint, Spokesperson, Northern Inland Council for the Environment, said that she reported these incidents to the relevant authorities. Ms Flint described the NSW Government’s response as ‘disappointing’, in that her complaints were passed back to Eastern Star Gas for investigation.⁹⁷⁰

⁹⁶⁵ Submission 436, p 2.

⁹⁶⁶ Ms Boudicca Cerese, Member, Group Against Gas Kyogle, Evidence, 21 September 2011, p 26.

⁹⁶⁷ Submission 359, p 8.

⁹⁶⁸ Mr Pickard, Evidence, 16 November 2011, p 73; Submission 177, Mr Pickard.

⁹⁶⁹ Ms Carmel Flint, Spokesperson, Northern Inland Council for the Environment, Evidence, 16 November 2011, pp 54-55.

⁹⁷⁰ Ms Flint, Evidence, 16 November 2011, p 55.

- 13.26** As a result of the Government's 'disappointing' response to their complaints, the Northern Inland Council for the Environment took matters into their own hands by collecting water samples and sending them away for testing.⁹⁷¹ The tests found that Bohena Creek had high levels of ammonia, methane, carbon dioxide, lithium, cyanide, bromide and boron.⁹⁷² Subsequently, Santos admitted that Eastern Star Gas discharged 10,000 litres of saline coal seam water into Bohena Creek in June 2011.⁹⁷³ Eastern Star Gas did not report the incident at the time, in breach of the obligations of their Exploration Licence. Santos notified the Department of Primary Industries of the incident in January 2012. A media release from the Department of Primary Industries stated that as at January it was investigating the incident and pursuing enforcement action. In February, it was reported that Santos notified the Department of further leaks of contaminated water, which had occurred since Santos took over the Eastern Star Gas site.⁹⁷⁴
- 13.27** Towards the end of February 2012 Santos provided a report to the NSW Government on its review of the operations of Eastern Star Gas. The report '... identified an unacceptable culture in Eastern Star of accepting minor spills, failures in reporting and the possibility of unapproved land clearing on some sites'. Santos committed \$20 million to '... upgrading Eastern Star's sites, equipment and processes to ensure the operations in the Pilliga State Forest meet best practice standards'.⁹⁷⁵ Santos said that their soil tests had demonstrated '... that the levels of elements and compounds in soil near the site, with the exception of salt, do not represent health or ecological risks'.⁹⁷⁶ When speaking on this issue in the Legislative Council, the Hon Duncan Gay MLC, Minister for Roads and Ports, advised that a preliminary investigation report would be provided to the Government by March 2012.⁹⁷⁷
- 13.28** Reflecting on the discharge of contaminated water in the Pilliga Forest, Ms Flint concluded that 'this case highlights a lot of problems with the industry and how difficult it is to regulate mining with such a vast footprint and how inadequate the current approaches are'.⁹⁷⁸
- 13.29** The Committee also heard allegations that Eastern Star Gas did not carry out 'any serious remediation' on decommissioned well sites. Mr Pickard referred in particular to the sites of Bohena 2, 3, 5 and 7: "These sites have large areas of "tree kill" adjacent to, or very near to, or down slope of the actual filled in or surviving drill ponds ... The ponds at Bohena sites,

⁹⁷¹ Ms Flint, Evidence, 16 November 2011, p 55.

⁹⁷² Cubby, B, 'Tests reveal contaminated water near gas site', *Sydney Morning Herald*, 9 December 2011, accessed 21 February 2012 <www.smh.com.au/environment/water-issues/tests-reveal-contaminated-water-near-gas-site-20111208-1oldj.html>

⁹⁷³ NSW Department of Primary Industries, 'NSW government investigates saline water leak', *Media Release*, 13 January 2012.

⁹⁷⁴ Cubby, B, 'Arsenic and lead found in contaminated water leak at coal seam gas drill site', *Sydney Morning Herald*, 10 February 2012, accessed 21 February 2012, <www.smh.com.au/environment/water-issues/arsenic-and-lead-found-in-contaminated-water-leak-at-coal-seam-gas-drill-site-20120209-1rx7s.html>

⁹⁷⁵ Santos, 'Review of Eastern Star Gas Operations', accessed 24 February 2012, <www.santos.com/Archive/NewsDetail.aspx?p=121&id=1317>.

⁹⁷⁶ Santos, 'Review of Eastern Star Gas Operations', accessed 24 February 2012, <www.santos.com/Archive/NewsDetail.aspx?p=121&id=1317>.

⁹⁷⁷ *LC Debates* (23/2/2012), 8822.

⁹⁷⁸ Ms Flint, Evidence, 16 November 2011, pp 54-55.

according to Eastern Star Gas, were drilled by an earlier exploration company, and hence, Eastern Star Gas is not responsible for the environmental damage caused by a previous operator'.⁹⁷⁹

13.30 In another prominent example of alleged environmental pollution, the Committee was told of an incident at the AGL Energy site at Camden which widely reported in the media at the time it occurred, as it had been recorded by a visiting film crew.⁹⁸⁰

13.31 The Scenic Hills Association informed the Committee that the incident occurred in May 2011 at AGL's Sugarloaf Well 3. The Association described the incident as follows:

... a routine well maintenance procedure was in progress when a foamy liquid was propelled into the air from a degasser on a mud tank unit attached to the well and was carried by winds blowing in the direction of residential housing in the suburb of Glen Alpine and of Sydney's water channel, the Upper Canal.⁹⁸¹

13.32 The Office of Environment and Heritage investigated the incident and issued AGL Energy with a formal warning. In informing AGL of its findings, the Office said that AGL only reported the incident two days after it occurred. Other findings included that 'the degasser was not being operated in a proper and efficient manner'. However, the Office of Environment and Heritage concluded that 'there was no significant harm to the surrounding environment from the emission of foamy fluid' and that 'AGL has taken corrective actions to reduce the likelihood of this type of incident reoccurring'.⁹⁸²

13.33 As noted previously, at the Committee's Lismore hearing Mr Draper said that he had observed environmental pollution.⁹⁸³ Mr Draper described his observations as follows:

We already have seen serious damage with our own eyes. I looked at leaking, bubbling and flooded wells near Casino this morning. I am not sure if you were taken to them during your tour: probably not ... I have found drilling fluid pits with ripped liners, overflowing contaminated water dams, and I have seen other badly maintained drill sites - some very close to town. And this is only exploration. What happens when they have thousands of these things?⁹⁸⁴

⁹⁷⁹ Submission 177, p 13.

⁹⁸⁰ Godfrey M, 'AGL warned over coal seam well leak', *Sydney Morning Herald*, 10 August 2011, accessed 26 March 2012, <<http://news.smh.com.au/breaking-news-national/agl-warned-over-coal-seam-well-leak-20110810-1im49.html>>

⁹⁸¹ Submission 648, Scenic Hills Association, p 49.

⁹⁸² Correspondence from Mr Peter Bloem, Manager Illawarra, Environment Protection and Regulation, to Mr David Kelly, AGL Upstream Investments, 4 August 2011, accessed 28 March 2012, <www.agl.com.au/Downloads/AGL%20Sugar%20Loaf%20Warning%20Letter.pdf>

⁹⁸³ Mr Draper, Evidence, 21 September 2011, p 41.

⁹⁸⁴ Mr Draper, Evidence, 21 September 2011, p 41.

Response to concerns about regulatory regime

- 13.34** The NSW Government and coal seam gas industry do not appear to share Inquiry participants' concerns about the regulation of the coal seam gas industry. The NSW Government, for example, described the regulatory regime, including the new measures announced as part of the delivery of the Strategic Land Use Policy, as the 'toughest regulatory regime for CSG in Australia'.⁹⁸⁵
- 13.35** Even before the Government announced the new measures contained in the Strategic Regional Land Use Policy, the coal seam gas companies who appeared as witnesses at the Inquiry stated unequivocally that the industry was well-regulated, and that while they would support the NSW Government if it decided to make changes to the framework, any changes should be in the direction of streamlining planning and approvals.
- 13.36** Mr Robbert de Weijer, Chief Executive Officer, Australia, Dart Energy, said: 'We believe that the industry is strongly regulated to date ...'.⁹⁸⁶ This view was shared by Mr Peter Henderson, Managing Director, Metgasco: 'The industry is already well regulated. We support a strong and effective regulatory framework ...'.⁹⁸⁷ AGL Energy described the coal seam gas as a 'very highly regulated industry'. AGL asserted that 'given the heavy level of existing regulation ... AGL does not believe that the industry warrants any further specific legislative and regulatory frameworks'.⁹⁸⁸
- 13.37** The submission from Eastern Star Gas listed 25 pieces of legislation, policies and guidelines at State, Commonwealth and local government levels that regulate coal seam gas activities in NSW.⁹⁸⁹ In reference to the level of regulation that applies to a project when it reaches production, Santos advised that their Gladstone project in Queensland is operating with 1,200 conditions.⁹⁹⁰
- 13.38** Mr Henderson of Metgasco rejected any suggestion that the industry needed more stringent regulation. He asserted that rather than more regulation, the industry needs Government support:
- Metgasco and its coal seam gas peers have explored and invested in good faith and needs the support of a government that is open for business in the form of timely and professional exploration and development approvals.⁹⁹¹
- 13.39** In response to concerns about the extent of monitoring and enforcement activities, Mr Baulderstone of Santos said that it is proportionate to the level of exploration activity taking place, but that further resources will be needed as the industry grows:

⁹⁸⁵ NSW Government, *Strategic Regional Land Use Policy: Frequently Asked Questions*, March 2012, p 1.

⁹⁸⁶ Mr Robbert de Weijer, Chief Executive Officer Australia, Dart Energy Ltd, Evidence, 8 December 2011, p 67.

⁹⁸⁷ Mr Peter Henderson, Managing Director, Metgasco, Evidence, 8 December 2011, p 37.

⁹⁸⁸ Answers to questions on notice taken during evidence 17 November 2011, Mr Mike Moraza, Group General Manager, Upstream Gas, AGL Energy Ltd, Question 24, p 18.

⁹⁸⁹ Submission 560, Eastern Star Gas, p 13.

⁹⁹⁰ Submission 337, p 37.

⁹⁹¹ Mr Henderson, Evidence, 8 December 2011, p 37.

I think at the moment – because, again, we are in the very early stages, and there is not a huge amount of activity – the regulation and the compliance officers are sufficient. Clearly, as the industry expands and grows in activity, government will need to invest in additional resources to ensure that the regulations in place are adhered to.⁹⁹²

- 13.40** A written question was submitted to DTIRIS regarding whether there is a regular program of audits of coal seam gas wells and associated infrastructure. DTIRIS responded that ‘... the Division of Resources and Energy’s Mine Safety Officers regularly monitor safety compliance...’, for example through reviewing drilling reports and on-site visits.⁹⁹³ However, DTIRIS did not refer to any field monitoring of environmental impacts or compliance with licence conditions.
- 13.41** On the issue of whether the NSW Government employs officers with the requisite skills and experience to conduct monitoring and enforcement activities, Mr Brad Mullard, Executive Director, Mineral Resources and Energy, DTIRIS, advised that:
- We have environmental scientists who are engaged in a lot of the environmental assessments associated with the coal seam methane wells. We also have highly qualified experienced geologists, including petroleum geologists, who are involved in looking at the geological aspects of the coal seam gas industry. Government departments do not necessarily need to have every single expert in every single area... If we need to we go to outside experts for a lot of the highly technical stuff.⁹⁹⁴
- 13.42** Further to Mr Mullard’s answer, Mr Mark Paterson, Director General, DTIRIS, advised that specialist staff, such as hydrogeologists and geomorphologists, are employed by the Office of Water.⁹⁹⁵
- 13.43** The Committee did not receive evidence from the NSW Government on which Government agency is responsible for addressing reports of alleged environmental pollution, or concerns about the behaviour of coal seam gas companies.
- 13.44** Since giving evidence to the Inquiry, the NSW Government has announced several measures as part of its Strategic Regional Land Use Policy that are intended to improve compliance with the regulatory regime and improve coal seam gas companies’ response to complaints.
- 13.45** In regard to compliance measures, penalties will be doubled for non-compliance with regulatory requirements, when explorers ‘undertake unauthorised activity including damage to private or Crown land’, and where ‘rehabilitation is not adequately completed’.⁹⁹⁶

⁹⁹² Mr Baulderstone, Evidence, 17 November 2011, p 8.

⁹⁹³ Answers to supplementary questions, received 13 December 2011, Mr Mark Paterson, Director-General, NSW Department of Trade and Investment, Regional Infrastructure and Services, Question 1, p.6.

⁹⁹⁴ Mr Brad Mullard, Executive Director, Mineral Resources and Energy, Department of Trade and Investment, Regional Infrastructures and Services, Evidence, 17 November 2011, p 47.

⁹⁹⁵ Mr Mark Paterson, Director General, Mineral Resources and Energy, Department of Trade and Investment, Regional Infrastructures and Services, Evidence, 17 November 2011, p 47.

⁹⁹⁶ NSW Government, *Strategic Regional Land Use Policy: Frequently Asked Questions*, March 2012, pp 6-7.

- 13.46** The NSW Government will also take into account past compliance when considering applications to renew exploration licences. For example, the NSW Government announced that compliance with the *Draft Code of Practice for Coal Seam Gas Exploration* ‘will be included as a condition upon licence renewal’.⁹⁹⁷ The NSW Government also said that it has conducted a State-wide audit of coal seam gas licences, in order to ‘enable comprehensive historical and technical data to be considered when licence renewal applications are considered’.⁹⁹⁸
- 13.47** The NSW Government has also introduced a *Guideline for community consultation requirements for the exploration of coal and petroleum, including coal seam gas*. The Guideline acknowledges the importance of explorers implementing ‘effective and accessible’ complaints handling procedures in order to develop good relationships with the local community.⁹⁹⁹ The Community Consultation Condition stipulates that the process for lodging feedback may be through a dedicated phone line, an email address or a website, and that a complainant should be kept informed about what actions the company is taking to address their complaint.
- 13.48** The NSW Government will require explorers to report annually on how they have dealt with complaints and feedback.¹⁰⁰⁰ These reports will be used to monitor the performance of companies holding exploration licences.

Committee comment

- 13.49** While the Committee is mindful that many of the allegations of environmental pollution made by Inquiry participants are anecdotal and unproven, they are nevertheless alarming. It has been revealed that a previously-dismissed concern, namely the pollution of Bohena Creek, was ultimately proven correct. It is inexcusable that this pollution went undetected by NSW Government authorities, despite community complaints, until Santos admitted many months later that a breach had occurred. It should be noted that Santos was not responsible for this incident, having merely taken over the company which produced the spill, and they are to be commended for their forthright disclosure and action. This incident demonstrates the weakness in Government monitoring and enforcement activities, and also highlights the benefits of taking community complaints seriously. Given this example of the NSW Government’s failure to adequately police the industry, the Committee must be sceptical of the claim by the industry that all coal seam gas companies are meeting their licence conditions, particularly given the large geographic area in which exploration activity is occurring. The Committee notes that the NSW Government has amended environmental protection legislation to require immediate notification of any pollution incidents.¹⁰⁰¹ The following section will consider potential reforms to improve the regulation of the coal seam gas industry in New South Wales.

⁹⁹⁷ NSW Government, *Draft Code of Practice for Coal Seam Gas Exploration*, March 2012, p 3.

⁹⁹⁸ NSW Government, *Strategic Regional Land Use Policy: Frequently Asked Questions*, March 2012, p 7.

⁹⁹⁹ NSW Government, *Strategic Regional Land Use Policy: Guideline for community consultation requirements for the exploration of coal and petroleum, including coal seam gas*, March 2012, p 6.

¹⁰⁰⁰ NSW Government, *Strategic Regional Land Use Policy: Frequently Asked Questions*, March 2012, p 6.

¹⁰⁰¹ Protection of the Environment Legislation Amendment Bill 2011, *LC Debates* (8-9/11/2011).

Improving the regulatory framework

13.50 Numerous Inquiry participants called for the Government to institute a clear, streamlined and transparent division of responsibilities among the agencies responsible for regulating the coal seam gas industry, and also called for more resources to be allocated to compliance activities. In order to address the perceived deficiencies in industry regulation, several Inquiry participations looked to the steps taken in Queensland to address fragmentation and improve whole-of-government coordination. Some Inquiry participants also suggested that a Coal Seam Gas Ombudsman or Commissioner be established.

Enhancing coordination

13.51 Numerous Inquiry participants, including coal seam gas companies, called for the regulatory framework to be streamlined and made more transparent. Santos' Mr Baulderstone claimed that streamlining regulation would not only benefit the industry, but would improve accountability:

So I think one thing that would benefit everyone is not necessarily additional layers upon layers of regulation, but streamlining and bringing it together to have a single point of accountability for how the regulation process works. I think that would go a long way to giving the community confidence that the industry is regulated.¹⁰⁰²

13.52 Inquiry participants suggested that Government agencies are not properly equipped to play their role as regulators of the coal seam gas industry. In relation to the environment and health agencies, Dr Stuart Khan, Senior Lecturer, Water Research Centre, University of New South Wales, observed that: 'My own experiences and interactions with these two agencies (both before and after the departmental restructuring that succeeded the 2011 NSW State election) has convinced me that neither is currently properly resourced for this role'.¹⁰⁰³

13.53 In support of the assertion that there is a lack of industry knowledge within Government agencies, Eastern Star Gas advised that 'ESG has received conflicting advice from NSW departments and agencies on numerous occasions, particularly around planning and environmental issues'.¹⁰⁰⁴

13.54 The NSW Government has gone some way to acknowledging the need to make industry regulation more transparent. In announcing its Strategic Regional Land Use Policy the NSW Government said that the policy will provide 'certainty for industry by establishing clear rules and transparent assessment processes'.¹⁰⁰⁵

13.55 Based on the company's experience in Queensland, Santos said that it would strongly encourage the introduction of a process which coordinates these varied approvals.¹⁰⁰⁶

¹⁰⁰² Mr Baulderstone, Evidence, 17 November 2011, p 8.

¹⁰⁰³ Submission 330, Dr Stuart Khan, Senior Lecturer, Water Research Centre, University of New South Wales, p 7.

¹⁰⁰⁴ Submission 560, p 14.

¹⁰⁰⁵ NSW Government, *Strategic Regional Land Use Policy: Frequently Asked Questions*, March 2012, p 1.

¹⁰⁰⁶ Submission 337, p 19.

- 13.56** DTIRIS advised that in 2011 it formed the Coal Seam Gas Working Group to ‘promote enhanced cooperation across all relevant departments and agencies’.¹⁰⁰⁷ The Working Group includes the key regulatory agencies of the Division of Resources and Energy, Office of Environment and Heritage, Office of Water, Department of Primary Industries and the Department of Premier and Cabinet, and ‘... is tasked with examining the key issues associated with the regulation of the industry’.
- 13.57** The Committee is also aware that in December 2011, the Standing Council on Energy and Resources ‘agreed to the development of a national harmonised regulatory framework for the coal seam gas industry’.¹⁰⁰⁸ The key areas to be considered include water management and monitoring, well integrity, aquifer protection, hydraulic fracturing and chemical use. Further, ‘Ministers agreed to publicly release the work program to further build community confidence in the effectiveness of regulatory regimes governing the industry’s development’. The national harmonised framework is due for completion in September 2012.

Allocating additional resources

- 13.58** Inquiry participants highlighted the need to allocate additional resources to improve compliance with the regulatory regime. The NSW Farmers’ Association recommended that the NSW Government immediately increase the number of monitoring and enforcement officers ‘... to enable more timely responses to reported breaches of licence conditions...’.¹⁰⁰⁹
- 13.59** In relation to who should pay to resource the regulatory framework, the Ombudsman suggested that costs be borne by industry through a ‘...levy or additional fee incorporated into licences’.¹⁰¹⁰
- 13.60** Ms Kirkby suggested that the NSW Government may be reluctant to require the industry to meet these costs, because they are likely to be so high as to potentially jeopardise the industry’s viability:

.... the cost of doing that will be so huge that I doubt that the industry will be viable... We think the industry has to be properly policed and based on what we have seen I think you need someone out on site every time they have an activity on the well. So if they are drilling, fracking, doing maintenance, someone needs to make sure they are doing the right thing otherwise the corners get cut. Who is going to pay for that? It should not be the taxpayer...¹⁰¹¹

- 13.61** Inquiry participants noted that close oversight of the industry will require the NSW Government to compete with the mining industry to recruit enough skilled people. Mr Michael Murray, National Water Policy Manager, Cotton Australia, remarked that:

¹⁰⁰⁷ Answers to supplementary questions, received 13 December 2011, Mr Paterson, Question 2, p.5.

¹⁰⁰⁸ Standing Council on Energy and Resources, *Meeting Communiqué*, Melbourne, 9 December 2011.

¹⁰⁰⁹ Submission 335, NSW Farmers’ Association, p 5.

¹⁰¹⁰ Submission 436, p 3.

¹⁰¹¹ Ms Kirkby, Evidence, 9 December 2011, p 29.

One of the issues is that all the good hydrologists and the like have been snapped up with big salaries by the various extractive companies. You guys will have to match that and maybe build that into your fees and royalties to help pay for it.¹⁰¹²

Learning from Queensland's experience

- 13.62** A number of Inquiry participants recommended that in attempting to put the right regulatory regime in place, New South Wales should look to Queensland, which has fifteen years of experience in regulating the industry in its production phase.
- 13.63** Many Inquiry participants criticised the way the Queensland Government approached industry regulation, particularly in the early days of the industry in that State, and urged the Government to learn from Queensland's experience. The concerns around Queensland's regime in the early days were encapsulated by Mr Drew Hutton, President of the Lock the Gate Alliance, who said that the Queensland Government was '... woefully behind the eight ball when the whole thing started ... it is very difficult for regulators to do their job against a big industry ... and when they do not have the resources it become so much harder'.¹⁰¹³
- 13.64** The NSW Business Chamber said that New South Wales has the opportunity to put the right regulatory framework in place from the very beginning of the industry:
- Because coal seam gas is relatively new, there is still time to exert a degree of control, in terms of regulation and the management of risk associated with the technology –the two most often cited reasons for abandoning or halting the development of the industry in NSW.¹⁰¹⁴
- 13.65** A similar view was expressed by Mr Rick Wilkinson, Chief Operating Officer, Eastern Australia, Australian Petroleum Production and Exploration Association (APPEA). According to Mr Wilkinson, New South Wales needs to learn the lessons of the Queensland experience, to make the most of the opportunities associated with coal seam gas:
- I think the good news story for New South Wales is that you actually can look at how it has happened across the border and learn from that, and decide how you would like to go forward here in New South Wales. Queensland is, to my mind, about 10 to 15 years further than down the track from where New South Wales is at the moment ... So there is no question that there are lessons to be learned, and to make it fit and work for New South Wales is the opportunity that we now have.¹⁰¹⁵
- 13.66** The Senate Inquiry examining the impacts of coal seam gas development in the Murray Darling Basin urged the NSW Government to work closely with its Queensland counterpart to develop a 'comprehensive' regulatory framework, before allowing the industry to move to the production phase in New South Wales:

¹⁰¹² Mr Michael Murray, National Water Policy Manager, Cotton Australia, Evidence, 16 November 2011, p 20.

¹⁰¹³ Mr Drew Hutton, President, Lock the Gate Alliance, Evidence, 17 November 2011, p 24.

¹⁰¹⁴ Submission 258, NSW Business Chamber, p 1.

¹⁰¹⁵ Mr Rick Wilkinson, Chief Operating Officer, Eastern Australia, Australian Petroleum Production and Exploration Association, Evidence, 12 December 2011, p 37.

The legal regime in Queensland governing the coal seam gas industry has been evolving rapidly on the basis of actual experience, the lessons learned and the changes made as a result should be available to New South Wales in developing its law in this area.

The Committee trusts that there is extensive consultation between the Queensland and New South Wales authorities. NSW has the opportunity to have a comprehensive regulatory framework in place before production commences, drawing on lessons learned...¹⁰¹⁶

13.67 As one of its measures to improve the regulation of the coal seam gas industry, the Queensland Government established an LNG Industry Unit within the Department of Employment, Economic Development and Innovation. The Unit is the single point of contact for policy and legislative changes relating to the coal seam gas industry. The Unit assists with planning and coordinating the activities of different government agencies, monitoring the progress of projects, and ‘case managing’ permits and approvals after an environmental assessment has been conducted.¹⁰¹⁷

13.68 The submission from Eastern Star Gas praised Queensland’s LNG Industry Unit as creating a ‘one stop shop’ to ensure a whole of government response to proposals:

ESG notes with interest the role of the LNG Industry Unit in the Queensland Department of Employment, Economic Development and Innovation (DEEDI) and its role in liaising with local authorities, peak industry bodies and proponents to develop a whole-of-government response to proposals. Given the breadth of issues involved in CSG exploration, production and transportation, the benefits of a one stop shop are profound.¹⁰¹⁸

13.69 Further, Eastern Star Gas observed that a one stop shop could address possible knowledge gaps about the industry within NSW Government agencies:

A dedicated CSG Industry Unit could become an effective repository for information and advice within the NSW State Government, allowing a reliable and useful bank of corporate knowledge to be established for the benefit of all NSW Government departments and agencies.¹⁰¹⁹

13.70 Queensland has also moved to improve monitoring and enforcement measures by establishing an LNG Enforcement Unit in the Surat Basin to ensure compliance with the regulatory regime. The Enforcement Unit is under the purview of the Department of Environment and

¹⁰¹⁶ Parliament of Australia, Senate, Rural Affairs and Transport References Committee, *Management of the Murray Darling Basin – Interim Report: the impact of mining coal seam gas on the management of the Murray Darling Basin*, November 2011, p 25.

¹⁰¹⁷ Queensland Department of Employment, Economic Development and Innovation, accessed 30 March 2012, <www.industry.qld.gov.au/lng/enforcement.html>

¹⁰¹⁸ Submission 560, p 4.

¹⁰¹⁹ Submission 560, p 4.

Resource Management. The Unit is staffed by ‘fifty new specialist groundwater, environmental and safety staff’.¹⁰²⁰ The LNG Enforcement Unit officers are based in Brisbane as well as regional areas including Dalby, Roma, Toowoomba, Gladstone, Rockhampton and Emerald.

- 13.71** According to the Queensland Government, the LNG Enforcement Unit plays an important role in monitoring the activities of CSG companies, and that ‘a proactive compliance plan is in place to closely monitor company actions. 300 water bores will be inspected for quality and level in 2011. A further 300 will be inspected in 2012’.¹⁰²¹ In addition to its programmed monitoring, the Queensland Government said that it undertakes random audits of coal seam gas activities:

Random audits and inspections of all CSG activities are carried out regularly... A total of 187 proactive inspections and audits will be undertaken across an extensive range of CSG operations including dredging, fracking, water discharges and well construction and completion reports.¹⁰²²

- 13.72** In addition to instituting new compliance measures, the Queensland Government has taken steps to improve their response to community complaints, and to provide the community with a defined access point for information on the industry. The Queensland Government has done this by establishing a CSG/LNG Hotline.¹⁰²³ The Hotline is designed to provide information and to quickly address concerns or complaints, and is also a means for members of the public to contact the LNG Enforcement Unit.¹⁰²⁴
- 13.73** The Committee attempted to ascertain from DTIRIS whether New South Wales was aware of the regulatory developments in Queensland. When asked what formal consultation arrangements are in place with the Queensland Government, DTIRIS responded: ‘NSW has formal links with all Australian jurisdictions through the Coal Seam Gas Steering Group under the Standing Council on Energy and Resources. The NSW Government also has informal connections with the relevant Queensland Government departments at all levels’.¹⁰²⁵
- 13.74** In addition, DTIRIS advised that there will be a review of the *Petroleum (Onshore) Act 1991*, and that ‘the review will also encompass the recent experience gained by Queensland and other states in relation to the regulation of coal seam gas’.¹⁰²⁶

¹⁰²⁰ Parliament of Australia, Senate, Rural Affairs and Transport References Committee, Inquiry into the management of the Murray Darling Basin, Submission 358, Queensland Government, p 19.

¹⁰²¹ Senate Rural Affairs and Transport References Committee, Inquiry into the management of the Murray-Darling Basin, Submission 358, Queensland Government, p 19.

¹⁰²² Senate Rural Affairs and Transport References Committee, Inquiry into the management of the Murray-Darling Basin, Submission 358, Queensland Government, p 19.

¹⁰²³ Senate Rural Affairs and Transport References Committee, Inquiry into the management of the Murray-Darling Basin, Submission 358, Queensland Government, p 14.

¹⁰²⁴ Queensland LNG Enforcement Unit, accessed 10 February 2011, <www.derm.qld.gov.au/link/2011issue05/csg_unit.html>

¹⁰²⁵ Answers to supplementary questions, received 13 December 2011, Mr Paterson, Question 2, p 5.

¹⁰²⁶ Answers to supplementary questions, received 13 December 2011, Mr Paterson, Question 9, p 20.

Establishing a Coal Seam Gas Commissioner or Ombudsman

- 13.75** Several Inquiry participants suggested that the NSW Government create the position of Coal Seam Gas Ombudsman or Commissioner. Views varied on the role that a Commissioner or Ombudsman could play. Some of the suggestions included that this person be charged with oversight of the regulatory system, investigating complaints, and providing a central repository for information on the industry.
- 13.76** Cr Robyn Faber, Mayor, Narrabri Shire Council, supported the creation of an Ombudsman:
- Narrabri Shire calls on the State Government to appoint an independent officer, similar to an ombudsman, reporting directly to the Premier and the people to manage and enforce compliance with conditions of consent for all State-significant projects, including coal seam gas and mining ...¹⁰²⁷
- 13.77** The Hunter Valley Wine Industry Association stressed the complaints management aspect of this role calling for ‘the appointment of a Coal and Gas Ombudsman to investigate complaints’.¹⁰²⁸
- 13.78** Mr Michael Johnsen, who appeared in a private capacity and as a Councillor of Upper Hunter Shire Council, suggested that an Ombudsman could disseminate reliable information to the community: ‘One of the things that we should be looking at is a mineral resources Ombudsman, an independent body that can impart information to everyone. That Ombudsman would be someone the community can rely on’.¹⁰²⁹
- 13.79** Some sections of the coal seam gas industry also supported the appointment of an independent person to oversee the coal seam gas industry. According to Mr Wilkinson of APPEA:
- I think there should be a visible and clear regulator. I think there is talk already about a resources commission – having someone with whom the buck stops regarding coal seam gas. That provides a go-to person who can navigate the regulations and act as a conduit for concerns.¹⁰³⁰
- 13.80** Mr Henderson of Metgasco indicated that he saw the benefits of this position as ‘having someone in government who knows how government works and who can explain to the people how the regulations fit together and the checks and balances would add value’.¹⁰³¹

Committee comment

- 13.81** The Committee believes that the NSW Government must learn from Queensland’s recent experience of coal seam gas development. The following recommendations suggest changes to the regulatory regime in New South Wales, based on Queensland’s recent efforts to improve industry regulation.

¹⁰²⁷ Cr Robyn Faber, Mayor, Narrabri Shire Council, Evidence, 16 November 2011, p 2.

¹⁰²⁸ Submission 259, Hunter Valley Wine Industry Association, p 7.

¹⁰²⁹ Mr Michael Johnsen, Councillor, Upper Hunter Shire Council, Evidence, 31 October 2011, p 49.

¹⁰³⁰ Mr Wilkinson, Evidence, 12 December 2011, p 37.

¹⁰³¹ Mr Henderson, Evidence, 8 December 2011, p 44.

- 13.82** Several Inquiry participants called for the position of coal seam gas commissioner or ombudsman to be established to oversee the coal seam gas industry. They suggested that this measure could improve community confidence in the industry. The Committee therefore recommends that the NSW Government establish a position for a Petroleum Ombudsman. In making this recommendation, the Committee suggests that the NSW Government consider expanding this position so that it would not only oversight coal seam gas activities, but all mining activities.

Recommendation 31

That the NSW Government establish a position for a Petroleum Ombudsman.

- 13.83** Inquiry participants living in areas potentially affected by coal seam gas activities expressed concern about fragmentation of the regulatory regime across several Government agencies. This fragmentation is also undesirable for coal seam gas companies, as it can be cumbersome and unwieldy for them to navigate the application and approvals processes. Importantly, fragmentation can also mean that the Government is missing out on developing a bank of much-needed knowledge and expertise about the industry.
- 13.84** Aside from the need to address fragmentation, the Committee considers it imperative that the Government act to address the potential conflict of interest in the role played by DTIRIS. As noted by the Ombudsman, there are ‘obvious challenges’ for DTIRIS in its responsibilities for promoting the industry and issuing licences, as well as conducting monitoring and enforcement activities. There should instead be a clear division between the agency or agencies responsible for monitoring the coal seam gas industry to ensure compliance with industry regulation, and taking enforcement action where required, and the agency or agencies charged with supporting the industry’s development and issuing licences.
- 13.85** The Committee considers that a new Industry Unit should be established within the Division of Resources and Energy, DTIRIS, to be modelled on the LNG Industry Unit established in Queensland. The Unit would function as a ‘one-stop-shop’ on coal seam gas issues, and would be responsible for issuing licences and driving policy development on the industry. The Industry Unit would deliver a whole of government response to the industry and also act as a ‘knowledge bank’ within Government on coal seam gas issues.

Recommendation 32

That the NSW Government establish an Industry Unit within the Division of Resources and Energy in the Department of Trade and Investment, Regional Infrastructure and Services to provide a coordinated response to coal seam gas developments in New South Wales. The Unit should:

- issue licences for coal seam gas development,
 - drive policy development on the coal seam gas industry, and
 - provide a repository of knowledge within Government about coal seam gas issues.
-

- 13.86** In addition, a new Compliance Unit should be established in the Environment Protection Authority, to be modelled on the LNG Enforcement Unit established in Queensland. The Compliance Unit would be responsible for monitoring coal seam gas activities, investigating incidents, and taking enforcement action where required. This would provide a single point of accountability. As in Queensland, the Government should recruit officers with specialist skills, such as hydrogeologists and geologists, and will need to pay competitive salaries to compete with the mining industry. As many of these officers as possible should be based in the regional ‘shop fronts’ proposed in Recommendation 13.
- 13.87** This proposal to establish a Compliance Unit would address this potential conflict of interest in role of D’TIRIS by moving the monitoring, enforcement and complaints functions to another agency that is independent of Government.

Recommendation 33

That the NSW Government establish a Compliance Unit within the Environment Protection Authority. The Unit should:

- undertake regular monitoring of coal seam gas operations,
- address community complaints, investigate incidents and take enforcement action where required, and
- be comprised of specialist compliance officers, as many of whom as possible should be located in regional ‘shop fronts’.

-
- 13.88** The Committee understands the frustration of Inquiry participants who have attempted to report complaints of environmental pollution or poor behaviour by coal seam gas companies. The Committee heard that if members of the public do alert Government agencies to their concerns, they are seen as a nuisance. The Committee notes that this has the potential to feed the suspicion among some community members that the NSW Government is on the side of the coal seam gas companies, rather than concerned members of the public. In addition, participants who alerted coal seam gas companies to their concerns said that their complaints were not acted upon.
- 13.89** The Committee considers that members of the public should have the option to report their concerns to either coal seam gas companies or the NSW Government. In addition to requiring coal seam gas companies to institute effective complaints handling procedures, as they have done in the delivery of the Strategic Regional Land Use Policy, the NSW Government should establish its own centralised complaints hotline, modelled on Queensland’s LNG/CSG Hotline. The Complaints Hotline would refer complaints to the Compliance Unit for possible investigation and enforcement action if necessary.

Recommendation 34

That the NSW Government establish a dedicated Complaints Hotline within the Compliance Unit. The Hotline should:

- answer calls from community members seeking to report concerns about potential environmental pollution or the behaviour of coal seam gas companies, and
- refer complaints to the Compliance Unit for investigation and possible action.

- 13.90** The Committee shares the view of those Inquiry participants who believe that New South Wales has the opportunity to learn from events in Queensland. If the industry is to develop to its full potential, any regulatory regime put in place must have a scientific basis.
- 13.91** A key theme throughout this report is the level of uncertainty surrounding the potential impacts of the coal seam gas industry. Some of these impacts could have significant and long-lasting consequences, such as contamination or depletion of water resources. The Committee believes that it is imperative that no further production approvals are issued until the deficiencies in the regulatory framework are addressed and a comprehensive, effective and transparent regime is put in place to regulate the coal seam gas industry in New South Wales.

Recommendation 35

That the NSW Government issue no further production licences until a comprehensive framework for the regulation of the coal seam gas industry is implemented.

Appendix 1 Submissions

No.	Author
1	Ms Rosslyn Elliott
2	Mr Alex Portnoy
3	Name suppressed
4	Name suppressed
5	Mrs Julie Prowse
6	Mr Murray Scott
7	Miss Moana Perrot
8	Name suppressed
9	Miss Susan Gourley
10	Ms Jill Garsden
11	Miss Lisa Doherty
12	Mrs Lynne De Weaver
13	Ms Margaret Brace
14	Mr Roger Corben
15	Mr Nicholas Blackman
16	Mr Jason Adam
17	Dr Wayne & Mrs Susan Somerville
18	Name suppressed
19	Mr Bruce Robertson
20	Mr Kevin & Maureen Markey
21	Mr David Goulding
22	Mr Robert F Komoll (Partially Confidential)
22a	Mr Robert F Komoll (Partially Confidential)
23	Ms Sandra Easton
24	Mr Clifford Harris
25	Ms Sasha London Welker
26	Mr Richard Deem
27	Cr Bevan O'Regan
28	Mr Simon Chance
29	Ms Julie St. Aubyn
30	Ms Jennifer Tidey
31	Miss Judith McCaffery

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33	Householders' Options to Protect the Environment (HOPE) Inc.
34	Mr Steve Higgs
35	Name suppressed
36	Mrs Emma-Jane Larmar
37	Mr Peter van Nimwegen
38	Ms Christine Tiley
39	Mr Peter Gillbank
40	Ms Karen Dinsdale
41	Mrs Cornelia Tischner-King
42	Mr Doug Cush
43	Mr William Vorobioff
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46	Confidential
47	Mr John Jeayes
48	Mr Paul Brecht
49	Mr Harald Oshman
50	Ms Alison Ross
51	Mr Chris Willey
52	Confidential
53	Name suppressed
54	Ms Bev Atkinson
55	Mr Trent Bailey
56	Dr Liz Gill
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58	Ms Christine Clark
59	Name suppressed
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62	Name suppressed
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67a	Mrs Madeleine Adams
68	Mr Philippe Dupuy
69	Ms Linda Wirf
70	Mr Colin Scott
71	Name suppressed
72	Name suppressed
73	Mrs Natalie Tydd
74	Confidential
75	Mrs Karen Gifford
76	Mrs Charmaine Cook
77	Name suppressed
78	Mr Roland Dobler
79	Name suppressed
80	Ms Victoria Ross
81	Confidential
82	Name suppressed
83	Name suppressed
84	Name suppressed
85	Mr Leslie Jowers
86	Mr Rob Matthews
87	Mr Ian Dawson
88	Mrs Robyn Jones
89	Mr Colin Hindmarsh
90	Mr Philip Bailey
91	Ms Penny Osterhaus
92	Mrs Helen Saville
93	Mr Larry Robertson
94	Mrs Christine Crimmins
95	Name suppressed
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97	Northern Rivers Catchment Management Authority

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99	Mrs Indra Stephenson
100	Australian Government National Water Commission
101	Ms Bev Maybury
102	Ms Jean Frater
103	Ms Robyn Moncrieff
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105	Confidential
106	Mr Nat Barton
106a	Mr Nat Barton
107	Mrs Jennifer Pyle
108	Ms Jane Lemann OAM
109	Ms Leanne Le Coic
110	Central West Environment Council
111	Mr Raymond Dean
112	Dr Alexander Racklyeft
113	Confidential
114	Mrs Diane Sanna
115	Name suppressed
116	Ms Andrea Jones
117	Name suppressed
118	Mr Graham Warburton
119	Name suppressed
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123	Mr Michael Nejad
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141	Name suppressed
142	Mrs Jeanie Pecats
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144	Mr Roger Ware
145	Name suppressed
146	Name suppressed
147	Mr Bruce Clarke
148	Mr Keelah Lam
149	Ms Elizabeth Thorton
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151	Ms Heather Barnard
152	Mrs Caroline Waiton
153	Ms Victoria Hamilton
154	Ms Elizabeth Morrow
155	Mr Samuel Mehan
156	Ms Tracy Parker
157	Ms Alexandra Manzi Fe
158	Ms Amanda Martin
159	Dr Shaun Cashman
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161	Name suppressed
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164	Mrs Robyn Kremer

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167	Mrs Elizabeth Jack
167a	Mrs Elizabeth Jack
168	Name suppressed
169	Mr Adrian Ingleby
169a	Mr Adrian Ingleby
170	Mrs Cathy Lock
171	Mr Greg Taylor
172	Mr Reinhard Freise
173	Mrs Amanda McHugh
174	Ms Sue Klein and Mr Roger Graf
175	Ms Jeanette Gow
176	Clarence Environment Centre
177	Mr Anthony J Pickard (Partially Confidential)
177a	Mr Anthony J Pickard (Partially Confidential)
178	Mrs Elizabeth Starkey
179	Tourism Advancing Gloucester
180	Ms Alice Moffett
181	Mr Scott Sledge
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183	Dr Rockley G Boothroyd
184	Mr Bruce Corston
185	Name suppressed
186	Mr Martin Robinson
187	Name suppressed
188	Ms Julia Walkden
189	Mr William Michael Seay
190	Mr Angus Neil-Smith
191	Mrs Sue Wilmott
192	Mrs Beverley Sheppard
193	Ms Sally Chapman
194	Mr Barry Whitton
195	Mr David Rose

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196	Greg Armfield
197	Name suppressed
198	Name suppressed
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Appendix 3 Witnesses at hearings

Date	Name	Position and Organisation
21 September 2011 House with No Steps Alstonville	Mr Wayne Halcrow	Manager, Corporate Services, Richmond Valley Council
	Cr Janet Wilson	Deputy Mayor, Kyogle Council
	Cr Jenny Dowell	Mayor, Lismore City Council
	Mr Gary Murphy	Tweed Shire Council
	Cr Phillip Silver	President, Northern Rivers Regional Organisation of Councils (NOROC), Mayor of Ballina Shire Council
	Cr Joan van Lieshout	Tweed Shire Council
	Dr Mariann Lloyd-Smith	Assistant Coordinator/Senior Advisor, National Toxics Network Inc.
	Ms Joanna Immig	National Coordinator, National Toxics Network Inc.
	Dr Wayne Somerville	Local property owner and clinical psychologist
	Mr Ian Gaillard	Keerrong Valley Gas Squad
	Mr Douglas Ferguson	Keerrong Valley Gas Squad
	Mr Harry Boyd	Keerrong Valley Gas Squad
	Ms Boudicca Cerese	Member, Group Against Gas Kyogle
	Ms Lesley MacQueen	Member, Group Against Gas Kyogle
	Ms Georgina Ramsay	Member, Group Against Gas Kyogle
	Mr Richard Deem	Local property owner
	Mr Greg McNamara	Chairman, Norco Co-Operative Ltd
Mr Jeff Collingwood	Milk Supply Manager, Norco Co-Operative Ltd	
Mr Dean Draper	Local property owner	
7 October 2011 Parliament House Sydney	Mr John Whitehouse	Partner, Minter Ellison Lawyers and Visiting Fellow, Graduate School of Environment, Macquarie University

Date	Name	Position and Organisation
31 October 2011 Club Taree Taree	Mr Gerard Tuckerman	Manager Natural Systems, Great Lakes Council
	Ms Lisa Jane Shiff	Director Planning and Environmental Services, Great Lakes Council
	Mr Gerard Michael Jose	General Manager, Greater Taree City Council
	Cr John Rosenbaum	Deputy Mayor, Gloucester Shire Council
	Cr Noreen June Germon	Councillor, Gloucester Shire Council, and Gloucester Shire Council representative, AGL Resources Community Consultative Committee
	Mr Pat Neal	Member, NSW Farmers Dairy Committee
	Mr Graham Healy	Chairperson, Barrington-Gloucester-Stroud Preservation Alliance
	Mr Garry Smith	Project officer, Barrington-Gloucester-Stroud Preservation Alliance
	Ms Anna Kaliska	Quality and Environmental Impact Manager, MidCoast Water
	Mr Robert James Loadsman	General Manager, MidCoast Water
	Mr Peter Epov	Chair, Manning Alliance
	Ms Kerry Anderson	Secretary, Manning Alliance
	Mr Lloyd Parslow	Treasurer, Manning Alliance
	Mr Thomas Davey	Chairperson, Tourism Advancing Gloucester
	Mr Bruce Robertson	Beef cattle farmer on Manning River
Dr Steve Robinson	Psychiatrist and resident of Gloucester	
Mr Michael Johnsen	Resident of Scone and Cr, Upper Hunter Shire Council	

Date	Name	Position and Organisation
15 November 2011 The Club Motor Inn Narrabri	Mr Owen Lane	Local property owner
	Mr Peter Gett	Local property owner
16 November 2011 The Crossing Theatre Narrabri	Cr Robyn Faber	Mayor, Narrabri Shire Council
	Cr Adam Marshall	Mayor, Gunnedah Shire Council
	Cr Katrina Humphries	Mayor, Moree Plains Shire Council
	Cr Col Murray	Chairperson, Namoi Councils and Mayor, Tamworth Regional Council
	Mr Craig Trindall	Traditional landowner, Gomeroi Nation
	Mr Michael Anderson	Traditional landowner, Gomeroi Nation
	Mr Michael Murray	National Water Policy Manager, Cotton Australia
	Ms Jane Judd	Friends of the Pilliga
	Mr Milton Judd	Friends of the Pilliga
	Ms Rosemary Nankivell	Caroona Coal Action Group and Mullaley Gas Pipeline Accord
	Mr James Bishop	Mullaley Gas Pipeline Accord
	Mr David Quince	Mullaley Gas Pipeline Accord
	Ms Judi Sheedy	Executive Councillor and Chair of Gunnedah District Council, NSW Farmers' Association (Boggabri, Gunnedah, Pottinger District Councils)
	Mr Tim Duffy	Member, NSW Farmers' Association (Boggabri, Gunnedah, Pottinger District Councils)
Mr Alastair Donaldson	Member, NSW Farmers' Association (Boggabri, Gunnedah, Pottinger District Councils)	
Mr Tim Duddy	Member, NSW Farmers' Association (Boggabri, Gunnedah, Pottinger District Councils)	
Mr Doug Cush	Local Property owner	

Date	Name	Position and Organisation
17 November 2011 Parliament House Sydney	Ms Natalie Tydd	Local Property owner
	Mr Robert & Mrs Penny Blatchford	Local Property owners
	Ms Carmel Flint	Spokesperson, Northern Inland Council for the Environment
	Mr Phil Sparks	Advisor, Northern Inland Council for the Environment
	Ms Jon-Maree Baker	Executive Officer, Namoi Water
	Ms Francesca Andreoni	Strategic Planning Manager, Namoi Catchment Authority
	Mr Anthony Pickard	Local property owner
	Mr James Baulderstone	Vice President Eastern Australia, Santos
	Mr Andrew Kremor	General Manager Energy Business, Santos
	Mr Sam Crafter	Manager Community and Government Relations NSW, Santos
	Ms Fiona Simson	President, NSW Farmers' Association
	Ms Brianna Casey	Senior Policy Manager, NSW Farmers Association
	Mr Charlie Thomas	Policy Advisor, NSW Farmers' Association
	Mr Peter Drew Hutton	President, Lock the Gate Alliance Inc
	Mr Ross Anthony Naumann	Drilling Expert
Mr Mike Roy	Expert for well construction and fracturing	
Mr Mark Paterson AO	Director General, Department of Trade and Investment, Regional Infrastructures and Services	
Mr Brad Mullard	Executive Director, Mineral Resources and Energy, Department of Trade and Investment, Regional Infrastructures and Services	

Date	Name	Position and Organisation
	Mr Robert O'Neill	Director, Water Policy and Planning, NSW Office of Water, Department of Trade and Investment, Regional Infrastructures and Services
	Dr Marion Carey	Doctors for the Environment Australia
	Dr Helen Redmond	Doctors for the Environment Australia
	Mr Mike Moraza	Group General Manager, Upstream Gas, AGL Energy Ltd
	Ms Sarah McNamara	Government and Community Relations, AGL Energy Ltd
	Mr John Ross	Manager, Hydrogeology, AGL Energy Ltd
8 December 2011 Parliament House Sydney	Cr Keith Rhoades AFSM	President, Local Government Association of New South Wales
	Cr Adam Marshall	Vice President, Shires Association of New South Wales
	Mr Jeff Smith	Director, Environmental Defender's Office
	Mr Nari Sahukar	A/Policy Director, Environmental Defender's Office
	Mr Peter Townsley	Stop Coal Seam Gas Illawarra
	Dr Peter Turner	Northern Illawarra Sustainability Alliance
	Dr Stuart Khan	Senior Lecturer, Water Research Centre University of New South Wales
	Mr Peter Henderson	Managing Director, Metgasco
	Ms Glenda McLoughlin	Chief Financial Operator, Metgasco
	Mr Mick O'Brien	Chief Operating Officer, Metgasco
	Mr Richard Shields	External Relations Manager, Metgasco
	Ms Jacinta Green	Stop Coal Seam Gas Sydney
	Mr Chris Magner	Richmond Wilson Combined Water Users' Association
	Mr David Clift	Richmond Wilson Combined Water Users' Association
	Mr Robbert de Weijer	CEO Australia, Dart Energy Ltd
	Mr Jason Needham	Exploration Operations Manager

Date	Name	Position and Organisation
9 December 2011 Highlands Golf Club Mittagong	Mr Andrew Collins	Australia, Dart Energy Ltd External Relations Manager, Dart Energy Ltd
	Ms Marylou Potts	Marylou Potts Pty Ltd
	Mrs Elaine Armstrong	State President, Country Women's Association of New South Wales
	Mrs Joy Beames	State Agricultural and Environmental Officer, Country Women's Association of New South Wales
	Mr Chris Lalor	Acting Manager, Strategic Planning, Camden Council
	Mr Jeff Lawrence	Director, Planning and Environment, Campbelltown City Council
	Mr David Henry	Environment Officer, Campbelltown City Council
	Cr Larry Whipper	Deputy Mayor, Wingecarribee Shire Council
	Mr Scott Lee	Director, Environment and Planning, Wingecarribee Shire Council
	Ms Ally Dench	Deputy General Manager, Wollondilly Shire Council
	Ms Caroline Graham	Rivers SOS
	Mr Peter Martin	Southern Highlands Coal Action Group
	Mr Alan Lindsay	Southern Highlands Coal Action Group
	Ms Jacqui Kirkby	Scenic Hills Association
	Father Greg Burke	Scenic Hills Association
	Sister Jocelyn Kramer OCD	Sister, Carmelite Nuns
Sister Jennifer Jones	Sister, Carmelite Nuns	
Cr Jill Merrin	Councillor, Wollongong City Council	
Cr Greg Petty	Councillor, Wollongong City Council	
Mr Peter Kofod	Acting General Manager, Wollongong City Council	
Ms Renee Campbell	Manager, Environment Strategy and Planning, Wollongong City Council	

Date	Name	Position and Organisation
12 December 2011 Parliament House Sydney	Mr Mark Ogge	Operations Director, Beyond Zero Emissions
	Mr Mark Paterson AO	Director General, Department of Trade & Investment, Regional Infrastructure and Services
	Mr Brad Mullard	Executive Director, Mineral Resources and Energy, Department of Trade & Investment, Regional Infrastructure and Services
	Mr Mark Harris	Manager, Water Policy, NSW Office of Water, Department of Trade & Investment, Regional Infrastructure and Services
	Mr Michael Bullen	Chief Executive Officer, Sydney Catchment Authority
	Mr Matthew Paull	Director , Policy (Queensland and New South Wales), Australian Petroleum Production and Exploration Association (APPEA)
	Mr Rick Wilkinson	Chief Operating Officer, Eastern Australia, APPEA
	Mr Warren Mundine	Chief Executive Officer, Native Title Services Corp
	Mr James Cameron	Acting Chief Executive Officer, National Water Commission
	Mr Andrew Gregson	Chief Executive Officer, NSW Irrigators' Council
	Mr Mark Moore	Senior Policy Analyst, NSW Irrigators' Council
	Ms Elaine Prior	Director and Senior Analyst, Citi Investment Research and Analysis
Mr Neil Dobbin	Group Executive, Rural Banking, Rabobank	

Appendix 4 Site visits

Tuesday, 20 September 2011 Chinchilla, Queensland

The Committee travelled to Chinchilla, Queensland. Following their arrival, the Committee members were accompanied by Mr Dayne Pratzky, a resident of the Tara Estate on an aerial tour of coal seam gas fields in the surrounding area.

Following this, the Committee travelled to the Queensland Gas Company owned coal seam gas development 'Windibri'. The Committee was met by representatives from the company, including Mr Paul Woodland, Manager, External Affairs, Queensland Curtis LNG, Mr Tony Nunan, General Manager, Land and Community, and Mr Troy Gavin, Manager, Social Performance.

The Committee returned to Chinchilla and met with local residents affected by coal seam gas activities, including Ms Debbie Mintram, Mr George Bender, Mr Dayne Pratzky, and Mr Scott Collins.

Wednesday, 21 September 2011 Casino and Kyogle, New South Wales

The Committee travelled to Casino where they were briefed by the following Metgasco representatives: Mr Peter Henderson, Chief Executive Officer, Mr Mick O'Brien, Chief Operations Officer, Mr Richard Shields, External Relations Manager, Mr Hamish Ramsay, Lands Administration Officer, and Mr Steve Gallop, Health, Safety and Environment Officer. Mr Dennis Moore, a local property owner who has entered into an agreement with Metgasco, also participated in the briefing. Following the briefing, the Committee was taken on an inspection of a Metgasco well site near Casino.

From Casino the Committee travelled to the Kyogle property of Mr Rolly and Mrs Marie Harrison for a morning tea. The morning tea was attended by a large number of local residents and property owners concerned about the impact of coal seam gas activities. The visit was organised by Ms Leah Hobbs from the Group Against Gas, Kyogal.

Monday, 31 October 2011 Taree, New South Wales

Prior to the public hearing in Taree, the Committee hosted a morning tea attended by representatives of several community organisations concerned about the impact of coal seam gas development, namely: Barrington-Gloucester-Stroud Preservation Alliance, Gloucester Reference Group, United Myall Residents Against Gas Extraction, Manning Alliance, Camden Haven Anti-Fracking Group, and Manning Clean Water Action Group.

Tuesday, 15 November 2011 Gunnedah and Pilliga Forest, Narrabri, New South Wales

The Committee travelled to Gunnedah and visited the Santos-operated Kahlua pilot site where they were met by the following representatives from Santos: Mr James Baulderstone, Vice President of Eastern Australia, Mr Alan Feely, Manager Community and Environment, Mr Jorge Pinedo, Manager Gunnedah Project Execution, Mr Mark Rodgers, Project Execution Coordinator, Gunnedah, Mr Andrew Kremor, General Manager, Energy Business, Ms Cate McMahon, Stakeholder Engagement,

Energy Business, Mr Stephen Tapsall, Water Science Leader, and Mr Mitchell Kelly, Property Manager, Gunnedah. Mr Warwick Moppett, a local landholder, also participated in the meeting.

From Gunnedah, the Committee flew to Narrabri and undertook an aerial tour of coal seam gas developments in the Pilliga Forest. Mr Michael Kelly, General Manager, Health Safety and Environment, Eastern Star Gas, accompanied the Committee on the plane.

Friday, 9 December 2011

Camden, New South Wales

The Committee toured the AGL operated Camden gas field with company representatives including Mr Mike Moraza, Group General Manager, Upstream Gas, Mr Mike Roy, Head of Gas Operations, Mr Adam Lollback, Land and Approvals Manager, Upstream Gas, Mr Kevin Rofe, Land and Compliance Officer, and Mr David Spree, Adviser, Government Affairs. The Committee was shown examples of coal seam gas development operating in conjunction with the farming industry, and adjacent to housing development.

Appendix 5 Tabled documents

Tuesday, 20 September 2011

Site visit – Chinchilla

- 1 Document – Fast Facts – tabled by the QGC Pty Limited.

Wednesday, 21 September 2011

Public Hearing, House with No Steps, Alstonville

- 2 Document – State Plan Priority P6 – Regional Business Growth Plan – Northern Rivers Region – tabled by Mr Wayne Halcrow, Manager, Corporate Services, Richmond Valley Council
- 3 Kyogle Council Response to the CSG Inquiry – tabled by Cr Janet Wilson, Deputy Mayor, Kyogle Council
- 4 Submission by Lismore City Council – tabled by Cr Jenny Dowell, Mayor, Lismore City Council
- 5 Presentation on behalf of National Toxics Network – tabled by Dr Mariann Lloyd-Smith, Assistant Co-ordinator/Senior Advisor, National Toxics Network Inc
- 6 Statement tabled by Dr Wayne Somerville, Local property Owner and clinical psychologist
- 7 Opening statement tabled by Ms Boudicca Cerese, Member, Group against gas Kyogle
- 8 Map – Northern Rivers Petroleum Titles and Boreholes – tabled by Ms Boudicca Cerese, Member, Group Against Gas Kyogle
- 9 Information brochures on the Northern Rivers Region – tabled by Ms Boudicca Cerese, Member, Group Against Gas Kyogle
- 10 Opening statement tabled by Mr Richard Deem, Local property owner
- 11 Final Summary – tabled by Mr Richard Deem, Local property owner
- 12 Document – Lions Way Proposed Pipeline issues – tabled by Mr Richard Deem, Local property owner.

Monday, 31 October 2011

Public Hearing, Club Taree, Taree

- 13 Greater Taree City Council - Extracts from Minutes of Ordinary Meeting, 2 February 2011, 15 June 2011, 21 September 2011, 19 October 2011 – tabled by Mr Gerard Jose, General Manager
- 14 The Manning Valley Community Plan 2010-2030 – tabled by Mr Gerard Jose, General Manager, Greater Taree City Council
- 15 Letter from Barry O'Farrell to Rod and Robin Besier dated 10 June 2009 – tabled by Cr John Rosenbaum, Deputy Mayor, Gloucester Shire Council
- 16 Excerpts from the Australian Government National Water Commission website – Media Release dated 3 December 2010 and Statement on Water reform dated December 2010 – tabled by Cr John Rosenbaum, Deputy Mayor, Gloucester Shire Council
- 17 Submission by the Barrington-Gloucester-Stroud Preservation Alliance Inc to the Department of Sustainability, Environment, Water, Population and Communities to have the Stroud-Gloucester Valley assessed for National Heritage Significance in the 2011-2012 Program – tabled by Mr Garry Smith, Project Officer, Barrington-Gloucester-Stroud Preservation Alliance

- 18 The National Trust of Australia (NSW) Trust Register Listing Report for Gloucester – tabled by Mr Garry Smith, Project Officer, Barrington-Gloucester-Stroud Preservation Alliance
- 19 The Stroud-Gloucester Valley & The Vale of Gloucester: A Heritage Landscape under Threat - publication by Barrington-Gloucester-Stroud Preservation Alliance – tabled by Mr Garry Smith, Project Officer, Barrington-Gloucester-Stroud Preservation Alliance
- 20 Document – The Stroud-Gloucester Valley and the Vale of Gloucester – tabled by Mr Garry Smith, Project Officer, Barrington-Gloucester-Stroud Preservation Alliance
- 21 Definitive mineral resources geology map of the Gloucester Valley – tabled by Mr Garry Smith, Project Officer, Barrington-Gloucester-Stroud Preservation Alliance
- 22 Report prepared by SRK Consulting entitled Gloucester Basin Stage 1 Gas Field Development Project – Preliminary Groundwater Assessment and Initial Conceptual Hydrogeological Model dated July 2010 – tabled by Ms Anna Kaliska, Quality and Environmental Impact Manager, MidCoast Water
- 23 Open letter to Brooke at Huntwood Services, Singleton from Brad Bowden in relation to CSG advertisement in Gloucester paper – tabled by Mr Thomas Davey, Chairperson, Tourism Advancing Gloucester
- 24 Copy of advertisement for Coal Seam Gas from the Gloucester Advocate dated 7 September 2011 – tabled by Mr Thomas Davey, Chairperson, Tourism Advancing Gloucester
- 25 Brochure – Tourism Advancing Gloucester – Wellbeing in Gloucester - tabled by Mr Thomas Davey, Chairperson, Tourism Advancing Gloucester.

Wednesday, 16 November 2011

Public Hearing, The Crossing Theatre, Narrabri

- 26 Opening statement and copy of Namoi Council submission tabled by Cr Col Murray, Chairperson, Namoi Councils (and Mayor, Tamworth Regional Council)
- 27 Letter from Leichhardt Resources Pty Ltd to Landowners dated 30 June 2011 seeking agreement to access property (partially confidential) and copy of an Access Agreement by Cr Katrina Humphries, Mayor of Moree Plains Shire Council
- 28 Opening statement of Craig Trindall, Traditional landowner, Gomeroi Nation
- 29 Letter from Mr Sam Haddad, Director General, NSW Department of Planning & Infrastructure dated 30/6/2011 to Mr David Casey, Managing Director, Eastern Star Gas Pty Ltd tabled by Mr James Bishop, Mullaley Gas Pipeline Accord
- 30 Newspaper article "Science 101: Why you shouldn't put a gas pipeline through black soil" tabled by Mr James Bishop, Mullaley Gas Pipeline Accord
- 31 Pamphlet "Liverpool Plains: Critical for Food Security" tabled by Mr James Bishop, Mullaley Gas Pipeline Accord
- 32 Photographs of exposed gas pipelines and aerial view of Liverpool Plains tabled by Mr James Bishop, Mullaley Gas Pipeline Accord
- 33 Opening statement tabled by Ms Rosemary Nankivell, Caroon Coal Action Group and Mullaley Gas Pipeline Accord
- 34 Opening statement tabled by Ms Judi Sheedy, NSW Farmers' Association (Boggabri, Gunnedah, Pottinger District Council)
- 35 Opening statement and recommendations tabled by Mrs Penny Blatchford
- 36 Opening statement tabled Ms Jon-Maree Baker, Executive Officer, Namoi Water

- 37 Ecological Australia Report prepared for Namoi Catchment Management Authority entitled "Proposed Framework for Assessing the Cumulative Risk of Mining on Natural Resource Assets in the Namoi Catchment" tabled by Ms Francesca Andreoni, Strategy Planning Manager, Namoi Water
- 38 Opening Statement tabled by Mr Anthony Pickard, Local property owner
- 39 CD containing supplementary submission tabled by Mr Anthony Pickard, Local property owner.

Thursday, 8 December 2011**Public Hearing, Macquarie Room, Parliament House, Sydney**

- 40 'Mining Law in New South Wales – Discussion Paper', Environmental Defenders' Office, June 2011, together with a cover letter to Committee members dated 8 December 2011 - tabled by Mr Jeff Smith, Director, Environmental Defender's Office
- 41 Maps showing the location of proposed coal seam gas development in relation to the Illawarra escarpment – tabled by Mr Peter Townsley, Stop Coal Seam Gas Illawarra
- 42 Opening Statement tabled by Dr Stuart Khan, Senior Lecturer, Water Research Centre, University of New South Wales
- 43 'Management of concentrated waste streams from high-pressure membrane water treatment systems', Critical Reviews in Environmental Science and Technology – tabled by Dr Stuart Khan, Senior Lecturer, Water Research Centre, University of New South Wales
- 44 Opening statement, correspondence and additional documents tabled by Ms Jacinta Green, Stop Coal Seam Gas Sydney.

Friday, 9 December 2011**Public Hearing, Highlands Golf Club, Mittagong**

- 45 Photograph of the Cataract River 12 years after mining ceased – tabled by Ms Caroline Graham, Rivers SOS
- 46 Rivers SOS pamphlet – tabled by Ms Caroline Graham, Rivers SOS
- 47 Photograph of effects of subsidence on her property – tabled by Mrs Joy Beames, State Agricultural and Environmental Officer, Country Women's Association
- 48 Presentation paper – tabled by Sister Jocelyn Kramer, Carmelite Nuns
- 49 Statement to the Planning Assessment Commission – tabled by Cr Greg Petty
- 50 Additional information regarding the Apex Exploration Drilling Project submitted to the Planning Assessment Commission - tabled by Cr Greg Petty
- 51 Wollongong City Council Sustainability Policy – tabled by Cr Jill Merrin, Wollongong City Council
- 52 Letter to Wollongong City Council from the National Parks Association of NSW, Southern Sydney Branch - tabled by Cr Jill Merrin, Wollongong City Council
- 53 "Review of the Worley Parsons 'Greenhouse Gas Emissions Study of Australian CSG to LNG'" powerpoint presentation, compiled by Greg Knight - tabled by Cr Jill Merrin, Wollongong City Council
- 54 National Trust Magazine, November – January 2012 - tabled by Cr Jill Merrin, Wollongong City Council

- 55 Sydney Morning Herald article "Fracking linked to UK tremors", 5 November 2011 - tabled by Cr Jill Merrin, Wollongong City Council
- 56 AGL Camden Gas Project – Maps – tabled by Mr Mike Moraza, Group General Manager, Upstream Gas, AGL.

Monday, 12 December 2011

Public Hearing, Macquarie Room, Parliament House, Sydney

- 57 Gas prices linking to global prices, BP Statistical Review of World Energy 2011 – tabled by Mr Mark Ogge, Operations Director, Beyond Zero Emissions
- 58 Transforming to oil-linked pricing – tabled by Mr Mark Ogge, Operations Director, Beyond Zero Emissions.

Appendix 6 Answers to questions on notice

The Committee received answers to questions on notice from:

- Barrington-Gloucester-Stroud Preservation Alliance
- MidCoast Water
- Mr Mike Roy – Technical Experts – Australian Petroleum Production & Exploration Association Limited
- Santos Limited
- Doctors for the Environment Australia
- NSW Department of Trade and Investment, Regional Infrastructure and Services
- AGL Energy Limited
- Environmental Defender’s Office Limited
- Wollongong City Council
- Dart Energy Limited
- Sydney Catchment Authority, Department of Primary Industries
- Local Government and Shires Association of NSW
- Australian Petroleum Production & Exploration Association Limited
- Dr Stuart Khan, Senior Lecturer, School of Civil and Environmental Engineering, University of New South Wales
- National Water Commission
- Mr Mark Ogge, Strategic Director, Beyond Zero Emissions.

Appendix 7 Minutes

Minutes No. 2

Friday, 5 August 2011

General Purpose Standing Committee No 5

Members' Lounge, Parliament House, Sydney, at 1 pm

1. Members present

Mr Brown, *Chair*

Mr Buckingham, *Deputy Chair*

Mr Blair (Colless)

Mr Donnelly

Mr MacDonald

Dr Phelps

Mr Primrose

2. Advice of substitute members

The Chair noted written advice from the Government Whip that Mr Blair would be substituting for Mr Colless for the purposes of the meeting.

3. Confirmation of Draft Minutes

Resolved, on the motion of Mr MacDonald: That Draft Minutes No. 1 be confirmed.

4. Correspondence

The Committee noted the following item of correspondence:

- 4 August 2011 – From Mr Brown, Mr Buckingham and Dr Phelps requesting a meeting to consider a proposed self reference into coal seam gas.

5. Inquiry into coal seam gas

Resolved, on the motion of Mr MacDonald: That the Committee adopt the proposed terms of reference, as amended by the Secretariat to correct typographical errors.

Resolved, on the motion of Dr Phelps: That the closing date for submissions be 7 September 2011.

Resolved, on the motion of Mr Buckingham: That advertisements calling for submissions be placed in the *Sydney Morning Herald*, *Daily Telegraph* and *The Land*, as well as relevant regional publications covering North Western NSW and the Southern Highlands, and that the Secretariat seek members' agreement to the proposed regional publications.

Resolved, on the motion of Mr Primrose: That the Secretariat email members with a list of potential hearing dates, and that the hearing dates be determined by the Chair after consultation with members regarding their availability. The Chair indicated that he anticipated that the Inquiry would involve at least two hearings days in Sydney and site visits to North Western NSW and the Camden area, as well as a potential interstate site visit.

Resolved, on the motion of Mr Primrose: That the Secretariat email members with a list of potential witnesses, and that the Committee agree to the witness list by email.

Resolved, on the motion of Mr Buckingham: That the indicative tabling date for the final report be late March/early April 2011.

Resolved, on the motion of Mr Buckingham: That the Secretariat email members with a list of proposed stakeholders to be invited to make submissions by Wednesday 10 August 2011, and that members be required to nominate additional stakeholders by Friday 12 August. Mr Buckingham tabled a list of stakeholders to be included in the call for submissions.

Resolved, on the motion of Mr Buckingham: That the Chair, when reporting the terms of reference to the House, foreshadow that he will seek the authority of the House, with the approval of the President, for the Committee to travel interstate (subject to consideration of travel costs).

6. Adjournment

The Committee adjourned at 1.15pm *sine die*.

Madeleine Foley

Clerk to the Committee

Minutes No. 3

Thursday 8 September 2011

General Purpose Standing Committee No. 5

Members' Lounge, Parliament House, Sydney, at 1.03pm

1. Members present

Mr Brown, *Chair*

Mr Buckingham, *Deputy Chair*

Mr Blair (Colless)

Mr Donnelly

Mr MacDonald

Dr Phelps

Mr Primrose

2. Confirmation of Draft Minutes

Resolved, on the motion of Mr Donnelly: That Draft Minutes No. 2 be confirmed.

3. Correspondence

The Committee noted the following item of correspondence:

Received:

- 16 August 2011 – Email from A/Director, Natural Resources Policy Branch, Department of Trade and Investment, Regional Infrastructure and Services, regarding the NSW Government submission to the coal seam gas inquiry
- 26 August 2011– Letter from Mr Brad Mullard, Executive Director, NSW Minerals and Resources, regarding a submission to the coal seam gas inquiry

Sent:

- 22 August 2011 – Memorandum to the President from the Chair regarding approval for the Committee's site visit to Queensland subsequently signed by the President).

4. Inquiry into coal seam gas

4.1 Lismore hearing – witness list

Resolved, on the motion of Mr Donnelly: That the Committee invite the following witnesses to its hearing in Lismore and that any additional witness suggestions be circulated to members by email as soon as possible:

A Panel of local councils – eg Richmond Valley Council (based in Casino) and Kyogle Council; Dr Wayne Somerville – psychologist and land holder; Mr Richard Deem, the National Toxics Network; Ms Boudicca Cerese (environmental scientist and local resident) and Mr Dean Wolf.

4.2 Itinerary for Chinchilla/Lismore

Resolved, on the motion of Mr Buckingham: That the proposed site visit itinerary for Chinchilla/Lismore circulated by the Secretariat on 7 September 2011, be adopted.

4.3 Media attendance

Resolved, on the motion of Mr Donnelly: That the Committee authorise the media to film or photograph members for a brief period at the beginning or conclusion of its site visits to Chinchilla and Lismore.

4.4 Hearing replay

Resolved, on the motion of Mr Donnelly: That the Committee authorise Sound Solution to relay the public hearing in Lismore on 21 September for the purpose of providing footage of the hearing to persons in the courtyard of the hearing venue.

4.5 Submissions

Resolved, on the motion of Mr Donnelly: That the Committee extend the submission closing date to 14 September 2011.

Resolved, on the motion of Mr Phelps: That Committee authorise the publication of all submissions to the Inquiry into coal seam gas, subject to the Committee Clerk checking for confidentiality, adverse mention and other issues.

5. Adjournment

The Committee adjourned at 1.13pm *sine die*.

Beverly Duffy

Clerk to the Committee

Minutes No. 4

Tuesday 20 September 2011

General Purpose Standing Committee No. 5

Chinchilla Airport, Chinchilla, Queensland, at 10 am

1. Members present

Mr Brown, *Chair*

Mr Buckingham, *Deputy Chair*

Mr Colless

Mr Donnelly

Mr MacDonald

Dr Phelps

Mr Primrose

2. Inquiry into coal seam gas – Site visit to Chinchilla, Queensland

2.1 Aerial tour

The Committee travelled to Chinchilla, Queensland. On arrival the Committee met with Mr Dayne Pratzky, a resident of the Tara Estate. Mr Pratzky then accompanied the Committee on an aerial tour of coal seam gas activity in the surrounding area.

2.2 Tour of QGC property ‘Windibri’

The Committee travelled to the QGC-owned property ‘Windibri’ for a visit of inspection. The Committee met with the following QGC representatives:

- Mr Paul Woodland, Manager, External Affairs QCLNG
- Mr Tony Nunan, General Manager, Land and Community
- Mr Troy Gavin, Manager, Social Performance.

2.3 Meeting with local residents

The Committee travelled to Chinchilla and met with local residents affected by coal seam gas activities.

The Committee met with the following local residents:

- Ms Debbie Mintram
- Mr George Bender
- Mr Dayne Pratzky
- Mr Scott Collins.

3. Adjournment

The Committee adjourned at 6 pm at the Lismore Bounty Hotel until 8 am on Wednesday 21 September.

Madeleine Foley

Clerk to the Committee

Minutes No. 5

Wednesday, 21 September 2011

General Purpose Standing Committee No. 5

Bounty Hotel, Lismore, at 8 am

1. Members present

Mr Brown, *Chair*

Mr Buckingham, *Deputy Chair*

Mr Colless (from 1 pm)

Mr Donnelly

Mr MacDonald

Dr Phelps

Mr Primrose

2. Apologies

Mr Colless – until 1 pm.

3. Inquiry into coal seam gas

3.1 Site visit to the Metgasco office and well site, Casino

The Committee travelled to the office of Metgasco for a welcome and briefing. The Committee met with the following Metgasco representatives:

- Mr Peter Henderson, Chief Executive Officer
- Mr Mick O'Brien, Chief Operations Officer
- Mr Richard Shields, External Relations Manager
- Mr Hamish Ramsay, Lands Administration Officer
- Mr Steve Gallop, Health, Safety and Environment Officer
- Mr Dennis Moore, local property owner who has entered into an agreement with Metgasco.

The Committee then inspected a Metgasco well site near Casino.

3.2 Site visit to the Harrison property, Kyogle

The Committee travelled to the property of Mr Rolly and Mrs Marie Harrison for a morning tea. The Committee met with a large number of local residents and property owners concerned about

the impact of coal seam gas activities, including the proposed Lions Way Pipeline. The visit was organised by Ms Leah Hobbs from the Group Against Gas Kyogle.

3.3 Deliberative meeting

Confirmation of minutes

Resolved, on the motion of Mr Buckingham: That Draft Minutes No. 3 be confirmed.

Correspondence

The Committee noted the following item of correspondence received:

- Letter from Mr Gary Burrige, CEO, Northern Co-op Meat Company, regarding the Co-op's position on coal seam gas mining.

Witnesses for future hearings

Resolved, on the motion of Mr Donnelly: That Mr Gary Burrige, , CEO, Northern Co-op Meat Company, be invited to give evidence at a hearing in Sydney, in place of the hearing in Lismore.

Resolved, on the motion of Dr Phelps: That the Richmond Wilson Combined Water Users' Association be invited to give evidence at a hearing in Taree or Sydney.

Tendered documents

Resolved, on the motion of Mr Primrose: That the Committee accept the 'Fast Facts' sheet tendered by QGC at the site visit on 20 September 2011.

Final report

Resolved, on the motion of Mr Primrose: That the Committee send a copy of the final report to the relevant Minister/s in Queensland.

Questions on notice

Resolved, on the motion of Mr MacDonald: That answers to any questions taken on notice during the Inquiry be provided within 21 days.

Briefing on legal issues

Resolved, on the motion of Mr Primrose: That the Committee hold a briefing on mining law and land law applying to coal seam gas activities, including the right of mining companies to access private land. Further, that the Committee ask Dr Richard Sheldrake to recommend an appropriate expert to deliver the briefing.

3.4 Public hearing, Lismore

The witnesses, the public and the media were admitted.

The Chair made an opening statement regarding the broadcasting of proceedings and other matters.

The following witnesses were sworn and examined:

- Mr Wayne Halcrow, Manager, Corporate Services, Richmond Valley Council
- Cr Janet Wilson, Deputy Mayor, Kyogle Council
- Cr Jenny Dowell, Mayor, Lismore City Council
- Mr Gary Murphy, General Manager, Lismore City Council
- Cr Phillip Silver, President, Northern Rivers Regional Organisation of Councils (NOROC)
- Cr Joan van Lieshout, Tweed Shire Council.

Mr Halcrow tendered the document 'State Plan Priority P6 – Regional Business Growth Plan – Northern Rivers Region'.

Cr Dowell tendered the document 'Lismore City Council submission'.

Cr Wilson tendered the document 'Response to the CSG Inquiry of the NSW Government – Kyogle Council'.

The evidence concluded and the witnesses withdrew.

The following witnesses from the National Toxics Network were sworn and examined:

- Dr Mariann Lloyd-Smith, Assistant Coordinator/Senior Adviser
- Ms Joanna Immig, National Coordinator.

Dr Lloyd-Smith tendered the document 'Presentation on behalf of the National Toxics Network – Hearing 21 September 2011'.

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Dr Wayne Somerville, local property owner and clinical psychologist.

Dr Somerville tendered his opening statement.

The evidence concluded and the witness withdrew.

The following witnesses from the Keerrong Valley Gas Squad were sworn and examined:

- Mr Ian Gaillard
- Mr Douglas Ferguson
- Mr Harry Boyd.

The evidence concluded and the witnesses withdrew.

The following witnesses from the Group Against Gas (Kyogle) were sworn and examined:

- Ms Boudicca Cerese
- Ms Georgina Ramsay
- Ms Lesley MacQueen.

Ms Cerese tendered the following documents:

- Opening statement
- 'Northern Rivers Petroleum Titles and Boreholes'
- Information brochures on the Northern Rivers Region.

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Mr Richard Deem, local property owner.

Mr Deem tendered the following documents:

- Opening statement
- 'Lions Way Proposed Pipeline Issues'
- 'Final summary'.

The evidence concluded and the witness withdrew.

The following witnesses from Norco Cooperative Ltd were sworn and examined:

- Mr Greg McNamara, Chairman
- Mr Jeff Collingwood, Milk Supply Manager.

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Mr Dean Draper, local property owner.

The evidence concluded and the witness withdrew.

The public hearing concluded and the public and the media withdrew.

4. **Adjournment**

The Committee adjourned at 6.30 pm until 7 October.

Madeleine Foley

Clerk to the Committee

Minutes No. 6

Friday 7 October 2011

General Purpose Standing Committee No 5

Room 1153, Parliament House, Sydney at 10.15 am

1. **Members present**

Mr Brown, *Chair*

Mr Buckingham, *Deputy Chair*

Mr Donnelly

Mr MacDonald

Mr Phelps

Mr Primrose

2. **Apologies**

Mr Colless

3. **Draft minutes**

Resolved, on the motion of Mr MacDonald: That draft Minutes no. 4 and 5 be confirmed.

4. **Inquiry into coal seam gas**

4.1 **Correspondence**

The Committee noted the following items of correspondence received:

- 28 September 2011 – Letter from Mr Rick Wilkinson, Chief Operating Officer – Eastern Australia, Australian Petroleum Production and Exploration Association Ltd to the Chair regarding the claims being made in Australia's energy debate
- 28 September 2011 – Letter from the Hon Chris Hartcher MP, Minister for Resources and Energy to the Chair, regarding concerns about the conduct of the Inquiry
- 23 September 2011 – Letter from Ms Belinda Robinson, Chief Executive, Australian Petroleum Production and Exploration Association Ltd to the President of the Legislative Council regarding inaccuracies in the submission from the Lock the Gate Alliance
- 21 September 2011 – Email from Danielle Bevins-Sundall, Corporate Affairs Manager, Native Title Services Corporation (NTS Corp Ltd) to the Principal Council Officer regarding a request that traditional owners be invited to give evidence at the Narrabri hearing
- 20 September 2011 – Email from Ms Sarah Moles, Secretary, Lock the Gate Alliance to the Principal Council Officer regarding a request to make corrections to their original submission
- 14 September 2011 – Letter from Mr Terry Toohey, Hunter District representative, NSW Farmers' Association Dairy Committee to the Chair regarding a request to give evidence at the Lismore hearing

- 29 August 2011 – Letter from Mr Michael Murray, Queensland Policy Manager/National Water Policy, Cotton Australia to the Chair regarding a request to give evidence at the Narrabri hearing

The Committee noted the following items of correspondence sent:

- 27 September 2011 – Letter to Mr Dayne Pratzky to request that he refer his allegations to the appropriate authorities in NSW.

Resolved, on the motion of Mr Buckingham: That the Committee reply to the letter from Minister Hartcher in the terms proposed by the Chair.

4.2 Briefing on legal issues concerning coal seam gas

Resolved, on the motion of Mr MacDonald: That the private briefing by Dr John Whitehouse be recorded by Hansard, on the understanding that Dr Whitehouse will consider any request the Committee may make to publish small excerpts of the transcript for the purpose of preparing the report.

4.3 Submissions

Resolved, on the motion of Mr Primrose: That the Committee note that submissions no. 1-2, 5-7, 9-17, 19-21, 23-34, 36-43, 45, 47-51, 54-56, 58, 60-61, 63-70, 73, 75-76, 78, 80, 85-94, 96-104, 106-112, 114, 116, 118, 120-121, 123-126, 128-136, 138-140, 142-144, 147-160, 162-165, 167, 169-176, 178-184, 186, 188-196, 199-202, 204, 206-208, 210, 212-215, 217, 220, 222-225, 227-240, 242-261, 263-288, 290-326, 328-345, 347-379, 381-385, 388-390, 392-396, 398-423, 426-437, 439-457, 459, 461-463, 465-475, 477-479, 481-488, 490-492, 494-496, 498-510, 513, 515, 517, 520-527, 530-533, 535-541, 543-545, 547, 549-597 and 642, and the attachments to submissions no. 359 and 412, were published by the Committee Clerk under the authorisation of an earlier resolution.

Resolved, on the motion of Mr Primrose: That submissions no. 46, 52, 74, 81, 105, 113, 122, 226, 289, 386, 397, 511, 514, 518, 598 and 600, together with the attachment to submission no. 327, remain confidential at the request of the submissions' authors.

Resolved, on the motion of Mr Primrose: That the Committee authorise the publication of submissions no. 3, 4, 8, 18, 22, 35, 44, 53, 57, 59, 62, 71, 72, 77, 79, 82, 83, 84, 95, 115, 117, 119, 127, 137, 141, 145, 146, 161, 166, 168, 185, 187, 197, 198, 203, 205, 209, 211, 216, 218, 219, 221, 241, 262, 346, 380, 387, 391, 424, 425, 438, 460, 464, 476, 480, 489, 493, 497, 512, 516, 519, 528, 529, 534, 542, 546, 599 with the exception of the names of the authors which are to remain confidential at the request of the submissions' authors.

Resolved, on the motion of Mr Buckingham: That the Committee authorise the publication of submissions no. 177 and 548 with the exception of the names of individuals or other identifying information about individuals.

4.4 Proforma letters

Resolved, on the motion of Mr Buckingham: That the proforma letters not be processed as submissions but the authors be listed in a separate appendix to the report.

4.5 Hearings/Site visits

The Committee noted that members will be emailed a list of potential witnesses for the remaining hearings in the next week.

Resolved, on the motion of Mr Primrose: That the Committee authorise the use of a charter plane for the site visits to Taree and Narrabri.

Resolved, on the motion of Mr Phelps: That the Committee hold an additional hearing on 12 December 2011 at Parliament House.

4.6 Tended documents

Resolved, on the motion of Mr Primrose: That the Committee accept and publish the following documents tendered at the hearing at Lismore on 21 September 2011:

- ‘State Plan Priority P6 – Regional Business Growth Plan – Northern Rivers Region’ (Mr Halcrow)
- ‘Response to the CSG Inquiry of the NSW Government – Kyogle Council’ (Cr Wilson)
- ‘Presentation on behalf of the National Toxics Network – Hearing 21 September 2011’ (Dr Lloyd-Smith)
- Opening statement (Dr Somerville)
- Opening statement (Ms Cerese)
- ‘Northern Rivers Petroleum Titles and Boreholes’ (Ms Cerese)
- Opening statement (Mr Deem)
- ‘Lions Way Proposed Pipeline Issues’ (Mr Deem)
- ‘Final summary’ (Mr Deem).

5. ***

6. Inquiry into coal seam gas – Briefing

Dr John Whitehouse, Partner, Minter Ellison Lawyers and Visiting Fellow, Graduate School of Environment, Macquarie University provided a private briefing on the legal issues surrounding coal seam gas activities. Also present was Mr Andrew Henson, Graduate Lawyer, Minter Ellison Lawyers.

7. Adjournment

The Committee adjourned at 12pm until 11.15am, Monday 24 October 2011 (Budget Estimates)

Madeleine Foley

Clerk to the Committee

Minutes No. 12

Monday 31 October 2011

General Purpose Standing Committee No 5

Club Taree, 121 Wingham Rd, Taree at 9.30 am

1. Members present

Mr Brown, *Chair*

Mr Buckingham, *Deputy Chair*

Mr Colless

Mr Donnelly

Ms Gardiner (participating – from 12 pm)

Mr MacDonald

Mr Phelps

Mr Primrose

2. Participating members

The Chair advised that Ms Gardiner would attend the public hearing as a participating member.

3. Inquiry into coal seam gas

3.1 Meeting with community groups

The Committee met with a number of community groups concerned about the impact of coal seam gas development, namely:

- Barrington-Gloucester-Stroud Preservation Alliance
- Gloucester Reference Group
- United Myall Residents Against Gas Extraction
- Manning Alliance
- Camden Haven Anti-Fracking Group
- Manning Clean Water Action Group.

3.2 Deliberative meeting

Draft minutes

Resolved, on the motion of Mr Donnelly: That draft Minutes no. 6 be confirmed.

Correspondence

The Committee noted the following item of correspondence received:

- 10 October 2011 – Email from Ms Leah Hobbs, Kyogle Group Against Gas, to the Principal Council Officer, expressing disappointment with the position taken in the NSW Government submission

The Committee noted the following items of correspondence sent:

- 6 October 2011 – Letter from the Chair to the Hon Chris Hartcher MP, Minister for Resources and Energy, responding to the Minister's letter outlining his concerns regarding the potential for bias in the conclusions and recommendations of the Inquiry into coal seam gas
- 10 October 2011 – Letters to Mr Rolly and Mrs Maree Harrison and Ms Leah Hobbs thanking them for their hospitality during the Committee's visit to Kyogle on 21 September 2011
- 10 October 2011 – Letters to Mr Stephen Bromhead, Member for Myall Lakes, Hon Kevin Humphries, Member for Barwon, Mr Chris Patterson, Member for Camden, and the Hon Pru Goward, Member for Goulburn, advising of the upcoming Inquiry activity in their electorates.

Briefing on legal issues concerning coal seam gas

The Committee Clerk updated the Committee regarding the briefing on the legal issues surrounding coal seam gas. The Committee was advised that Dr Whitehouse was unable to review the transcript prior to taking leave, and that Dr Whitehouse would return to work on 17 November 2011. Members were reminded that the transcript therefore remains in-camera evidence and disclosure would amount to a breach of privilege and may constitute contempt of parliament.

Submissions

Resolved, on the motion of Mr Colless: That the attachment to submission no. 724 remain confidential as it consists of signatures and individual contact details.

Resolved, on the motion of Mr Buckingham: That the Committee authorise the publication of submission no. 301 with the exception of the name of the author which is to remain confidential at the request of the submission's author.

Resolved, on the motion of Dr Phelps: That the Committee authorise the publication of submission no. 391 with the exception of certain information which is to remain confidential at the request of the submission's authors.

Prior to consideration of submission no. 458, Mr Buckingham made a declaration in relation to the submission's author.

Resolved, on the motion of Mr Buckingham: That the Committee authorise the publication of submission no. 458 with the exception of information that may identify the submission's author, and information that may identify the consultancy or coal seam gas developments referred to in the submission.

Hearings/Site visits

Resolved, on the motion of Dr Phelps: That the Committee note the list of potential witnesses circulated by the Committee Clerk, including additional witnesses suggested by members. Further, that the Committee invite the following persons/organisations to give evidence at the remaining hearings:

- Greater Taree City Council (sub 244)
- Great Lakes Council (sub 551)
- Gloucester Shire Council (sub 408)
- NSW Farmers' Association – North Coast Dairy Committee (sub 274)
- Tourism Advancing Gloucester (sub 179)
- Mid Coast Water (sub 282)
- Dr Steve Robinson – psychiatrist living in Gloucester (sub 98)
- Bruce Robertson – beef cattle farmer on Manning River (sub 19)
- Narrabri Shire Council (sub 356)
- Gunnedah Shire Council (sub 594)
- Moree Plains Shire Council (sub 369)
- Liverpool Plains Shire Council (sub 452)
- Namoi Councils – Regional Organisation of Councils (sub 367)
- Native Title Services Corp – traditional owners nominated by NTS (sub 334)
- Cotton Australia (sub 450)
- Friends of the Pilliga (sub 368)
- Caroon Coal Action Group (sub 135)
- Mullaley Against Gas Pipeline Accord (sub 245)
- NSW Farmers' Association – District Councils from Boggabri, Gunnedah, Pottinger District Councils (sub 557)
- Doug Cush and daughter Natalie Tydd (subs 42 and 73)
- Namoi Water (sub 351)
- Namoi Catchment Authority (sub 362)
- NSW Government – on both 17 Nov and 12 Dec 2011
- Eastern Star Gas and Santos (subs 560 and 337)
- NSW Farmers' Association (sub 335)
- Lock the Gate Alliance (sub 280)
- Australian Petroleum Production and Exploration Association (sub 447)
- Environmental Defender's Office (sub 359)
- AGL Energy Ltd (sub 344)
- National Water Commission (sub 100)
- Dr Stuart Khan, UNSW Water Research Centre (sub 330)
- Metgasco (sub 287)
- Doctors for the Environment Australia Inc. (sub 412)
- Gary Burrige, Northern Co-op Meat Company (no sub)
- Stop CSG Sydney (sub 444)
- Native Title Services Corp (sub 334)
- Dart Energy Ltd (sub 406)
- Marylou Potts, legal practice advising on the impacts of coal seam gas (sub 672)
- Camden Council (sub 343)
- Campbelltown City Council (sub 327)

- Wingecaribee Shire Council (sub 354)
- Southern Highlands Coal Action Group (sub 366)
- Scenic Hills Association, Camden (sub 648)
- Order of Discalced Carmelites, Varroville (sub 379)
- Beyond Zero Emissions (sub 355)
- NSW Irrigators' Council (sub 163)
- Richmond Wilson Combined Water Users' Assoc (sub 283)
- Stop Coal Seam Gas Illawarra (sub 552), Northern Illawarra Sustainability Alliance (sub 457)
- Local Government and Shires Association (sub 587)
- AECOM environmental consultancy
- Sydney Catchment Authority
- Elaine Prior, Citigroup
- Manning Alliance (sub 345)
- Michael Johnsen (sub 732)
- Tony Pickard (sub 177)
- NSW Nature Conservation Council (sub 407)
- Rivers SOS (sub 273).

Resolved, on the motion of Mr Buckingham: That the Committee adopt the proposed site visit itinerary for Narrabri.

3.3 Public hearing

The witnesses, the public and the media were admitted.

The Chair made an opening statement regarding the broadcasting of proceedings and other matters.

The following witnesses were sworn and examined:

- Mr Gerard Tuckerman, Manager Natural Systems, Great Lakes Council
- Ms Lisa Schiff, Director Planning and Environment, Great Lakes Council
- Mr Gerard Jose, General Manager, Greater Taree City Council
- Cr John Rosenbaum, Deputy Mayor, Gloucester Shire Council
- Cr Noreen June Germon, Gloucester Shire Council.

Mr Jose tendered the following documents:

- Greater Taree City Council – Extract from Minutes of Ordinary Meeting, 2 February 2011, 15 June 2011, 21 September 2011, 19 October 2011
- 'The Manning Valley Community Plan 2010-2030'

Cr Rosenbaum tendered the following documents:

- Letter from Barry O'Farrell to Rod and Robin Besier dated 10 June 2009
- Excerpts from the Australian Government National Water Commission website – Media Release dated 3 December 2010 and Statement on Water reform dated December 2010.

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Mr Pat Neal, Member, NSW Farmers Dairy Committee.

The evidence concluded and the witness withdrew.

The following witnesses were sworn and examined:

- Mr Graeme Healy, President, Barrington-Gloucester-Stroud Preservation Alliance
- Mr Garry Smith, Project Officer, Barrington-Gloucester-Stroud Preservation Alliance.

Mr Smith tendered the following documents:

- 'Submission by the Barrington-Gloucester-Stroud Preservation Alliance Inc to the Department of Sustainability, Environment, Water, Population and Communities to have the Stroud-Gloucester Valley assessed for National Heritage Significance in the 2011-2012 Program'
- 'The National Trust of Australia (NSW) Trust Register Listing Report for Gloucester'
- 'The Stroud-Gloucester Valley & The Vale of Gloucester: A Heritage Landscape under Threat – publication by Barrington-Gloucester-Stroud Preservation Alliance'
- Document – The Stroud-Gloucester Valley and the Vale of Gloucester.

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Ms Anna Kaliska, Quality and Environmental Impact Manager, Mid Coast water
- Mr Robert Loadsman, General Manager, Mid Coast Water.

Ms Kaliska tendered the following document:

- 'Report prepared by SRK Consulting entitled Gloucester Basin Stage 1 Gas Field Development Project – Preliminary Groundwater Assessment and Initial Conceptual Hydrogeological Model dated July 2010'.

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Peter Epov, Chair, Manning Alliance
- Ms Kerry Anderson, Secretary, Manning Alliance
- Mr Lloyd Parslow, Treasurer, Manning Alliance.

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Mr Thomas Davey, Chairperson, Tourism Advancing Gloucester.

Mr Davey tendered the following documents:

- Open letter to Brooke at Huntwood Services, Singleton from Brad Bowden in relation to CSG advertisement in Gloucester paper
- Copy of advertisement for Coal Seam Gas from the Gloucester Advocate dated 7 September 2011
- Brochure – Tourism Advancing Gloucester – Wellbeing in Gloucester.

The evidence concluded and the witness withdrew.

The following witness was sworn and examined:

- Mr Bruce Robertson, beef cattle farmer on the Manning River.

The evidence concluded and the witness withdrew.

The following witness was sworn and examined:

- Dr Steve Robinson, psychiatrist and resident of Gloucester.

The evidence concluded and the witness withdrew.

The following witness was sworn and examined:

- Mr Michael Johnsen, resident of Scone and Cr, Upper Hunter Shire Council.

The evidence concluded and the witness withdrew.

The public hearing concluded and the public and the media withdrew

4. **Adjournment**

The Committee adjourned at 5.15 pm until Tuesday 15 November 2011 at 7.30 am.

Madeleine Foley

Clerk to the Committee

Minutes No. 13

Tuesday 15 November 2011

General Purpose Standing Committee No. 5

Gunnedah Airport at 9.00 am

1. **Members present**

Mr Brown, *Chair*

Mr Buckingham, *Deputy Chair*

Mr Colless

Mr Donnelly

Mr MacDonald

Dr Phelps

Mr Primrose

2. **Inquiry into coal seam gas**

2.1 Site visit to Gunnedah/Narrabri – tour of Kahlua pilot site

The Committee travelled to Gunnedah to visit the Santos-operated Kahlua' pilot site.

The Committee met with Mr Warwick Moppett, a local landholder, and the following Santos representatives:

- Mr James Baulderstone, Vice President of Eastern Australia
- Mr Alan Feely, Manager, Community and Environment
- Mr Jorge Pinedo, Manager, Gunnedah Project Execution
- Mr Mark Rodgers, Project Execution Coordinator, Gunnedah
- Mr Andrew Kremor, General Manager, Energy Business
- Ms Cate McMahon, Stakeholder Engagement, Energy Business
- Mr Stephen Tapsall, Water Science Leader
- Mr Mitchell Kelly, Property Manager, Gunnedah.

2.2 Deliberative meeting

2.2.1 Draft minutes

Resolved, on the motion of Mr Colless: That draft Minutes no. 7, 8, 9, 10 and 11 (Budget Estimates) and no. 12 (Coal seam gas) be confirmed.

2.2.2 Tended documents

Resolved, on the motion of Mr Colless: That the Committee accept and publish the following documents tendered at the hearing in Taree on 31 October 2011:

- Letter from Barry O'Farrell to Rod and Robin Besier dated 10 June 2009 (Cr Rosenbaum)

- Submission by the Barrington-Gloucester-Stroud Preservation Alliance Inc to the Department of Sustainability, Environment, Water, Population and Communities to have the Stroud-Gloucester Valley assessed for National Heritage Significance in the 2011-2012 Program (Mr Smith)
- The Stroud-Gloucester Valley & The Vale of Gloucester: A Heritage Landscape under Threat – publication by Barrington-Gloucester-Stroud Preservation Alliance (Mr Smith)
- Document – The Stroud-Gloucester Valley and the Vale of Gloucester (Mr Smith)
- Open letter to Brooke at Huntwood Services, Singleton from Brad Bowden in relation to CSG advertisement in Gloucester paper (Mr Davey)
- Report prepared by SRK Consulting entitled Gloucester Basin Stage 1 Gas Field Development Project – Preliminary Groundwater Assessment and Initial Conceptual Hydrogeological Model dated July 2010 (Ms Kaliska).

2.2.3 Media attendance

The Committee noted that the hearings in Narrabri on 16 November and Sydney on 17 November 2011 would be filmed by documentary filmmaker, Mr Richard Todd.

2.2.4 Travel by charter plane

The Committee noted that the cost of the charter plane to Narrabri increased to \$13,950 due to the additional costs of stopping in Gunnedah and conducting an aerial tour of the Pilliga Forest.

2.2.5 Meeting with local landholders

Resolved, on the motion of Mr Buckingham: That the private briefing by local landholders who have signed access agreements with the mining companies be recorded by Hansard, on the understanding that the landholders will consider any request the Committee may make to publish excerpts of the transcript for the purpose of preparing the report. In addition, the landholders may request that their names and other identifying details be suppressed in the transcript.

2.2.6 Other business

Technical experts

The Committee was advised that a technical expert had been nominated by the Government to give evidence at the Sydney hearing.

2.3 Site visit to Gunnedah/Narrabri – aerial tour of the Pilliga Forest

The Committee conducted an aerial tour of coal seam gas developments in the Pilliga Forest. The Committee was accompanied on the plane by Mr Michael Kelly, General Manager, Health Safety and Environment, Eastern Star Gas.

Mr Kelly tendered the following document:

- Aerial Inspection – Eastern Star Gas (ESG) Rehabbed Sites – Pilliga Forest and Private Landholders

2.4 Site visit to Gunnedah/Narrabri – meeting with local landholders

The Committee travelled to Narrabri and met with local landholders who have signed agreements with Eastern Star Gas for coal seam gas development to take place on their land. The Committee met with the following landholders:

- Mr Owen Lane
- Mr Peter Gett

3. Adjournment

The Committee adjourned at 4.30 pm until 8.30 am on Wednesday, 16 November.

Madeleine Foley
Clerk to the Committee

Minutes No. 14

Wednesday 16 November 2011

General Purpose Standing Committee No 5

The Crossing Theatre, Tibbereena St, Narrabri at 8.30 am

1. Members present

Mr Brown, *Chair*

Mr Buckingham, *Deputy Chair*

Mr Colless

Mr Donnelly

Mr MacDonald

Dr Phelps

Mr Primrose

2. Inquiry into coal seam gas – public hearing

The witnesses, the public and the media were admitted.

The Chair made an opening statement regarding the broadcasting of proceedings and other matters.

The following witnesses were sworn and examined:

- Cr Robyn Faber, Mayor, Narrabri Shire Council
- Cr Adam Marshall, Mayor, Gunnedah Shire Council
- Cr Katrina Humphries, Mayor, Moree Plains Shire Council
- Cr Col Murray, Chairperson, Namoi Councils (and Mayor, Tamworth Regional Council)

Cr Col Murray tendered the following document:

- Opening Statement and Namoi Councils Submission

Cr Katrina Humphries tendered the following document:

- Letter from Simon Tolhurst, Leichardt Resources Pty Ltd to Landowners dated 30 June 2011 seeking agreement to access property.

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Craig Trindall, Traditional landowner, Gomeroi Nation
- Mr Michael Anderson, Traditional landowner, Gomeroi Nation

Mr Trindall tendered the following document:

- Opening statement

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Mr Michael Murray, National Water Policy Manager, Cotton Australia

The evidence concluded and the witness withdrew.

The following witnesses were sworn and examined:

- Ms Jane Judd, Friends of the Pillaga
- Mr Milton Judd, Friends of the Pillaga

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Ms Rosemary Nankivell, Caroon Coal Action Group and Mullaley Gas Pipeline Accord
- Mr James Bishop, Mullaley Gas Pipeline Accord
- Mr David Quince, Mullaley Gas Pipeline Accord

Mr James Bishop tendered the following documents:

- Letter from Mr Sam Haddad, Director General, NSW Department of Planning & Infrastructure dated 30/6/2011 to Mr David Casey, Managing Director, Eastern Star Gas Pty Ltd
- Newspaper article "Science 101: Why you shouldn't put a gas pipeline through black soil"
- Pamphlet "Liverpool Plains: Critical for Food Security"
- Photographs of exposed gas pipelines and aerial view of Liverpool Plains

Ms Rosemary Nankivell tendered the following document:

- Opening statement

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Ms Judi Sheedy, Executive Councillor and Chair of Gunnedah District Council, NSW Farmers' Association (Boggabri, Gunnedah, Pottinger District Councils)
- Mr Tim Duffy, Member, NSW Farmers' Association (Boggabri, Gunnedah, Pottinger District Councils)
- Mr Alastair Donaldson, Member, NSW Farmers' Association (Boggabri, Gunnedah, Pottinger District Councils)
- Mr Tim Duddy, Member, NSW Farmers' Association (Boggabri, Gunnedah, Pottinger District Councils).

Ms Judi Sheedy tendered the following document:

- Opening statement

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Doug Cush, Local property owner
- Ms Natalie Tydd, Local property owner
- Mr Robert Blatchford, Local property owner
- Mrs Penny Blatchford, Local property owner.

Mrs Penny Blatchford tendered the following document:

- Opening statement and recommendations
- Supporting documentation

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Ms Carmel Flint, Spokesperson, Northern Inland Council for the Environment
- Mr Phil Sparks, Advisor, Northern Inland Council for the Environment

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Ms Jon-Maree Baker, Executive Officer, Namoi Water

Ms Jon-Maree Baker tendered the following documents:

- Opening statement

The evidence concluded and the witness withdrew.

The following witness was sworn and examined:

- Ms Francesca Andreoni, Strategy Planning Manager, Namoi Water

Ms Andreoni tendered the following documents:

- Ecological Australia Report prepared for Namoi Catchment Management Authority entitled "Proposed Framework for Assessing the Cumulative Risk of Mining on Natural Resource Assets in the Namoi Catchment"

The evidence concluded and the witness withdrew.

The following witness was sworn and examined:

- Mr Anthony Pickard, Local property owner

Mr Pickard tendered the following:

- Opening Statement
- CD containing supplementary submission

The evidence concluded and the witness withdrew.

The public hearing concluded and the public and the media withdrew.

3. Adjournment

The Committee adjourned at 4.30 pm until Thursday 17 November 2011 at 9.30 am.

Madeleine Foley

Clerk to the Committee

Minutes No. 15

Thursday 17 November 2011

General Purpose Standing Committee No 5

9.15 am, Macquarie Room, Parliament House, Sydney

1. Members present

Mr Brown, *Chair*

Mr Buckingham, *Deputy Chair*

Mr Colless

Mr Donnelly

Mr MacDonald

Dr Phelps

Mr Primrose

2. Inquiry into coal seam gas**2.1 Correspondence*****Received:***

- 11 November 2011 – From Wollongong City Council to the Principal Council Officer, requesting that the Committee accept a late submission from the Council, and requesting to appear at the public hearing in Bowral.

Resolved, on the motion of Mr Donnelly: That the Committee accept a late submission from Wollongong City Council and that the Council be invited to appear as a witness. Further, that Wollondilly Council give evidence in Bowral as part of the local council panel, at the request of the Council.

2.2 Witness schedule – revised

The Committee noted that at the request of the Chair, the Minister's Office in conjunction with the Australian Petroleum Production and Exploration Association, nominated two drilling experts to give expert technical evidence to the Committee: Mr Ross Naumann, Dart Energy and Mr Mike Roy, AGL. Mr Naumann and Mr Roy will appear at 1.15-1.45 pm, immediately prior to the evidence from NSW Government officers.

2.3 Proposal to contact Rural Fire Services

Resolved, on the motion of Mr MacDonald: That the Committee write to the Rural Fire Service to ascertain whether the organisation has a position on coal seam gas activities.

2.4 Submissions

Resolved, on the motion of Dr Phelps: That the Committee note that submissions no. 601, 603, 607, 609-611, 613, 615-617, 619-625, 628-634, 638, 640-647, 649-663, 667, 669-670, 672-676, 678-681, 684, 685, 687-689, 691-696, 698-700, 702-706, 708, 709, 711, 714, 717-720, 722, 724, 725, and 728-730, and supplementary submissions 177a, 649a, 339a, 229a, 326a, 169a, 328a, 392a, 447a, 45a, 106a, 132a, 200a, 200b, 408a, 456a, 594a, and 677a, were published by the Committee Clerk under the authorisation of an earlier resolution.

Resolved, on the motion of Mr Buckingham: That submissions no. 635, 666, 682, 710, 713 and 721 remain confidential at the request of the submissions' authors.

Resolved, on the motion of Dr Phelps: That submission no. 509, which was previously published, now be made confidential at the request of the submission's author.

Resolved, on the motion of Mr Primrose: That the Committee authorise the publication of submissions no. 602, 604, 605, 606, 608, 612, 614, 618, 626, 627, 636, 637, 639, 664, 665, 668, 671, 677, 683, 686, 690, 697, 701, 707, 712, 716, 723, 726 and 727 with the exception of the names of the authors which are to remain confidential at the request of the submissions' authors.

Resolved, on the motion of Mr MacDonald: That the Committee authorise the publication of submissions no. 648 and 715 with the exception of the names of individuals.

3. ***

4. **Inquiry into coal seam gas – Public hearing**

Witnesses, the public and the media were admitted.

The Chair made an opening statement regarding the broadcasting of proceedings and other matters.

The following witnesses were sworn and examined:

- Mr James Boulderstone, Vice President Eastern Australia, Santos
- Mr Andrew Kremor, General Manager Energy Business, Santos
- Mr Sam Crafter, Manager Community and Government Relations NSW, Santos.

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Ms Fiona Simson, President, NSW Farmers' Association
- Ms Brianna Casey, Senior Policy Manager, NSW Farmers' Association
- Mr Charlie Thomas, Policy Advisor, NSW Farmers' Association.

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Mr Drew Hutton, President, Lock the Gate Alliance Inc.

The evidence concluded and the witness withdrew.

The following witnesses were sworn and examined:

- Mr Ross Naumann, Technical expert
- Mr Mike Roy, Technical expert.

The evidence concluded and the witnesses withdrew.

Mr Primrose left the meeting.

The following witnesses were sworn and examined:

- Mr Mark Paterson AO, Director General, Department of Trade and Investment, Regional Infrastructures and Services
- Mr Brad Mullard, Executive Director, Mineral Resources and Energy, Department of Trade and Investment, Regional Infrastructures and Services
- Mr Robert O'Neill, Director Water Policy and Planning, NSW Office of Water, Department of Trade and Investment, Regional Infrastructures and Services

The evidence concluded and the witnesses withdrew.

Mr Primrose rejoined the meeting.

The following witnesses were sworn and examined:

- Dr Marion Carey, Doctors for the Environment Australia Inc.
- Dr Helen Richmond, Doctors for the Environment Australia Inc.

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Mike Moraza, Group General Manager, Upstream Gas, AGL Energy Ltd
- Ms Sarah McNamara, Government and Community Relations, AGL Energy Ltd
- Mr John Ross, Manager Hydrogeology, AGL Energy Ltd.

The evidence concluded and the witness withdrew.

The public hearing concluded at 4.52 pm. The public and the media withdrew.

5. Inquiry into coal seam gas – Questions on notice

Resolved, on the motion of Mr Donnelly that: That members provide any additional written questions for witnesses to the Secretariat by 9 am, 21 November 2011. Further, that the Secretariat circulate the questions to the Committee with comments due by 5 pm that day.

6. Adjournment

The Committee adjourned at 5 pm until Friday 25 November 2011, Members' Lounge, Parliament House.

Madeleine Foley

Clerk to the Committee

Minutes No. 18

8 December 2011

General Purpose Standing Committee No 5

9.15 am, Macquarie Room, Parliament House, Sydney

1. Members present

Mr Brown, *Chair*

Mr Buckingham, *Deputy Chair*

Mr Colless

Mr Donnelly

Mr MacDonald

Dr Phelps

Mr Primrose

2. Inquiry into coal seam gas

2.1 Correspondence

The Committee noted the following items of correspondence sent:

- 22 November 2011 – Letter to Mr Shane Fitzsimmons AFSM, Commissioner, NSW Rural Fire Service, from Committee Chair, seeking information on the organisation's views on coal seam gas
- 29 November 2011 – Letter to Hon Norman Moore MLC, Western Australian Minister for Mines and Petroleum, from Committee Chair, seeking information on the rights of property owners and mining companies in relation to land access in Western Australia.

The Committee noted the following items of correspondence received:

- 16 November 2011 – Email from Mr Michael Kelly, Eastern Star Gas, providing additional information requested during the aerial tour of Pilliga Forest
- 30 November 2011 – Email from Mr Frank Mohen, Industry Director – Environment, AECOM, declining the invitation to appear as a witness for the coal seam gas hearings.

2.2 Submissions

Resolved, on the motion of Dr Phelps: That the Committee note that submissions no. 735, 736, 738-740, 743, 744, 746-748, 750-754, 756, 757, 760-765, 767- 771, 773, 774, 777-780, 782-785, 790,792, 794, 797, 800, 802, 804, 806, 808, 809, 811-816, 818, 819, 821, 824-831, 833, 834, 836-837, 839, 842, 844, 845, 847-850, 852-855, 857-859, 861-867, 869, 874, 875, 877, 878, 880, 882-895, 898, 899 and supplementary submissions 207a, 353a, and 649a, were published by the Committee Clerk under the authorisation of an earlier resolution.

Resolved, on the motion of Mr Donnelly: That the Committee authorise the publication of submissions no. 900 and 901.

Resolved, on the motion of Mr Buckingham: That submissions no. 742, 749, 787 and 832 and remain confidential at the request of the submissions' authors.

Resolved, on the motion of Mr Colless: That the Committee authorise the publication of submissions no. 731, 733, 734, 737, 741, 745, 755, 758, 759, 766, 772, 775, 776, 781, 786, 788, 789, 791, 793, 795, 796, 798, 799, 801, 803, 805, 807, 810, 817, 820, 822, 823, 835, 838, 840, 841, 843, 846, 851, 856, 860, 868, 870-873, 876, 879, 881, 896, 897, and supplementary submission 22a, with the exception of the names of the authors which are to remain confidential at the request of the submissions' authors.

2.3 Tended documents

Resolved, on the motion of Dr Phelps: That the Committee accept and publish the following documents:

- Information booklet "Aerial Inspection – Eastern Star Gas (ESG) Rehabbed Sites – Pilliga Forest and Private Landholders" tendered by Mr Michael Kelly, Eastern Star Gas
- Opening statement and copy of Namoi Council submission tabled by Cr Col Murray, Chairperson, Namoi Councils (and Mayor, Tamworth Regional Council)
- Opening statement of Craig Trindall, Traditional landowner, Gomeroi Nation
- Letter from Mr Sam Haddad, Director General, NSW Department of Planning & Infrastructure dated 30/6/2011 to Mr David Casey, Managing Director, Eastern Star Gas Pty Ltd tendered by Mr James Bishop, Mullaley Gas Pipeline Accord
- Pamphlet "Liverpool Plains: Critical for Food Security" tendered by Mr James Bishop, Mullaley Gas Pipeline Accord
- Photographs of exposed gas pipelines and aerial view of Liverpool Plains tabled by Mr James Bishop, Mullaley Gas Pipeline Accord
- Opening statement tendered by Ms Rosemary Nankivell, Caroon Coal Action Group and Mullaley Gas Pipeline Accord
- Opening statement tendered by Ms Judi Sheedy, NSW Farmers' Association (Boggabri, Gunnedah, Pottinger District Council)
- Opening statement and recommendations tendered by Mrs Penny Blatchford
- Opening statement tendered Ms Jon-Maree Baker, Executive Officer, Namoi Water
- Ecological Australia Report prepared for Namoi Catchment Management Authority entitled "Proposed Framework for Assessing the Cumulative Risk of Mining on Natural Resource Assets in the Namoi Catchment" tendered by Ms Francesca Andreoni, Strategy Planning Manager, Namoi Water
- Opening Statement tendered by Mr Anthony Pickard, Local property owner.

Resolved, on the motion of Mr Colless: That the Committee authorise the publication of the letter from Leichhardt Resources Pty Ltd to Landowners, dated 30 June 2011, seeking agreement to access property tendered by Cr Katrina Humphries, Mayor, Moree Plains Shire Council, with the exception of the signatory's name.

Resolved, on the motion of Mr Colless: That supporting documentation tendered by Mrs Penny Blatchford remain confidential as it contains personal and financial information relating to individuals.

Resolved, on the motion of Mr Colless: That the CD tendered by Mr Anthony Pickard remain confidential as it may contain information relating to individuals.

2.4 Site visit itinerary – AGL site at Camden

Resolved, on the motion of Mr Donnelly: That the Committee adopt the proposed itinerary for the site visit to AGL Energy at Camden.

2.5 Briefing by Mr Whitehouse – Publication of transcript

Resolved, on the motion of Mr Donnelly: That the Committee publish those sections of the transcript of the briefing on 7 October 2011 that Mr Whitehouse has approved for publication.

2.6 Additional written questions

Resolved, on the motion of Mr MacDonald: That the Committee submit any additional written questions for witnesses at the hearings on 8 and 12 December 2011 to the Secretariat by 5 pm Wednesday 14 December 2011. Further, that the Secretariat circulate the questions to the Committee for comment and that the answers be due by Monday 30 January 2012.

2.7 Deliberative meeting – Final report

Resolved, on the motion of Dr Phelps: That the Committee hold a deliberative meeting to consider the Chair's draft report in the week beginning Monday 23 April 2012, preferably on Monday 23 April 2012, subject to the Secretariat emailing members to confirm their availability.

3. Inquiry into coal seam gas – Public hearing

Witnesses, the public and the media were admitted.

The Chair made an opening statement regarding the broadcasting of proceedings and other matters.

The following witnesses were sworn and examined:

- Cr Keith Rhoades AFSM, President, Local Government Association of New South Wales
- Cr Adam Marshall, Vice President, Shires Association of New South Wales.

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Jeff Smith, Director, Environmental Defender's Office
- Mr Nari Sahukar, A/Policy Director, Environmental Defender's Office.

Mr Smith tendered the following documents:

- 'Mining Law in New South Wales – Discussion Paper', Environmental Defenders' Office, June 2011, together with a cover letter to Committee members dated 8 December 2011.

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Peter Townsley, Stop Coal Seam Gas Illawarra
- Dr Peter Turner, Northern Illawarra Sustainability Alliance.

Mr Townsley tendered the following documents:

- Maps showing the location of proposed coal seam gas development in relation to the Illawarra escarpment.

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Dr Stuart Khan, Senior Lecturer, Water Research Centre, University of New South Wales.

Dr Khan tabled the following document:

- 'Management of concentrated waste streams from high-pressure membrane water treatment systems', Critical Reviews in Environmental Science and Technology.

The evidence concluded and the witness withdrew.

The following witnesses were sworn and examined:

- Mr Peter Henderson, Managing Director, Metgasco
- Ms Glenda McLoughlin, Chief Financial Officer, Metgasco
- Mr Mick O'Brien, Chief Operating Officer, Metgasco
- Mr Richard Shields, External Relations Manager, Metgasco.

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Ms Jacinta Green, Stop Coal Seam Gas Sydney.

Ms Green tabled the following document:

- Opening statement, correspondence and additional documents.

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Chris Magner, Richmond Wilsons Combined Water Users' Association
- Mr David Clift, Richmond Wilsons Combined Water Users' Association.

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn and examined:

- Mr Robbert de Weijer, Chief Executive Officer, Dart Energy Ltd
- Mr Jason Needham, Exploration Operations Manager Australia, Dart Energy Ltd
- Mr Andrew Collins, External Relations Manager, Dart Energy Ltd.

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Ms Marylou Potts, Marylou Potts Pty Ltd.

The evidence concluded and the witness withdrew.

The public hearing concluded at 5.35 pm. The public and the media withdrew.

4. Adjournment

The Committee adjourned at 5.35 pm until 7.45 am, Friday 9 November 2011, Hospital Road, Parliament House.

Madeleine Foley

Clerk to the Committee

Minutes No. 19

9 December 2011

General Purpose Standing Committee No 5

10.00 am, Highlands Golf Club, Old Hume Highway, Mittagong

1. Members presentMr Brown, *Chair*Mr Buckingham, *Deputy Chair*

Mr Colless

Mr Donnelly

Mr MacDonald

Dr Phelps

Mr Primrose

2. Inquiry into coal seam gas – Public hearing

Witnesses, the public and the media were admitted.

The Chair made an opening statement regarding the broadcasting of proceedings and other matters.

The following witnesses were sworn and examined:

- Mrs Elaine Armstrong, State President, Country Women's Association
- Mrs Joy Beames, State Agricultural and Environmental Officer, Country Women's Association.

Mrs Beames tendered the following document:

- Photograph of effects of subsidence on her property.

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn:

- Mr Chris Lalor, Acting Manager, Strategic Planning, Camden Council
- Mr Jeff Lawrence, Director, Planning and Environment, Campbelltown City Council
- Mr David Henry, Environment Officer, Campbelltown City Council
- Cr Larry Whipper, Deputy Mayor, Wingecaribee Shire Council
- Mr Scott Lee, Director Environment and Planning, Wingecaribee Shire Council
- Ms Ally Dench, Deputy General Manager, Wollondilly Shire Council.

The evidence concluded and the witnesses withdrew.

The following witness was sworn:

- Ms Caroline Graham, Rivers SOS.

Ms Graham tendered the following documents:

- Photograph of the Cataract River 12 years after mining ceased
- Rivers SOS pamphlet.

The evidence concluded and the witness withdrew.

The following witnesses were sworn:

- Mr Peter Martin, Southern Highlands Coal Action Group
- Mr Alan Lindsay, Southern Highlands Coal Action Group.

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn:

- Ms Jacqui Kirby, Scenic Hills Association

- Father Greg Burke, Scenic Hills Association.

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn:

- Sister Jocelyn Kramer, Carmelite Nuns
- Sister Jennifer Jones, Carmelite Nuns.

Sister Jocelyn tendered the following document:

- Presentation paper.

The evidence concluded and the witnesses withdrew.

The following witnesses were sworn:

- Cr Jill Merrin, Wollongong City Council
- Cr Greg Petty, Wollongong City Council
- Mr Peter Kofod, Acting General Manager, Wollongong City Council
- Ms Renee Campbell, Manager, Environment Strategy and Planning, Wollongong City Council.

Cr Petty tendered the following documents:

- Statement to the Planning Assessment Commission
- Additional information regarding the Apex Exploration Drilling Project submitted to the Planning Assessment Commission.

Cr Merrin tendered the following documents:

- Wollongong City Council Sustainability Policy
- Letter to Wollongong City Council from the National Parks Association of NSW, Southern Sydney Branch
- "Review of the Worley Parsons 'Greenhouse Gas Emissions Study of Australian CSG to LNG'" powerpoint presentation, compiled by Greg Knight
- National Trust Magazine, November – January 2012
- Sydney Morning Herald article "Fracking linked to UK tremors", 5 November 2011.

The evidence concluded and the witnesses withdrew.

The public hearing concluded at 2.33 pm. The public and the media withdrew.

3. Inquiry into coal seam gas –tour of AGL Energy at Camden

The Committee conducted a bus tour of coal seam gas developments in the Camden area.

The Committee was accompanied on the bus by:

- Mr Mike Moraza, Group General Manager, Upstream Gas
- Mr Mike Roy, Head of Gas Operations
- Mr Adam Lollback, Land and Approvals Manager, Upstream Gas
- Mr Kevin Rofe, Land and Compliance Officer
- Mr David Spree, Adviser, Government Affairs.

Mr Moraza tendered the following document:

- AGL Camden Gas Project – Maps

4. Adjournment

The Committee adjourned at 5.30pm until 9.30 am, Monday 12 December 2011, Hospital Road, Parliament House.

Madeleine Foley

Clerk to the Committee

Minutes No. 20

12 December 2011

General Purpose Standing Committee No 5

9.30 am, Macquarie Room, Parliament House, Sydney

1. Members present

Mr Brown, *Chair*

Mr Buckingham, *Deputy Chair*

Mr Colless

Mr Donnelly (from 1.15 pm)

Mr MacDonald

Dr Phelps

2. Apologies

Mr Primrose

3. Inquiry into coal seam gas – Public hearing

Witnesses, the public and the media were admitted.

The Chair made an opening statement regarding the broadcasting of proceedings and other matters.

The following witness was sworn and examined:

- Mr Mark Ogge, Operations Director, Beyond Zero Emissions.

Mr Ogge tendered the following documents:

- Gas prices linking to global prices, BP Statistical Review of World Energy 2011
- Transforming to oil-linked pricing.

The evidence concluded and the witness withdrew.

The following witnesses were sworn and examined:

- Mr Mark Paterson AO, Director General, Department of Trade & Investment, Regional Infrastructure and Services
- Mr Brad Mullard, Executive Director, Mineral Resources and Energy, Department of Trade & Investment, Regional Infrastructure and Services
- Mr Mark Harris, A/Director, Water Policy and Water Planning, NSW Office of Water, Department of Trade & Investment, Regional Infrastructure and Services.

The evidence concluded and Mr Mullard and Mr Harris withdrew.

The following witness was sworn and examined:

- Mr Michael Bullen, Chief Executive Officer, Sydney Catchment Authority.

Mr Paterson remained at the table to give evidence with Mr Bullen.

The evidence concluded and the witnesses withdrew.

4. Deliberative meeting

4.1 Submissions

Resolved, on the motion of Mr MacDonald: That the Committee authorise the publication of submission no. 903.

4.2 Publication of in camera evidence

Resolved, on the motion of Dr Phelps: That the Committee publish those sections of the transcript of the in camera evidence given on 15 November 2011 in Narrabri when that evidence has been approved by the witnesses for publication.

5. Inquiry into coal seam gas – Public hearing resumed

Witnesses, the public and the media were admitted.

The following witnesses were sworn and examined:

- Mr Matthew Paull, Director, Policy (Queensland and New South Wales), APPEA
- Mr Rick Wilkinson, Chief Operating Officer, Eastern Australia, APPEA.

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Mr Warren Mundine, Chief Executive Officer, Native Title Services Corp

The evidence concluded and the witness withdrew.

The following witness was sworn and examined:

- Mr James Cameron, Chief Executive Officer, National Water Commission.

The evidence concluded and the witness withdrew.

The following witnesses were sworn and examined:

- Mr Andrew Gregson, Chief Executive Officer, NSW Irrigators' Council
- Mr Mark Moore, Senior Policy Analyst, NSW Irrigators' Council.

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Ms Elaine Prior, Director and Senior Analyst, Citi Investment Research and Analysis.

The evidence concluded and the witnesses withdrew.

The following witness was sworn and examined:

- Mr Neil Dobbin, Group Executive, Rural Banking, Rabobank

The evidence concluded and the witness withdrew.

The public hearing concluded at 5.55 pm. The public and media withdrew.

6. Adjournment

The Committee adjourned at 5.55 pm sine die.

Madeleine Foley

Clerk to the Committee

Minutes No. 22

23 February 2012

General Purpose Standing Committee No. 5

Members' Lounge, Parliament House, Sydney at 1.00 pm

1. Members presentMr Brown, *Chair*Mr Buckingham, *Deputy Chair*

Mr Colless

Mr Donnelly

Mr MacDonald

Mr Primrose

Dr Phelps

2. Draft minutes

Resolved, on the motion of Mr Donnelly: That draft minutes no. 16, 17, 18, 19, 20 and 21 be confirmed.

3. Inquiry into coal seam gas**3.1 Correspondence**

The Committee noted the following items of correspondence received:

- 8 December 2011 – Email from Ms Marion Carey, Doctors for the Environment, seeking to provide further information in relation to the evidence she provided at the hearing on 17 November 2011
- 9 December 2011 – Email from Dr Peter Turner, Northern Illawarra Sustainability Alliance, seeking to add to the evidence he provided at the hearing on 8 December 2011 (attached)
- 12 December 2011 – Letter from Dr Francesca Andreoni, Strategic Planning Manager, Namoi Catchment Management Authority, clarifying evidence given at the public hearing on Narrabri on 16 November 2011
- 15 December 2011 – Letter from Mr Rick Wilkinson, Chief Operating Officer, Eastern Australia, Australian Petroleum Production and Exploration Association, to the Chair, enclosing recent media articles on the benefits of coal seam gas
- 20 December 2011 – Letter from Mr Shane Fitzsimmons AFSM, Commissioner, NSW Rural Fire Service, to the Chair, outlining the work undertaken by the organisation to identify any risks to fire fighting operations due to coal seam gas development
- 21 December 2011 – From the Hon Barry O'Farrell MP, Premier, to the Chair, enclosing correspondence from Cr Ray Brown, Mayor, Western Downs Regional Council, in which the Mayor raised concerns that the Council was not notified of the Committee's site visit to Chinchilla in September 2011
- 12 January 2012 – From Mr Graeme Gibson, Hunter Valley Protection Alliance, to the Chair, enclosing a brochure on the potential impact of coal seam gas development in the Hunter Valley, and attaching an excerpt from a petition previously tabled in the NSW Parliament opposing coal seam gas development in the Hunter Valley
- 16 January 2011 – From Hon Norman Moore MLC, WA Minister for Mines and Petroleum, to the Chair, responding to the Committee's request to clarify the legal rights of property owners in Western Australia in relation to coal seam gas activity
- 31 January 2012 – From Mr Jeff Lawrence, Director Planning and Environment, Campbelltown City Council to Principal Council Officer seeking to provide further information in relation to the evidence he provided at the hearing on 9 December 2011.
- 21 February 2012 – From Mr Wayne Somerville providing a copy of a letter sent to the Premier, the Hon Barry O'Farrell MP, regarding coal seam gas development in the Northern Rivers region.

The Committee noted the following items of correspondence sent:

- 19 January 2012 – From the Chair, to Cr Ray Brown, Mayor, Western Downs Regional Council, Queensland, responding to the Mayor's concern that the Council was not notified of the Committee's site visit to Chinchilla in September 2011
- 31 January 2012 – From the Chair, to the Hon Andrew Fraser MP, Queensland Deputy Premier and Treasurer, seeking an update on any significant initiatives since the Queensland Government prepared its submission in mid-2011 to the Inquiry into the management of the Murray Darling Basin – impact of mining coal seam gas by the Senate Rural Affairs and Transport Reference Committee.

Resolved, on the motion of Dr Phelps: That the Committee publish the following items of correspondence received for the purposes of preparing the report:

- 8 December 2011 – Email from Ms Marion Carey, Doctors for the Environment
- 9 December 2011 – Email from Dr Peter Turner, Northern Illawarra Sustainability Allianc
- 12 December 2011 – Letter from Dr Francesca Andreoni, Strategic Planning Manager, Namoi Catchment Management Authority
- 15 December 2011 – Letter from Mr Rick Wilkinson, Chief Operating Officer, Eastern Australia, Australian Petroleum Production and Exploration Association
- 20 December 2011 – Letter from Mr Shane Fitzsimmons AFSM, Commissioner, NSW Rural Fire Service
- 16 January 2011 – From Hon Norman Moore MLC, WA Minister for Mines and Petroleum
- 31 January 2012 – From Mr Jeff Lawrence, Director Planning and Environment, Campbelltown City Council.

Resolved, on the motion of Mr Colless: That the Committee keep confidential the correspondence from Mr Graeme Gibson of 12 January 2012, as the excerpt from a petition contains individual details.

3.2 Questions on notice

Resolved, on the motion of Mr Buckingham: That the Committee note that the following answers to questions on notice were published by the Committee Clerk under the authorisation of an earlier resolution:

- 14 November 2011 – Barrington Gloucester Stroud Preservation Alliance (from hearing on 31 October)
- 21 November 2011 – MidCoast Water (from hearing on 31 October)
- 17 November 2011 – Barrington Gloucester Stroud Preservation Alliance (from hearing on 31 October) – further answers
- 6 December 2011 – Technical Experts – Ross Neumann and Mike Roy (from hearing on 17 November 2011)
- 7 December 2011 – Santos Limited (from hearing on 17 November)
- 8 December 2011 – Doctors for the Environment (from hearing on 17 November)
- 16 December 2011 – NSW Dept of Trade and investment, Regional Infrastructure and Services (from hearing on 17 November)
- 21 December 2011 – AGL Energy Ltd (from hearing on 17 November)
- 19 January 2011 – Environmental Defenders' Office (from hearing on 8 December)
- 30 January 2012 – Wollongong City Council (from hearing on 9 December 2011)
- 30 January 2012 – Dart Energy Ltd (from hearing on 8 December 2011)
- 30 January 2012 – Sydney Catchment Authority (from hearing on 12 December 2011)
- 31 January 2012 – Local Government and Shires Associations of NSW (from hearing on 9 December 2011)
- 31 January 2012 – Santos Limited (from hearing on 17 November 2011) – further answers

- 31 January 2012 – Australian Petroleum Production & Exploration Association Limited (from hearing on 12 December 2011)
- 3 February 2012 – Dr Stuart Khan, University of New South Wales (from hearing on 8 December)
- 6 February 2012 – NSW Dept of Trade and investment, Regional Infrastructure and Services (from hearing on 12 December)
- 9 February 2012 – National Water Commission (from hearing on 12 December 2011)
- 10 February 2012 – Beyond Zero Emissions (from hearing on 12 December)

3.3 Submissions

Resolved, on the motion of Dr Phelps: That the Committee note that submissions no. 903-910, and supplementary submissions 648a and 905a, were published by the Committee Clerk under the authorisation of an earlier resolution.

Resolved, on the motion of Mr Donnelly: That the Committee note that submission no. 902 was published by the Committee Clerk under the authorisation of an earlier resolution, with the exception of the author's name. Further, that the Committee keep confidential the author's name at the request of the submission's author.

Resolved, on the motion of Mr Buckingham: That submission no. 901 remains confidential at the request of the submission's author.

3.4 Tendered documents

Resolved, on the motion of Dr Phelps: That the Committee accept the following documents and publish those documents that are not already public:

Thursday, 8 December 2011

- 'Mining Law in New South Wales – Discussion Paper', Environmental Defenders' Office, June 2011 (published), together with a cover letter to Committee members dated 8 December 2011 – tabled by Mr Jeff Smith, Director, Environmental Defender's Office
- Maps showing the location of proposed coal seam gas development in relation to the Illawarra escarpment – tabled by Mr Peter Townsley, Stop Coal Seam Gas Illawarra
- Opening Statement tabled by Dr Stuart Khan, Senior Lecturer, Water Research Centre, University of New South Wales
- 'Management of concentrated waste streams from high-pressure membrane water treatment systems', Critical Reviews in Environmental Science and Technology – tabled by Dr Stuart Khan, Senior Lecturer, Water Research Centre, University of New South Wales (published)
- Opening statement, correspondence and additional documents tabled by Ms Jacinta Green, Stop Coal Seam Gas Sydney

Friday, 9 December 2011

- Photograph of the Cataract River 12 years after mining ceased – tabled by Ms Caroline Graham, Rivers SOS
- Rivers SOS pamphlet – tabled by Ms Caroline Graham, Rivers SOS (published)
- Photograph of effects of subsidence on her property – tabled by Mrs Joy Beames, State Agricultural and Environmental Officer, Country Women's Association
- Presentation paper – tabled by Sister Jocelyn Kramer, Carmelite Nuns
- Statement to the Planning Assessment Commission – tabled by Cr Greg Petty
- Additional information regarding the Apex Exploration Drilling Project submitted to the Planning Assessment Commission – tabled by Cr Greg Petty
- Wollongong City Council Sustainability Policy – tabled by Cr Jill Merrin, Wollongong City Council (published)
- Letter to Wollongong City Council from the National Parks Association of NSW, Southern Sydney Branch – tabled by Cr Jill Merrin, Wollongong City Council

- ‘Review of the Worley Parsons’ Greenhouse Gas Emissions Study of Australian CSG to LNG’ powerpoint presentation, compiled by Greg Knight – tabled by Cr Jill Merrin, Wollongong City Council
- National Trust Magazine, November – January 2012 – tabled by Cr Jill Merrin, Wollongong City Council (published)
- Sydney Morning Herald article ‘Fracking linked to UK tremors’, 5 November 2011 – tabled by Cr Jill Merrin, Wollongong City Council (published)
- AGL Camden Gas Project – Maps – tabled by Mr Mike Moraza, Group General Manager, Upstream Gas, AGL

Monday, 12 December 2011

- Gas prices linking to global prices, BP Statistical Review of World Energy 2011 – tabled by Mr Mark Ogge, Operations Director, Beyond Zero Emissions (published)
- Transforming to oil-linked pricing – tabled by Mr Mark Ogge, Operations Director, Beyond Zero Emissions.

3.5 Material not part of the Inquiry

Resolved, on the motion of Mr MacDonald: That the Committee note that the final report will refer to the Senate Committee’s November 2011 interim report on ‘The impact of mining coal seam gas on the management of the Murray Darling Basin’ and evidence considered in that report.

3.6 Other business

Resolved, on the motion of Dr Phelps: That the Committee note that the Chair’s draft report will be distributed to members on Monday 16 April 2012, and that the confidential report be emailed to members, on request.

4. Adjournment

The Committee adjourned at 1.10 pm until 9.30 am Monday 23 April 2012.

Madeleine Foley

Clerk to the Committee

Draft Minutes No. 23

Monday, 23 April 2012

General Purpose Standing Committee No. 5

Room 1136, Parliament House, Sydney at 9.30 am

1. Members present

Mr Brown (*Chair*)

Mr Buckingham (*Deputy Chair*)

Mr Colless (at 9.35am)

Mr Donnelly

Mr MacDonald

Dr Phelps

Mr Primrose

2. Previous minutes

Resolved, on the motion of Dr Phelps: That draft Minutes No 22 be confirmed.

3. Proposed inquiry into public land management in NSW

The Chair tabled a letter to the Clerk of the Committee signed by Mr Colless, Mr Brown, Dr Phelps and Mr MacDonald requesting a meeting of the Committee to consider the following terms of reference for an inquiry into public land management in NSW:

That General Purpose Standing Committee No 5 inquire into and report on the management of public land in New South Wales, including State Forests and National Park estate, and in particular:

1. The conversion of Crown Land, State Forests and agricultural land into National Park estate or other types of conservation areas, including the:
 - a. Process of conversion and the assessment of potential operational, economic, social and environmental impacts
 - b. Operational, economic, social and environmental impacts after conversion, and in particular, impacts upon neighbours of public land and upon Local Government
 - c. That the following cases be considered in relation to Terms of Reference 1(a) and 1(b):
 - (i) River Red Gum State Forests in the Southern Riverina,
 - (ii) Native Hardwood State Forests in Northern NSW,
 - (iii) Yanga Station in the Balranald Shire, and
 - (iv) Toorale Station in Bourke Shire.
2. The adherence to management practices on all public land, that are mandated for private property holders, including fire, weed and pest management practices.
3. Examination of models for the management of public land, including models that provide for conservation outcomes which utilises the principles of “sustainable use”.
4. Any other related matters.

Mr Colless arrived at 9.35am.

Dr Phelps moved: That the Committee adopt the terms of reference.

Question put.

The Committee divided.

Ayes: Mr Brown, Mr Colless, Mr MacDonald, Dr Phelps

Noes: Mr Buckingham, Mr Donnelly, Mr Primrose

Question resolved in the affirmative.

Resolved, on the motion of Dr Phelps: That the inquiry and the call for submissions be advertised on 9 May 2012 in the *Sydney Morning Herald*, *Daily Telegraph*, *Weekly Times*, *The Land* and selected regional newspapers.

Resolved, on the motion of Mr Colless: That members email the Secretariat with any suggestions on local/specialist publications in which to advertise the Inquiry. Further, that the Secretariat email the Committee to seek agreement to advertising in these proposed publications.

Resolved, on the motion of Mr MacDonald: That the closing date for submissions be 3 August 2012.

Resolved, on the motion of Mr Primrose: That the Secretariat email members with a list of proposed stakeholders to be invited to make written submissions, and that members be requested to nominate additional stakeholders.

Resolved, on the motion of Mr Primrose: That the Committee authorise the publication of all submissions to the Inquiry into Public Land Management, subject to the Committee Clerk checking for confidentiality, adverse mention and other issues.

Resolved, on the motion of Mr Colless: That the indicative tabling date for the final report be late April 2013.

The Chair informed the Committee of his intention to undertake most site visits in the period 23 July to October 2012, and that if necessary additional site visits would be scheduled for late 2012 or early 2013.

Resolved, on the motion of Dr Phelps: That the Committee conduct site visits to the places named in the Terms of Reference, additional site visits to locations determined by submissions received, and three Sydney hearings. Further, that the dates for Inquiry activity be determined by the Chair after consultation with members regarding their availability.

4. Inquiry into coal seam gas

4.1 Correspondence

The Committee noted the following items of correspondence received:

- 16 November 2011 – From Mr John Tough, Narrabri resident, providing photographs of coal seam gas activities.
- 4 April 2012 – From Mr Carey McIntyre, Director City Outcomes, Shellharbour City Council, regarding the concerns about coal seam gas mining.

Resolved, on the motion of Mr Buckingham: That the Committee keep confidential the correspondence from Mr Tough, as it contains photographs of potentially sensitive activities.

4.2 Answers to QON

Resolved, on the motion of Dr Phelps: That the Committee authorise the publication of the answers to questions on notice provided by the following witnesses:

- 5 March 2012 – AGL Energy (from hearing on 17 November 2011)
- 9 March 2012 – AGL Energy proforma access agreements (further question – from hearing on 17 November 2011)

4.3 Submissions

Public

Resolved, on the motion of Mr Buckingham: That the Committee publish the name of the author of submission 715.

Resolved, on the motion of Dr Phelps: That the Committee publish supplementary submission 648b.

4.4 Proformas

Resolved, on the motion of Dr Phelps: That the proformas remain confidential as they contain addresses and other personal information.

4.5 Correspondence to the Queensland Government

The Committee noted that a letter was sent to the Queensland Treasurer in January 2012 requesting an update on significant developments since the Queensland Government's submission to the Senate Inquiry in mid-2011. While the Committee did not receive a response due to the pre-election caretaker period, the Secretariat was verbally advised on 5 March 2012 that there have been no significant changes since the submission was made.

4.6 Additional material incorporated into the report

Resolved, on the motion of Mr MacDonald: That the Committee note that the final report refers to material published by the Western Australian and Queensland Governments on domestic gas reservation policies.

5. Consideration of Chair's draft report on coal seam gas

The Chair submitted his draft report entitled Coal seam gas, which, having been previously circulated, was taken as being read.

Chapter 1 read.

Resolved, on the motion of Mr Primrose: That Chapter 1 be adopted.

Chapter 2 read.

Resolved, on the motion of MacDonald: That paragraph 2.18 be amended by inserting the words 'The Committee notes that the role of the Commonwealth Government's new Independent Expert Scientific Committee on Coal Seam Gas and Coal Mining is considered in Chapter 3.'

Resolved, on the motion of Mr Buckingham: That paragraph 2.32 be amended by omitting the words 'Since its election in March 2011' and inserting instead the words 'As at 12 December 2011'.

Resolved, on the motion of Mr Buckingham: That paragraph 2.33 be amended by:

- inserting the words 'This moratorium only applies to new fracking approvals. The Committee notes that no fracking operations have been undertaken since the ban came into place.' after the words 'fracking standards and well design.'
- inserting the words 'of fracking standards and well design' after the words 'The review'.
- omitting the words 'Fracking will not occur in New South Wales until the Government has considered its findings.' from the end of the paragraph.

Resolved, on the motion of Mr Buckingham: That paragraph 2.37 be amended by omitting the words 'has been put in place' after the words 'called the 'Gateway' and inserting instead 'aims'.

Resolved, on the motion of Mr Colless: That Chapter 2, as amended, be adopted.

Chapter 3 read.

Resolved, on the motion of Dr Phelps: That paragraph 3.45 be amended by inserting the words ', if any,' after the word 'aquifers'.

Resolved, on the motion of Dr Phelps: That paragraph 3.46 be amended by inserting the words 'by some coal seam gas companies' after the words 'cumulative impacts is considered'.

Resolved, on the motion of Mr MacDonald: That paragraph 3.47 be amended by omitting the word 'conducted' and inserting instead the word 'finalised'.

Resolved, on the motion of Dr Phelps: That paragraph 3.48 be amended by omitting the words 'is very concerned' and inserting instead the word 'notes'.

Resolved, on the motion of Mr Donnelly: That paragraph 3.49 be amended by turning the words 'The NSW Government should consider tightening the Draft Code so that the suggested measures around water testing and monitoring, including documenting existing water bores, drilling monitoring bores, regularly monitoring water impacts and paying for independent water testing, are *required* rather than *optional*' into a recommendation.

Resolved, on the motion of Dr Phelps: That paragraph 3.49 be amended by omitting the words 'It is simply not good enough to leave such important measures to the goodwill of coal seam gas companies, or indeed the negotiating skills of individual landholders' from the end of the paragraph.'

Resolved, on the motion of Mr Buckingham: That a new recommendation be inserted after paragraph 3.49 to read: 'That the NSW Government amend the *Draft Code of Practice for Coal Seam Gas Exploration* to require information on baseline data to be publically available'.

Resolved, on the motion of Mr Buckingham: That where the Committee resolves to insert a new recommendation, or to amend an existing recommendation, that the Committee Secretariat insert a new

paragraph in the Committee Comment section to reflect the new recommendation, or revise the existing comment to reflect the revised recommendation.

Resolved, on the motion of Dr Phelps: That paragraph 3.67 be amended by omitting the words ‘The Committee concludes that the industry’s history in Queensland does not contain clear lessons for New South Wales on whether the coal seam gas industry is a safe long term proposition.’ after the words ‘appear for decades’ and inserting instead the words ‘However, the Committee notes that an hydrogeologist and other experts who appeared before the Committee were, despite their extensive experience over many years, unaware of any instance of cross-contamination of aquifers in Australia due to coal seam gas drilling for exploration or production.’ and that a footnote be inserted to reflect the evidence from several witnesses on this issue.

Mr Buckingham moved: That paragraph 3.68 be amended by omitting the words ‘The Committee considers it unfortunate that disinformation is circulating in the community on the coal seam gas industry.’ from the beginning of the paragraph.

Question put.

The Committee divided.

Ayes: Mr Brown, Mr Buckingham, Mr Donnelly, Mr Primrose

Noes: Mr Colless, Mr MacDonald, Dr Phelps

Question resolved in the affirmative.

Resolved, on the motion Mr Primrose: That paragraph 3.68 be amended by inserting the words ‘The Committee urges all stakeholders in the debate to refrain from using emotive language and making unsubstantiated claims, and to base their representations on the science.’ at the end of the paragraph.

Resolved, on the motion of Dr Phelps: That paragraph 3.72 be amended by omitting the words ‘However in many cases it is not clear if these Inquiry participants would support coal seam gas exploration proceeding if further study can show that the risks of the industry can be managed’ after the words ‘exploratory phase.’ from the end of the paragraph and inserting instead the words ‘However in some cases it is not clear if these Inquiry participants would support coal seam gas exploration or production proceeding under any circumstances.’

Mr Buckingham moved: That paragraph 3.113 be omitted.

Question put.

The Committee divided:

Ayes: Mr Buckingham

Noes: Mr Brown, Mr Colless, Mr Donnelly, Mr MacDonald, Dr Phelps, Mr Primrose

Question resolved in the negative.

Resolved, on the motion of Mr Primrose: That paragraph 3.113 be amended by inserting the words ‘, subject to any aquifer interference assessment (See Recommendation XX)’ at the end of the second sentence.

Mr Buckingham moved: That a new recommendation be inserted after paragraph 3.113 to read: ‘That the Government implement a moratorium on coal seam gas of no less than 12 months while the areas of significant scientific uncertainty in relation to coal seam gas activities as highlighted in this report can be duly investigated and reported on by the Commonwealth’s Independent Expert Scientific Committee’.

Question put.

The Committee divided:

Ayes: Mr Buckingham

Noes: Mr Brown, Mr Colless, Mr Donnelly, Mr MacDonald, Dr Phelps, Mr Primrose

Question resolved in the negative.

Resolved, on the motion of Dr Phelps: That Chapter 3, as amended, be adopted.

Chapter 4 read.

Resolved, on the motion of Dr Phelps: That a new paragraph be inserted after paragraph 4.14 to read ‘The Committee notes an hydrogeologist and other experts who appeared before the Committee were, despite their extensive experience over many years, unaware of any instance of cross-contamination of aquifers in Australia due to coal seam gas drilling for exploration or production.’ and that a footnote be inserted to reflect the evidence from several witnesses on this issue.

Dr Phelps moved: That paragraph 4.65 be omitted and that the words be inserted instead: ‘The Committee agrees that there is still some uncertainty about the full impact of the coal seam gas industry on water resources, but notes that there is no evidence to support theories of aquifer cross-contamination. The NSW Government should consider monitoring developments in this areas, but uncertainty should not, of itself, deter progress of this industry.’

Question resolved in the negative.

Resolved, on the motion of Mr Colless: That paragraph 4.65 be amended by omitting the words ‘believes that the jury is still out on key concerns on’ after the words ‘the Committee’ and inserting instead the words ‘notes the very serious community concerns regarding’, and omitting the word ‘issues’ after the word ‘these’ on the second line, inserting instead the word ‘concerns’.

Resolved, on the motion of Mr Donnelly: That paragraph 4.93 be amended by turning the words ‘The Committee encourages the NSW Government to progress as a priority the project being undertaken by the Office on Water to assess the potential volume of produced water.’ into a recommendation.

Resolved, on the motion of Mr Buckingham: That a new recommendation be inserted after paragraph 4.93 to read: ‘That the NSW Government not approve any coal seam gas activity without a solid waste management plan included in the relevant approval’.

Dr Phelps moved: That paragraph 4.94 be deleted by omitting the words: ‘The Committee is concerned at the lack of scientific evidence to support some proposed means of dealing with produced water, such as aquifer reinjection, and also finds it alarming that there is currently no means for dealing with solid waste other than sending it to landfill. This illustrates the need for the NSW Government to take a cautious approach to the coal seam gas industry, particularly before allowing coal seam gas companies to proceed to production’.

Question put.

The Committee divided:

Ayes: Mr Brown, Mr Colless, Mr MacDonald, Dr Phelps

Noes: Mr Buckingham, Mr Donnelly, Mr Primrose

Question resolved in the affirmative.

Resolved, on the motion of Dr Phelps: That paragraph 4.102 be amended by omitting the word ‘the’ after the word ‘mitigate’ and inserting instead the word ‘any’.

Mr Donnelly moved: That a new recommendation be inserted after paragraph 4.104 to read: ‘That the NSW Government ensure that aquifer interference requirements are introduced for any wells drilled into coal seams, including exploration wells.’

Question put.

The Committee divided.

Ayes: Mr Brown, Mr Buckingham, Mr Donnelly, Mr Primrose

Noes: Mr Colless, Mr MacDonald, Dr Phelps

Question resolved in the affirmative.

Mr Donnelly moved: That a new recommendation be inserted after paragraph 4.104 to read: 'That the NSW Government issue no further exploration or production licences for any region in New South Wales until the Commonwealth Government's Independent Expert Scientific Committee makes publicly available a water assessment that contains a finding to the effect that the extraction of coal seam gas in the region is not likely to have a significant impact of water resources in the region.'

Question put.

The Committee divided.

Ayes: Mr Buckingham, Mr Donnelly, Mr Primrose

Noes: Mr Brown, Mr Colless, Mr MacDonald, Dr Phelps

Question resolved in the negative.

Resolved, on the motion of Mr MacDonald: That a new recommendation be inserted after paragraph 4.104 to read: 'That the NSW Government consider expanding the monitoring of decommissioned wells. This could extend to inspections at intervals of five years up to 20 years'.

Resolved, on the motion of Dr Phelps: That paragraph 4.104 be amended by omitting the words 'the Government' after the word 'before' and inserting instead the words 'previous governments'.

Resolved, on the motion of Dr Phelps: That paragraph 4.104 be amended by deleting the words: 'As with the moratorium on fracking, the Committee views this as an example of the Government playing catch-up in its approach to regulating the industry.'

Resolved, on the motion of Dr Phelps: That paragraph 4.105 be amended by omitting the first sentence which read: 'In relation to the disposal of produced water, the Committee is concerned that the NSW Government does not have a clear position on how coal seam gas companies should be required to dispose of water.' and inserting instead: 'In relation to the disposal of produced water, the Committee believes that the NSW Government should develop a clear position on how coal seam gas companies should dispose of this water'.

Resolved, on the motion of Mr Buckingham: That paragraph 4.105 be amended by omitting the sentence 'There is insufficient evidence at present to support aquifer reinjection as a means of disposal of produced water, and we question how the Government can develop a Managed Aquifer Recharge Policy in the absence of the relevant data' and inserting instead: 'Considering that there is contested evidence regarding aquifer reinjection as a means to dispose of produced water, the Committee urges the NSW Government to finalise the Managed Aquifer Recharge Policy as provided for in the Draft Code.'

Dr Phelps moved: That paragraph 4.106 and Recommendation 2 be omitted.

Question resolved in the negative.

Resolved, on the motion of Dr Phelps: That Chapter 4, as amended, be adopted.

Chapter 5 read.

Resolved, on the motion of Mr Colless: That paragraph 5.1 be amended by omitting the words 'Fracking is a technique used by coal seam gas operators to improve the flow of gas from a coal seam.' and inserting instead the words 'Fracking is a technique that has been used for many decades in the oil and gas industries for a number of purposes'.

Resolved, on the motion of Dr Phelps: That paragraph 5.7 be amended by inserting the words 'However, this percentage must be treated with caution in relation to its application to coal seam gas operations in New South Wales, given the substantial dissimilarities between the structures of coal seam bodies in New South Wales and those in existing drilling areas of Queensland' at the end of the paragraph.

Dr Phelps moved: That paragraph 5.48 be amended by omitting the words ‘The Committee agrees that given the potential impacts on health, farming and water systems, the Government should proceed with the utmost caution, ensuring that the highest possible standards are set and adhered to’ after the words ‘in relation to fracking’ and inserting instead the words ‘particularly the concerns about the potential impacts on health, farming and water systems. However, much of this concern may be unjustified, given the view of Geoscience Australia (see paragraph 5.50), and’.

Question put.

The Committee divided.

Ayes: Mr Brown, Mr Colless, Mr Donnelly, Mr MacDonald, Dr Phelps, Mr Primrose

Noes: Mr Buckingham

Question resolved in the affirmative.

Resolved, on the motion of Mr Primrose: That paragraph 5.58 and Recommendation 3 be amended by omitting the word ‘moratorium’ wherever it appears and inserting instead the words ‘current ban’.

Dr Phelps moved: That paragraph 5.58 and Recommendation 3 be deleted.

Question put.

The Committee divided.

Ayes: Mr Colless, Mr MacDonald, Dr Phelps

Noes: Mr Brown, Mr Buckingham, Mr Donnelly, Mr Primrose

Question resolved in the negative.

Resolved, on the motion of Mr Colless: That Recommendation 3 be amended by:

- omitting the word ‘tests’ after the words ‘Assessment Scheme’ and inserting instead the word ‘assesses’
- inserting the words ‘and toxicity according to international standards’ after the words ‘intended use’
- omitting the word ‘testing’ after the words ‘findings of this’ and inserting instead the word ‘assessment’.

Dr Phelps moved: That paragraph 5.59 and Recommendation 4 be deleted.

Question resolved in the negative.

Resolved, on the motion of Mr Colless: That Chapter 5, as amended, be adopted.

Chapter 6 read.

Resolved, on the motion of Dr Phelps: That paragraph 6.31 be amended by omitting the words ‘are serious, and obviously of great concern to Inquiry participants. In the absence of sufficient evidence to either support or discount these fears’ after the words ‘coal seam gas activities’ and inserting instead the words ‘are obviously of great concern to Inquiry participants. Given the conflicting evidence,’.

Resolved, on the motion of Dr Phelps: That paragraph 6.50 be amended by omitting the words ‘Changes must therefore be made to the system of providing security deposits, to ensure that deposits are substantial and are held for a long period’.

Resolved, on the motion of Dr Phelps: That Recommendation 5 be deleted by omitting the words ‘a more substantial, long-term security deposit system to ensure remediation of any environmental impacts of coal seam gas development’ after the words ‘That the NSW Government develop’ and inserting instead the words ‘an effective model to ensure that coal seam gas companies are held responsible for covering the full costs of remediating any environmental impacts, particularly any long-term environmental damage.’

Dr Phelps moved: That paragraph 6.70 be amended by omitting the words ‘The Committee is concerned by the evidence that DTIRIS may not be exercising its power to require an applicant to prepare an EIS, which may mean that environmental impacts are not being fully assessed’ from the end of the paragraph.

Question put.

The Committee divided.

Ayes: Mr Brown, Mr Colless, Mr Donnelly, Mr MacDonald, Dr Phelps, Mr Primrose

Noes: Mr Buckingham

Question resolved in the affirmative.

Resolved, on the motion of Mr MacDonald: That a new committee comment be inserted after paragraph 6.70 to read: ‘The Committee notes that the preparation of a REF does not require consultation with the Office of Environment and Heritage.’

Resolved, on the motion of Mr MacDonald: That a new recommendation be inserted after the new committee comment to read: ‘That the NSW Government require, in the preparation of a REF, referral to the Office of Environment and Heritage.’

Mr Buckingham moved: That a new recommendation be inserted after paragraph 6.88 to read: ‘That the NSW Government require an environmental assessment to be prepared as part of the application for an exploration licence and allow submissions to be made in relation to that environment assessment.’

Question put.

The Committee divided.

Ayes: Mr Buckingham

Noes: Mr Brown, Mr Colless, Mr Donnelly, Mr MacDonald, Dr Phelps, Mr Primrose

Question resolved in the negative.

Mr Buckingham moved: That a new recommendation be inserted after paragraph 6.88 to read: ‘That the NSW Government conduct a review of the adequacy of the skills and effectiveness of Government officers undertaking peer review of Environmental Assessments of coal seam gas development proposals.’

Question put.

The Committee divided.

Ayes: Mr Buckingham

Noes: Mr Brown, Mr Colless, Mr Donnelly, Mr MacDonald, Dr Phelps, Mr Primrose

Question resolved in the negative.

Resolved, on the motion of Dr Phelps: That Chapter 6, as amended, be adopted.

Chapter 7 read.

Resolved, on the motion of Dr Phelps: That paragraph 7.62 be amended by omitting the sentence ‘These valid concerns further highlight the need for the NSW Government to take a cautious approach to the development of the coal seam gas industry in New South Wales’ and inserting instead the sentence ‘These concerns, justified or otherwise, further highlight the need for the NSW Government to provide clear and factual information on the possible development of the coal seam gas industry in New South Wales’.

Resolved, on the motion of Mr Donnelly: That paragraph 7.75 be amended by inserting the word ‘developing’ after the words ‘pursuit of’.

Resolved, on the motion of Mr Buckingham: That Chapter 7, as amended, be adopted.

Chapter 8 read.

Dr Phelps moved: That paragraph 8.54 be amended by omitting the words ‘and indigenous communities’ after the words ‘local governments and’.

Question put.

The Committee divided.

Ayes: Dr Phelps

Noes: Mr Brown, Mr Buckingham, Mr Colless, Mr Donnelly, Mr MacDonald, Mr Primrose

Question resolved in the negative.

Dr Phelps moved: That paragraph 8.73 be omitted by deleting all words after the first sentence and that Recommendation 6 be omitted.

Question put.

The Committee divided.

Ayes: Mr Colless, Mr MacDonald, Dr Phelps.

Noes: Mr Brown, Mr Buckingham, Mr Donnelly, Mr Primrose.

Question resolved in the negative.

Dr Phelps moved: That paragraph 8.74 be amended by omitting all words after ‘Draft Code of Practice for Coal Seam Gas Exploration’.

Question resolved in the negative.

Resolved, on the motion of Mr Buckingham: That Recommendation 7 be amended by omitting the words ‘is issued’ inserting the words ‘application is made’.

Resolved, on the motion of Mr Buckingham: That after Recommendation 7 a new recommendation be inserted to read: ‘That the NSW Government implement the community consultation process as outlined in the *Draft Code of Practice for Coal Seam Gas Exploration*, at the point of exploration licence application and on renewal’.

Resolved, on the motion of Mr Colless: That Chapter 8, as amended, be adopted.

Chapter 9 read.

Resolved, on the motion of Mr Buckingham: That Recommendation 8 be amended by inserting the words ‘, and considering harmonisation with the *Mining Act 1992* if possible’ after the words ‘in relation to land access’.

Dr Phelps moved: That paragraphs 9.88, 9.89, Recommendation 10 and Recommendation 11 be omitted.

Question resolved in the negative.

Dr Phelps moved: That paragraph 9.90 and Recommendation 12 be omitted.

Question resolved in the negative.

Resolved, on the motion of Dr Phelps: That paragraph 9.102 and Recommendation 13 be amended by inserting the word ‘reasonable’ before the word ‘costs’.

Dr Phelps moved: That paragraph 9.129 be amended by omitting the sentence: ‘Therefore, the Committee believes that the NSW Government should require coal seam gas companies to prepare and publish the average monetary compensation paid to all landholders for coal seam gas exploration and production activities, on an annual basis.’ and that Recommendation be deleted by omitting the words: ‘That the NSW Government require coal seam gas companies to prepare and publish, on an annual basis, the median monetary compensation paid to all landholders for coal seam gas exploration and production activities’.

Question put.

The Committee divided.

Ayes: Mr Brown, Mr Colless, Mr MacDonald, Dr Phelps

Noes: Mr Buckingham, Mr Donnelly, Mr Primrose.

Question resolved in the affirmative.

Mr Colless moved: That after paragraph 9.129 a new comment be inserted to read: 'To bring about greater parity in the bargaining position of landholders on whose properties coal seam gas wells are located, the Committee recommends that the template access agreement for exploration and production take a default position whereby the landholder be compensated in the sum of \$5,000 per well head per annum.' and that a new recommendation be inserted to reflect this comment.

Question put.

The Committee divided.

Ayes: Mr Brown, Mr Colless, Mr MacDonald, Dr Phelps

Noes: Mr Buckingham, Mr Donnelly, Mr Primrose.

Resolved, on the motion of Dr Phelps: That Chapter 9, as amended, be adopted.

Chapter 10 read.

Resolved, on the motion of Dr Phelps: That paragraph 10.18 be amended by omitting the word 'of' before the words 'particular issue' and inserting instead the word 'a', and inserting the words 'for inquiry participants' after the words 'particular issue'.

Mr Buckingham moved: That a new recommendation be inserted after Paragraph 10.36 to read: 'That the NSW Government allow Local Councils to prohibit coal seam activities through their Local Environment Plans.'

Question put.

The Committee divided.

Ayes: Mr Buckingham

Noes: Mr Brown, Mr Colless, Mr Donnelly, Mr MacDonald, Dr Phelps, Mr Primrose.

Question resolved in the negative.

Resolved, on the motion of Mr MacDonald: That a new recommendation be inserted after paragraph 10.53 to read: 'That the NSW Government require an Agricultural Impact Statement to be prepared for all exploration licence applications.' and that in addition to a preceding paragraph being inserted in to the Committee Comment section to reflect this recommendation, that paragraph 10.50 be amended to clarify when an Agricultural Impact Statement is required to be prepared.

Mr Buckingham moved: That paragraph 10.53 be amended by omitting the first sentence and inserting instead: 'The Committee is of the view that coal seam gas development cannot co-exist with productive agricultural land and is concerned that the Government's Strategic Regional Landuse Policy does not protect productive agricultural land from coal seam gas development.'

The Committee divided.

Ayes: Mr Buckingham

Noes: Mr Brown, Mr Colless, Mr Donnelly, Mr MacDonald, Dr Phelps, Mr Primrose

Question resolved in the negative.

Dr Phelps moved: That paragraph 10.54 be omitted.

Question put.

The Committee divided.

Ayes: Mr Colless, Mr MacDonald, Dr Phelps

Noes: Mr Brown, Mr Buckingham, Mr Donnelly, Mr Primrose

Question resolved in the negative.

Resolved, on the motion of Dr Phelps: That paragraph 10.54 be amended by inserting a last sentence to read: 'The Committee expects that the Government will address these issues during the consultation phase on the Policy.'

Resolved, on the motion of Mr Buckingham: That Paragraph 10.55 and Recommendation 15 be amended to by omitting the words 'and West regions' after the word 'Alpine' and inserting instead 'Western and coastal regions'.

Mr Donnelly moved: That after Recommendation 15 a new recommendation be inserted to read: 'That the NSW Government should acknowledge that there are some areas where coal seam gas extraction should not occur. This may include areas of high environmental significance, areas of visual significance for tourism or high value primary production areas, for example areas like the vineyards around Polkolbin.'

Question put.

The Committee divided.

Ayes: Mr Buckingham, Mr Donnelly, Mr Primrose

Noes: Mr Brown, Mr Colless, Mr MacDonald, Dr Phelps.

Question resolved in the negative.

Mr Buckingham moved: That after Recommendation 15 a new recommendation be inserted to read: 'That the NSW Government's Strategic Regional Land Use Plans identify no-go zones for coal seam gas development including urban areas and areas of productive agricultural land and significant environmental values.'

Question put.

The Committee divided.

Ayes: Mr Buckingham, Mr Donnelly, Mr Primrose

Noes: Mr Brown, Mr Colless, Mr MacDonald, Dr Phelps.

Question resolved in the negative.

Resolved, on the motion of Dr Phelps: That Chapter 10, as amended, be adopted.

Chapter 11 read.

Dr Phelps moved: That paragraph 11.38 be amended by omitting the words 'However, we believe that there is insufficient modelling on the industry's benefits for regional areas. For example, in relation to job creation, there are discrepancies in the figures put forward: Santos' modeling suggests that its activities alone would create 3,000 full-time positions, 'with many based in regional communities', while the ACIL Tasman report found that if the coal seam gas industry was not developed, there would be 1,361 less full-time jobs each year across the State' after the words 'deliver investment', and that paragraphs 11.39, 11.40 and Recommendation 16 be deleted.

Question resolved in the negative.

Mr Buckingham moved: That a new recommendation be inserted after Recommendation 16 to read: 'That the NSW Government commission an independent and comprehensive socioeconomic cost benefit analysis of a possible coal seam gas industry in NSW'.

Question put.

The Committee divided.

Ayes: Mr Buckingham

Noes: Mr Brown, Mr Colless, Mr Donnelly, Mr MacDonald, Dr Phelps, Mr Primrose

Question resolved in the negative.

Resolved, on the motion of Dr Phelps: That paragraphs 11.63 and 11.64 be deleted by omitting the words:

- ‘In the previous section, the Committee called for the coal seam gas industry to provide more information on the industry’s job creation potential in regional areas. Similarly, the Committee believes that the NSW Government should develop modeling on potential coal seam gas royalties. This information is needed to inform the community debate on the coal seam gas industry. Indeed, the Government also needs access to such information in deciding whether to support the industry’s development in NSW, taking into consideration the industry’s potential economic benefits and weighing these against the full range of potentially deleterious impacts’
- ‘The Committee acknowledges that the NSW Government and coal seam gas companies may not be able to produce detailed estimates of royalties, and indeed the number of jobs to be created, given that very few projects have gone through the detailed planning needed to reach the production stage. However, some economic modelling must be possible to quantify in a general way the industry’s potential economic benefits’

Resolved, on the motion of Dr Phelps: That Recommendation 17 be amended by omitting the words ‘prepare and’ after the words ‘NSW Government’ and inserting instead ‘continue to’, by inserting the word ‘forward’ after the word ‘publish’, and by omitting the words ‘that could’ after the word ‘royalties’ and inserting instead the words ‘expected to’.

Dr Phelps moved: That paragraph 11.65 be deleted.

Question resolved in the negative.

Dr Phelps moved: That Recommendation 18 be deleted.

Question resolved in the negative.

Resolved, on the motion of Mr Donnelly: That Recommendations 18 and 19 be amended by inserting the words ‘That should the coal seam gas industry proceed in New South Wales,’ at the beginning of each recommendation.

Mr Buckingham moved: That Recommendation 18 be amended by inserting the words ‘of ten per cent’ after the words ‘full royalty rate’.

Question resolved in the negative.

Resolved, on the motion of Mr Colless: That Recommendation 18 be amended by inserting the words ‘and that coal seam gas companies be advised of this at the time of their exploration licence application or renewal.’ after the words ‘under a petroleum title.’

Mr Donnelly moved: That paragraph 11.67 be amended by omitting the words ‘share of coal seam gas’ after the words ‘calling for’ and inserting instead the words ‘fair share of’.

Question put.

The Committee divided.

Ayes: Mr Brown, Mr Buckingham, Mr Colless, Mr Donnelly, Mr MacDonald, Mr Primrose

Noes: Dr Phelps

Question resolved in the affirmative.

Dr Phelps moved: That paragraph 11.67, as amended, and Recommendation 19 be deleted.

Question put.

The Committee divided.

Ayes: Dr Phelps, Mr MacDonald

Noes: Mr Brown, Mr Buckingham, Mr Colless, Mr Donnelly, Mr Primrose

Question resolved in the negative.

Mr Donnelly moved: That Recommendation 19 be amended by omitting the words 'for coal seam gas royalties' after the word 'program'.

Question put.

The Committee divided.

Ayes: Mr Brown, Mr Buckingham, Mr Colless, Mr Donnelly, Mr Primrose

Noes: Dr Phelps, Mr MacDonald

Question resolved in the affirmative.

Mr Buckingham moved: That Chapter 11, as amended, be adopted.

Question put.

The Committee divided.

Ayes: Mr Brown, Mr Buckingham, Mr Colless, Mr Donnelly, Mr MacDonald, Mr Primrose

Noes: Dr Phelps

Question resolved in the affirmative.

Chapter 12 read.

Resolved, on the motion of Mr Buckingham: That paragraph 12.23 be amended by omitting the words 'The Committee believes that on balance, the production of coal seam gas in New South Wales could contain price increases, as this gas is more likely to be used domestically than coal seam gas produced in Queensland' from the end of the paragraph.

Dr Phelps moved: That paragraph 12.24 and Recommendation 20 be deleted.

Question put.

The Committee divided.

Ayes: Dr Phelps, Mr MacDonald,

Noes: Mr Brown, Mr Buckingham, Mr Colless, Mr Donnelly, Mr Primrose

Question resolved in the negative.

Resolved, on the motion of Mr Primrose: That Recommendation 20 be amended by inserting the words 'That should the coal seam gas industry proceed in New South Wales,' at the beginning of the recommendation.

Mr Buckingham moved: That Recommendation 20 be amended by inserting the words 'not less than 99 per cent' after the word 'proportion'.

Question put.

The Committee divided.

Ayes: Mr Buckingham

Noes: Mr Brown, Mr Colless, Mr Donnelly, Mr MacDonald, Dr Phelps, Mr Primrose

Question resolved in the negative.

Mr Buckingham moved: That Recommendation 20 be amended by inserting the words 'not less than 50 per cent' after the word 'proportion'.

Question put.

The Committee divided.

Ayes: Mr Buckingham

Noes: Mr Brown, Mr Colless, Mr Donnelly, Mr MacDonald, Dr Phelps, Mr Primrose

Question resolved in the negative.

Mr Buckingham moved: That paragraph 12.25 be deleted.

Question resolved in the negative.

Resolved, on the motion of Mr Donnelly: That paragraph 12.68 be amended by inserting the words 'The Committee notes that fugitive emissions also arise in the coal mining industry' at the end of the paragraph.

Mr Buckingham moved: That paragraph 12.69 be amended by omitting the words 'We believe that the dispute around the nature and extent of greenhouse gas emissions should not prevent the development of the coal seam gas industry in New South Wales'.

Question resolved in the negative.

Mr Buckingham moved: That paragraph 12.69 be amended by omitting the words 'In the Committee's view, determining the extent of greenhouse gas emissions is less important than securing this State's energy future' from the end of the paragraph.

Question put.

The Committee divided.

Ayes: Mr Brown, Mr Buckingham, Mr Colless, Mr Donnelly, Mr MacDonald, Mr Primrose

Noes: Dr Phelps

Question resolved in the affirmative.

Mr Buckingham moved: That a new recommendation be inserted after paragraph 12.69 to read: 'That the NSW Government include in all conditions of consent a requirement for petroleum production to minimise fugitive emissions and to comply with an upper limit of 0.1 per cent fugitive emissions.'

Question put.

The Committee divided.

Ayes: Mr Brown, Mr Buckingham, Mr Donnelly, Mr Primrose

Noes: Dr Phelps, Mr Colless, Mr MacDonald

Question resolved in the affirmative.

Resolved, on the motion of Mr MacDonald: That Chapter 12, as amended, be adopted.

Chapter 13 read.

Dr Phelps moved: That paragraph 13.50 be amended by inserting the words 'It should be noted that Santos was not responsible for this incident, having merely taken over the company which produced the spill, and they are to be commended for their forthright disclosure and action' after the word 'occurred'.

Question put.

The Committee divided.

Ayes: Mr Brown, Mr Colless, Mr Donnelly, Mr MacDonald, Dr Phelps, Mr Primrose

Noes: Mr Buckingham

Question resolved in the affirmative.

Dr Phelps moved: That paragraph 13.50 be amended by omitting the words ‘Given this example of the NSW Government’s failure to adequately police the industry, the Committee must be sceptical of the claim by the industry that all coal seam gas companies are meeting their licence conditions, particularly given the large geographic area in which exploration activity is occurring’ after the words ‘community complaints seriously.’

Question put.

The Committee divided.

Ayes: Mr Colless, Mr MacDonald, Dr Phelps

Noes: Mr Brown, Mr Buckingham, Mr Donnelly, Mr Primrose

Question resolved in the negative.

Resolved, on the motion of Mr MacDonald: That paragraph 13.50 be amended by inserting the words ‘The Committee notes that the NSW Government has amended environmental protection legislation to require immediate notification of any pollution incidents’ after the words ‘activity is occurring’, and that a footnote be inserted pointing to the relevant legislative amendments.

Dr Phelps moved: That paragraphs 13.84, 13.85, Recommendation 21, paragraphs 13.86, 13.87 and Recommendation 22 be deleted.

Question put and negated.

Mr Buckingham moved: That a new recommendation be inserted after paragraph 13.82 to read: ‘That the NSW Government establish a position for a Petroleum Ombudsman’, and that the Committee Comment suggest that the Government consider expanding this position so that it would also cover mining activities.

Question put.

The Committee divided.

Ayes: Mr Brown, Mr Buckingham, Mr Donnelly, Mr Primrose

Noes: Mr Colless, Mr MacDonald, Dr Phelps

Question resolved in the affirmative.

Mr MacDonald moved: That Recommendation 23 be deleted.

Question put and negated.

Resolved, on the motion of Dr Phelps: That paragraph 13.90 be deleted by omitting the words ‘The Committee shares the view of those Inquiry participants who believe that New South Wales, unlike Queensland, has a unique opportunity to get things right before allowing the industry to develop further. Because the coal seam gas industry is in its infancy in New South Wales we can put in place an effective regulatory regime before allowing the industry to proceed to full-scale production’ and inserting instead the words ‘The Committee shares the view of those Inquiry participants who believe that New South Wales has the opportunity to learn from events in Queensland. If the industry is to develop to its full potential, any regulatory regime put in place must have a scientific basis.’

Dr Phelps moved: That paragraph 13.91 be amended by omitting the words ‘Some of these impacts could have significant and long-lasting consequences, such as contamination or depletion of water resources. The Committee believes that it is imperative that no further production approvals are issued until the deficiencies in the regulatory framework are addressed and a comprehensive, effective and transparent regime is put in place to regulate the coal seam gas industry in New South Wales’ from the end of the paragraph and inserting instead the words ‘Much of this uncertainty has been occasioned by the,

sometimes, accidental and, more often, deliberate dissemination of false information or uncorroborated opinion by environmental activists, many of whom see this as a political *cause celebre*. The Committee believes that, for too long, the State has been held in the thrall of extreme environmentalists, to the detriment of wealth creation and economic progress. Any further delay to the development of CSG in New South Wales – even if for further research or regulation – is most unlikely to convince the cadre of hard-core environmental activists of the merits of CSG operations. That is not to say that the NSW Government should not undertake research, regulation and information campaigns. However, any further delay in approval for CSG production in NSW is not justified on the basis of the evidence presented to this Committee; and that Recommendation 24 be deleted.

Question put.

The Committee divided.

Ayes: Dr Phelps, Mr MacDonald

Noes: Mr Brown, Mr Buckingham, Mr Colless, Mr Donnelly, Mr Primrose

Question resolved in the negative.

Mr Donnelly moved: That Recommendation 24 be amended by inserting the words ‘exploration or’ after the word ‘further’.

Question put.

The Committee divided.

Ayes: Mr Donnelly, Mr Primrose, Mr Buckingham

Noes: Mr Brown, Mr Colless, Dr Phelps, Mr MacDonald

Question resolved in the negative.

Mr MacDonald moved: That Recommendation 24 be deleted.

Question put.

The Committee divided.

Ayes: Mr Colles, Dr Phelps, Mr MacDonald

Noes: Mr Brown, Mr Buckingham, Mr Donnelly, Mr Primrose

Question resolved in the negative.

Mr Buckingham moved: That Chapter 13, as amended, be adopted.

Question put.

The Committee divided.

Ayes: Mr Brown, Mr Buckingham, Mr Colless, Mr Donnelly, Mr MacDonald, Mr Primrose

Noes: Dr Phelps

Question resolved in the affirmative.

Resolved, on the motion of Mr Buckingham: That the draft report, as amended, be the report of the Committee.

Resolved, on the motion of Mr Colless: That the Committee present the report to the House, together with transcripts of evidence, submissions, tabled documents, answers to questions on notice, minutes of proceedings and correspondence relating to the inquiry, except for in camera evidence and documents kept confidential by resolution of the Committee.

The Chair advised the Committee of his intention to table the report on Tuesday 1 May 2012.

Resolved, on the motion of Mr Buckingham: That any dissenting reports be provided to the Secretariat 24 hours after the draft minutes are circulated to members, and that members be advised by email of the deadline for submitting dissenting reports.

Resolved, on the motion of Mr MacDonald: That the Secretariat circulate the Summary of Key Issues to the Committee for comment.

Resolved, on the motion of Mr Primrose: That the Committee thank the Secretariat for its work and efforts in this inquiry.

6. Adjournment

The Committee adjourned at 5.52pm *sine die*.

Madeleine Foley

Clerk to the Committee

Appendix 8 Dissenting statements

Mr Greg Donnelly and Mr Peter Primrose, Australian Labor Party

The inquiry process provided a platform to help Members of Parliament, local communities, interest groups and industry better understand the issues that would be associated with any future coal seam gas industry in New South Wales. As Chair, the Hon. Robert Brown MLC conducted a fair and balanced inquiry, and this is reflected in the recommendations of the final Report.

The policy position of NSW Labor is that there be a ban on CSG exploration and production until the science that should underpin this industry is better understood. While we support the majority of the Report's recommendations, we believe it would have been more balanced if we had been successful in having the following amendments incorporated:

1. After paragraph 4.105, new recommendation:

"That the NSW Government issue no further exploration or production licences for any region in New South Wales until the Commonwealth Government's Independent Expert Scientific Committee makes publicly available a water assessment that contains a finding to the effect that the extraction of coal seam gas in the region is not likely to have a significant impact on the water resources in the region."

2. After paragraph 10.56 and Recommendation 24, new recommendation:

"That the NSW Government should acknowledge that there are some areas where coal seam gas extraction should not occur. This may include areas of high environmental significance, areas of visual significance for tourism or high value primary production areas, for example areas like the vineyards around Pokolbin."

3. After paragraph 13.91, in respect of Recommendation 35:

Add additional words so it would read: "That the NSW Government issue no *exploration or* production licences until a comprehensive framework for the regulation of the coal seam gas industry is implemented."

In relation to proposed amendment 1, the NSW Labor Opposition believes that the NSW Government should embrace the initiative provided by the Federal Government's Independent Expert Scientific Committee. Implementing this process would provide genuine scientifically based information to community and stakeholders specifically in respect to water aquifer and catchment resources.

In respect of amendment 2, the NSW Labor Opposition believes that there are some areas of the state that are of such significance that they should immediately be ruled out from CSG exploration and production, even if the industry does eventually develop in other locations in New South Wales.

Finally, amendment 3 highlights our view that both exploration and production licenses should not be granted until the NSW Government has completed its regulatory framework. The recommendation as it currently stands only rules out production licences. Exploratory wells may also damage catchments and aquifers. As it stands, Recommendation 24 only permits a comprehensive framework at the production stage, and in some circumstances this may be too late.

Dr Peter Phelps, Liberal Party

Governments should not infringe upon an individual's rights without a good reason. One fundamental right is the right to own property and to do with it what you will, provided you do not inconvenience others.

What does the current report do?

The current report increases the regulatory burden; increases the bureaucracy; places undue restrictions on the operations of companies; makes no attempt to enshrine genuine property rights; indulges rent-seeking behaviour; increases taxes; and engages in expropriation to placate an archaic economic nationalism.

What should this report have been about?

There are only a handful of issues with which the Committee should have concerned itself:

- Are the rights of existing landholders protected?
- Are the rights of the CSG companies protected?
- If there are conflicts between those rights, how should they be resolved?
- Are there any economic 'bads' that are not appropriately catered for?

Are the rights of existing landholders protected?

No; and this report offers them little comfort. State control of all sub-surface wealth means, in NSW, that landholders are at the whim of the Executive. The argument runs thus: landholders have done nothing to produce this wealth (ore, coal, petroleum, etc.) so they have no claim over any windfall that might be discovered. I am not unsympathetic to this view, but what landholders surely have a right to is the use of their surface land as they see fit.

The current legislative environment barely recognises this. Instead, landholders are compelled to accept access agreements, and if agreement cannot be reached on access payments, then that is just too bad – it is off to arbitration and/or the Land and Environment Court.

There would be no problem if all the work was subsurface. A traditional underground mine or lateral gas drilling has no effect on surface land use. However, CSG operations require drill-sites and roads. This interferes with the original use of that land, and the laws of the State grant drillers that access – in the process overriding existing property rights.

Disturbingly, there was also consistent support for interference in the property rights of landholders from those opposed to CSG operations. Environmental activists and anti-CSG neighbours sought to prohibit landholders from leasing portions of their land to CSG companies. In effect, they wanted a Socialistic veto power over landowners being able to use their assets to receive income.

Are the rights of the CSG companies protected?

No. This report, if adopted would require them to undertake further 'community consultations' – i.e. talkfests for partisan activists – and would place a greater regulatory burden on them at all stages of their operations.

They would be hit with an unexpected increase in taxation, having made their investment decisions based on the existing, legislated 'royalties holiday' of five years from the start of production. Talk about bait-and-switch!

They would have to pay for any legal advice sought by landholders on access agreements. Additionally, they would have to pay for all costs associated with any arbitration action that landholders take against them following a failure to negotiate such an agreement. The unintended consequences would make it a lawyers' feast.*

To add insult to injury, after all this additional red-tape, and taxation, and needless delay has been placed on them, it is proposed that a certain proportion of the CSG produced be 'reserved' for domestic use in NSW. This is a disgrace – it is either an unnecessary regulatory burden (if the NSW CSG price is at world parity) or it is a *de facto* expropriation (if the NSW CSG price is lower than overseas CSG prices). The proposal uses the tools of Socialism to enact an economic Nativism.

If there is a conflict between those rights, how should it be resolved?

Allow landholders a veto power over exploration and production on their property, but no power over subsurface operations, or operations on neighbouring properties. That is the classic liberal solution.

Are there any economic 'bads' that are not appropriately catered for?

Externalities, or 'bads', are not moral issues, they are economic issues. All companies are required to find ways of dealing with 'bads' generated in the course of production, and the CSG industry is no different. It is not the job of government to interfere in that process, provided that the outcomes do not cause harm to others. In any case, most of the claims of harm laid against the CSG industry are either without foundation, or non-systemic human mistakes which can be easily remediated.

Any claims for a loss occasioned by expected or unexpected 'bads' can be dealt with via arbitration or litigation.

With respect to unforeseen events, other companies insure for damages claims, so there is no reason why CSG companies could not do likewise. In fact, having the market oversee potentially bad business practices would undoubtedly lead to better outcomes, because the cost of the premiums would be predicated on the effectiveness of the CSG company's risk management. That would certainly be better than any arbitrary figure propounded by the Government for the so-called 'long-term security deposits'.

Conclusion

There is no rational reason to delay CSG operations in NSW and when environmental activists trundle out the 'precautionary principle' it is often just an insincere tool to obfuscate and disrupt.

The lamentable tone of much of the evidence taken by the Committee can be summed up thus: 'we want a moratorium on CSG to make sure that it is safe; but even if it were proven to be safe, we still do not want CSG operations'.

* Farmer A gets a draft access agreement, goes to Lawyer B. CSG Company C pays the bill. Lawyer B, knowing he will get paid by Company C for any arbitration claim says: "Reject their offer, you can do better in arbitration". Provided the arbitration claim is not so huge as to give the appearance of being totally vexatious, Lawyer B gets paid again. In fact, Company C always loses; Farmer A might win or lose; but Lawyer C always wins.

Mr Scot MacDonald, Liberal Party

1. The Report contains a number of references implying there had been insufficient consideration given to potential cumulative impacts by the State and this was the justification for additional Commonwealth regulation. In fact cumulative impacts are required to be considered in the Review of Environmental Factors (required under State planning). Where an EIS is required, the Statement would be considered incomplete without a report on cumulative impacts. This lends weight to the need for "One Stop Shops" for environmental studies required in resource applications.
2. Proposed New Recommendation. I did not support a Moratorium for either Exploration or Production. The Committee received no evidence of unmanageable risk arising from Coal Seam Gas. We were alerted to errors and relatively minor incidents at the surface. None of these constitute a rationale for delaying the industry.
3. Recommendations 19 and 21. I supported the majority view that resource companies should be expected to pay for reasonable legal costs. However I expressed concern if Industry was expected to pay for Arbitration that there would be no price signal and the planning process may be distorted by vexatious appeals. The Draft Code of Practice for CSG recommends a landholder's reasonable legal costs at the exploration stage are met by industry. At the very least, the knowledge that a resource company has to pay any additional legal costs for arbitration removes the incentive to achieve the optimal access agreement in the first instance.
4. I felt there may have been insufficient emphasis in the Report for the need to ensure access agreements reflect the necessity the CSG programme does not interfere with current farming operations. This is a key issue for co-existence between the CSG industry and agriculture.
5. Recommendation 22. I agreed with the recommended benchmark of \$5000 for compensation. Nevertheless I believe it is inappropriate and unworkable for the NSW Government to require a minimum compensation or expect industry to broadcast data that is commercial in confidence, dated or meaningless. There doesn't appear to be a strong desire or need for these suggestions. One of the causes of inefficient markets (in this case fair compensation), is inadequate information. I don't believe this is now the case, with experienced legal and financial advisors working in this field.
6. There are comments that the resource industry imperils the country's capacity to feed itself or meet food security challenges. It should be noted there is no data to substantiate any of those claims. Furthermore the current data from sources such as ABARE is showing our food production is rising at a time of unprecedented resource extraction.
7. Recommendation 28. I disagreed with "Royalties for the Regions". I believe the NSW Liberal National Government currently has an appropriate strategy for ensuring all regional communities receive their fair share of capital works and services. These programmes and policies include – Restart NSW where 30% of such infrastructure projects are to be in regional NSW and the creation of 40,000 new jobs in regional NSW through providing a payroll tax rebate.
8. I felt the Report should have had greater recognition of the emerging energy challenge of "Peakiness". This arises from the incapacity of renewable generators to perform when there is

peak demand (morning and evenings) and the take –up of reverse cycle air conditioners in NSW households. Managing 'peakiness' requires greater gas electricity generation capacity.

9. Recommendation 29. I do not support a domestic gas reservation policy. Currently WA mandates 15% of natural gas is available for their domestic industries. My view is that this policy has the potential to distort investment decisions. The development of the industry requires considerable capital that is currently scarce and expensive. There are media reports the WA position is not sustainable. The argument that we may be penalised by paying export parity is outweighed by the need to ensure the energy source is developed. As the Report notes, there may be other means to encourage domestic access to CSG.
10. Recommendation 31. I did not support the creation of a CSG Ombudsman. Communication is improving between the industry and the community. There are more avenues to seek information and there is no evidence of an need for a body to handle grievances. The industry is still largely in the exploration stage and does not warrant another layer of bureaucracy.

The Inquiry and Report was an important contribution to understanding the emerging Coal Seam Gas Industry in NSW. It was an opportunity to take evidence on the technical aspects of gas extraction and hear community concerns about potential impacts. The Liberal National Government has undertaken a complex process to improve planning controls where very few existed before. This will be an ongoing, evolving policy.

Ultimately the NSW Government is charged with a range of goals – economic growth, energy security, food security, the provision of public sector services, efficient utilisation of its assets and optimal, equitable treatment of its citizens.

It is difficult to reach any other conclusion than that the Coal Seam Gas industry should be developed as quickly as possible. This will require accommodation and compromise from many stakeholders and Government has a role in facilitating this. The economic reasons are compelling. The environmental questions about the industry are reasonable and have to be addressed. In spite of decades of safe, clean gas operations in this country, the industry allowed itself to be portrayed as being a threat to our natural resources. This occurred because of a lack of communication; a number of pollution incidents and the strategy of environmental and political activists to use CSG as their bogeyman of choice without regard to evidence. The CSG industry has to operate at best practice and earn the trust of the community. The finalisation of the NSW Government's Gas Industry Development Plan is important. This Inquiry has confirmed the Gas Plan is critical to ensure the State has energy security, heating supplies and the best prospects to ensure a competitive economy.

Mr Jeremy Buckingham, The Greens

The community welcomed this coal seam gas inquiry. It has been seen as their chance to finally have a say about this industry and whether or not it should proceed in NSW.

If the coal seam gas industry is allowed to proceed it will mean the industrialisation of much of regional NSW and a change to the lifestyles and livelihoods of many communities. Those areas with existing agricultural and tourism industries will be particularly impacted. It will also mean that the necessary transition to renewable energy for domestic electricity generation will be delayed.

A fundamental political and practical question remains unanswered by this inquiry. Regardless of whether or not we can develop a coal seam gas industry in NSW, should we, and at what point are the risks of saying yes simply too great? There is a choice available to the NSW Government between continuing our dependence on electricity from fossil fuels versus a shift towards renewable energy. There is another choice between a dependence on revenue from mining versus supporting the expansion of our non-mining economy.

The public interest in this inquiry with over 900 submissions shows the community wants to be actively involved in this most fundamental decision. Instead of the decision being made by industry through proponent driven development, they want government, in consultation with the broader community, to make these long-term strategic decisions for NSW's energy security or the protection of our agricultural land and environmental assets.

The inquiry did have scope to look at these issues under its terms of reference but they have not been effectively addressed in this report. Partly this is because the detailed work has not been done when it comes to the cumulative and long-term impacts of this industry.

As a way to address this critical gap in knowledge I moved for the inclusion of a recommendation that the NSW Government commission an independent and comprehensive socioeconomic cost benefit analysis of a possible coal seam gas industry in NSW. All other members of the committee voted against this recommendation. It seems these harder more fundamental questions are being avoided by the major parties.

It is surprising that the coalition in particular would not want the chance to paint a full picture of the opportunities of a coal seam gas industry through a full cost benefit analysis unless of course we already know enough to recognise that those costs are likely to be too great.

The impact on domestic gas prices is a case in point here. The inquiry heard clear evidence that this industry is not about domestic supply but rather it is a new export industry with pipeline and port infrastructure being developed at a rapid rate. This shift to export on the east coast will result in higher domestic gas prices for NSW consumers. This issue has not been effectively addressed in the recommendations.

Recently we saw an acknowledgment in an Environmental Impact Assessment for the China First Coal Mine in Queensland that was honest about some of the consequences of the mining boom including net job losses, more than a billion dollars of manufacturing activity lost, a rise in inflation and negative impacts on local small businesses.

From the evidence I heard in the inquiry there remains significant uncertainty about economic impacts, employment consequences, social challenges and property prices from a coal seam gas industry. There is significant risk of unexpected consequences on regional economies and a negative impact of manufacturing, agriculture and tourism.

Unfortunately, the most important recommendation for a moratorium on this industry has not been made.

While there is a defacto moratorium by a recommendation that no further production licences be issued before the Government puts in place a comprehensive framework of regulation, the case for a full moratorium was clear and has not been addressed.

There remains significant uncertainty about ground water impacts and fugitive emissions in particular and while a range of recommendations ask for more work to be done, these have not been prescriptive and a moratorium while that work is done is sensible.

The report reads, “We believe that the dispute around the nature and extent of greenhouse gas emissions should not prevent the development of the coal seam gas industry in New South Wales”. I fundamentally disagree with this statement.

This industry has labeled itself a low emission transition fuel and Governments have repeated this claim. This industry put itself at the heart of the climate debate and now it is shying away from the growing evidence that it is anything but clean or low emission.

The scientific facts about unconventional gas fugitive emissions need to be more thoroughly investigated and should be a significant factor in determining the future of this industry. Until the scientific facts through independent and not industry sponsored research is clear, a moratorium is the only sensible strategy.

That moratorium should also extend to exploration. One of the most commonly heard arguments during this inquiry was, “it makes no sense to explore if you are not going to allow production”. This is clearly a logical argument.

The committee heard evidence of the potential impact of exploration activities. This includes both environmental and land use impacts but also the psychological stress from the uncertainty created by having an exploration licence hanging over the heads of property owners. Loss of land values in these circumstances is also very real.

It is therefore disappointing that the issue of bringing regulatory hurdles forward to before the issuing of exploration licences has not been effectively addressed in the recommendations. Amendments to recommendations to try to achieve this goal were blocked in the committee and I feel ignores the very real concern in the community at the exploration stage.

The report does recommend important steps forward. However as it is written it suggests this industry is both possible and necessary and I disagree that a case has been made to justify that position.