Submission No 82

SUSTAINABILITY OF ENERGY SUPPLY AND RESOURCES IN NSW

Name: Ms Sinead Francis-Coan

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Submission to the inquiry into Sustainability of energy supply and resources in NSW

Dear Committee,

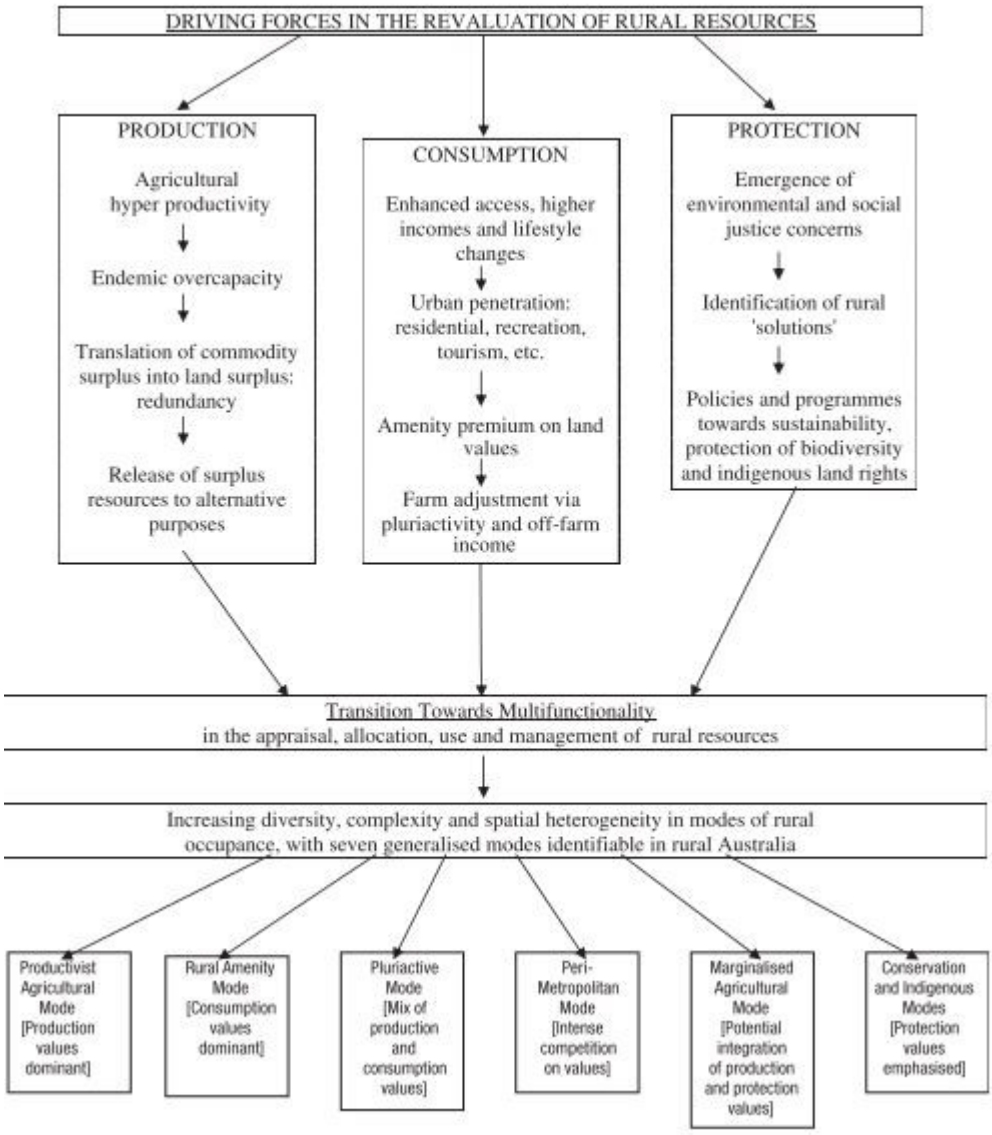
I write to you with great personal interest in the future of rural communities in NSW and a just transition to a future of 100% renewable energy. This submission will rely heavily on my postgraduate research.

Introduction

I completed a Master of Philosophy in leisure and tourism at the University of Newcastle from 2015-2017. My research focused on conflict over land use in the Upper Hunter Valley. I spoke to members of the government, equine community, wine and tourism community, resident community and mining community. The purpose of my research was to understand how each of these groups understand and attribute meaning to the landscape and examine that as a basis for land use conflict. On a personal level, I am a long-term resident of the Hunter region and also have long held interest in the area's wellbeing. With this in mind, I speak most strongly to point four of the Inquiry terms of reference: "Effects on regional communities, water security, the environment and public health". This submission is compartmentalised into different areas of knowledge that contribute to the inquiry. The first section speaks to change happening in rural regions across Australia, the second addressing the context of the Upper Hunter Valley where my research was focused and the third section concludes the submission and provides some recommendations for future planning that also attempt to mitigate conflict over land use in the Upper Hunter Valley. I have attempted to capture the personal connections I formed with members of each stakeholder groups and in particular, the deep emotional custodianship that we all share for our region which is currently in the later stages of a mining cycle that incorporates economic boom followed by downturn.

Multifunctional Rural Transition

Rural areas around Australia have been experiencing rapid and sometimes dramatic change as the societal expectations of the functions these regions are to perform has increased. This change has been social, economic and environmental, impacting on all points of the triple bottom line. Much of this change has related to the balance of production, consumption and protection values that are reflected in how the land is used. The work of Emeritus Professor John Holmes (Holmes, 2006) has been instrumental to furthering academic understanding of this phenomenon. Holmes describes seven different zones or 'modes of occupance' that detail how change has typically manifested. The diagram below depicts this process:



(From Holmes, 2006)

The diagrams below name and describe each zone and explain how they develop.

Table 1
Productivist agricultural occupance (production values dominant)

Incidence
- On localised prime agricultural lands along coast: sugar, horticulture, dairying with some irrigation
- On high-rainfall improved pasture lands of coast and highlands
- In the 'agricultural heartland' of the inland, dominated by cereal cropping with livestock
- On all major irrigation areas for horticulture, irrigated pastures, rice, cotton, tropical products
- On core pastoral lands within the rangelands

Driving forces
- Local economy and society remain dependent on agriculture
- Farm viability propelled by need to maintain competitiveness
- Limited opportunities for diversification into non-agricultural activities
- Increasing concern about environmental, economic and social sustainability

Core attributes
- Land values tied to income from agricultural production
- Agricultural treadmill, enforced adoption of innovations
- Prosperous but unstable farm incomes
- Continuing population and urban decline save in irrigation areas, near major urban centres and localised development projects.

Alternative trajectories

Intensification: Irrigation (the most preferred route, but with environmental constraints)
- Intensification of farming practice
- Specialised niche products
- Factory farming
- Biotechnologies (genetic engineering)

Note: All of these have limitations to expansion and some will be localised in irrigation areas or with pluriactive occupance

Scale economies: farm aggregation, also involving more efficient use of farm infrastructure (the most obvious strategy for most 'heartland' farmers)

Extensification: involving an increase in the ratio of land inputs to labour and other purchased inputs. This is occurring in some coastal up-valley zones currently unable to attract amenity investment; also on less productive inland agricultural lands

Stability: on large grazing properties in the high rainfall and pastoral zones

Obsolescence: on smaller, non-viable grazing properties in the high rainfall and pastoral zones, lacking the financial resources to achieve amalgamations, with limited scope for diversification or pluriactivity, and in transition to marginalized agricultural occupance

Source: Compiled by author.

Table 2
Rural amenity occupance (consumption values dominant)

Incidence
- Major zones around cities and prime tourist destinations
- Smaller zones around all towns, proportional to town size and amenity potential
- Outliers in remote locations, attractive to members of alternative society

Driving forces
- Time-space compression, with enhanced mobility and communication systems
- Additional technological advances, enhancing dispersed rural residential lifestyles
- Discretionary residential location, no longer tied to income sources
- Increasing metropolitan-rural differentials in housing and living costs
- Penetration of urban influences and values, including recreation and tourism
- Incentives to rapid capital accumulation through land conversion and development

Core attributes
- New 'geographies of value', with real estate market driven by consumption rather than production values
- Farming as a relict or incidental activity
- Narrowly focussed environmental issues, tied to lifestyle and real estate values

Alternative trajectories

Comment: Unlike the UK, where land scarcity leads to a 'contested countryside', 'class colonization', 'positional advantage' and the 'politics of exclusion', rural Australia offers a generous supply of landscapes, capable of accommodating all tastes and almost all incomes, with welfare and retirement migration being a major component in the counterurbanization process. The diverse array of rural amenity landscapes includes:

Rural residential estates: With lots from 0.4 to 5 hectares, estates have proliferated, consuming ever-expanding zones around all cities and major towns. Rural residential embraces a full spectrum of incomes, real estate values and infrastructures, from prestige estates to poverty ghettoes where affordability is the only attraction

Prestige countryside: In close proximity to each major city is an identifiable, established zone of prestige rural estates, comparable to those in the UK and with emerging pockets near prime coastal and highland resorts

Hobby farming: Small holdings in which farming is seen primarily as a hobby rather than a major income source

Alternative lifestylers: Although occupying limited land areas, of negligible agricultural value that commonly was vacated in the retreat of subtropical dairying, alternative lifestylers comprise a major component of population and social activity in some near-coastal locations, in some cases being subsequently displaced in the commodification of their cultural landscapes

Welfare migrants: Occupy any affordable niche, also including vacant farmhouses and caravans

Source: Compiled by author.

Table 3
Small farm or pluriactive rural occupance (mix of production and consumption values)

Incidence

Widely distributed in the more accessible and attractive high rainfall areas, particularly in areas subject to closer settlement projects and in the former subtropical dairying zone, where holdings were converted to part-time cattle grazing

Driving forces

Continuing role of agriculture as a significant economic activity
Progressive loss of farm viability, save in specialized, niche farming or pluriactivity
Household viability achieved through pluriactivity, requiring on-farm and/or off-farm alternative income sources
Amenity premium on land values precludes farm restructuring by amalgamation
Penetration of residential non-farm uses impeded by current mode of part-time farming and by planning constraints against subdivision

Core attributes

Complex, unpredictable land markets, influenced by production and consumption values
Diverse economic opportunities for farm households with choice strongly influenced by personal attributes, including household composition, skills, qualifications, motivation and stage in life course, as well as farm resources and accessibility
Ongoing challenge in finding appropriate balance between farm and non-farm activities, particularly for farmers
Increasing frequency of semi-retirement by existing landholders and newcomers
Sporadic maintenance of a production-oriented landscape, with some disinvestments

Alternative trajectories

Marked farm-to-farm variability in production and consumption activities, intensity of use and investment levels as well as in demographic attributes of farm households
Variability and intensity of use higher in more accessible locales, also with greater opportunities for on-farm consumption-oriented activities, such as farmstays and for off-farm income
Opportunities for semi-retirement and provision of ecosystem services, such as revegetation and low-intensity grazing on cheaper land with poorer access

Note: This type is broadly consistent with Marsden's 'Rural Development Dynamic' and Barr's 'Small Farm Future Landscape'.
Source: Compiled by author.

Table 4
Peri-metropolitan occupance (intense competition between production, consumption and protection values)

Incidence

An irregular zone, usually within 30 min travel time from the city's edge, but with outliers extending up to 60 min from Sydney. The areal extent of the zone is proportionate to the population size and wealth of the city, also influenced by the amenity values attached to this zone
Though small in areal extent, these zones are substantial in levels of capital accumulation and economic activity

Driving forces

Directly tied to immediate metropolitan demand for rural resources, notably:
Resource extraction and waste disposal: aggregate, landfill, soil, water supply
Agricultural production: market-oriented horticulture and factory farming
Consumption: rural residential, country estates, recreational/lifestyle activities
Servicing: service corridors and other infrastructure for transport and utilities

Core attributes

High metropolitan accessibility
High land values for both production and consumption uses
Multiple land markets with prices augmented by speculative investment seeking capital gains from land use change
Substantial investment in infrastructure, but often with rapid depreciation and replacement
Heterogeneity and conflict at local scale, notably in locales experiencing rapid change
Need for regulation of rural space, specifying allowable uses and levels of nuisance through zoning.

Alternative trajectories

Localized complexity, with markedly divergent trajectories, often guided by zoning schemes and reflected in differential land markets
Marked differentiation between and within amenity-oriented and production-oriented zones

Source: Compiled by author.

Table 5
Marginalized agricultural/pastoral occupance (potential integration of production and protection values)

Incidence

On marginal and submarginal land, of low productive potential and low resilience (of which Australia has a plentiful supply)

In the high rainfall zone, extensive tracts of rugged and/or infertile lands exist along the coast and highlands

In the rangelands, extensive submarginal pastoral lands occur across the arid interior and northern tropical savannas

In both the high rainfall zone and the rangelands, an earlier era of subdivision has created areas of small, non-viable properties experiencing prolonged economic stress

Driving forces

Agricultural overcapacity, with these areas becoming increasingly surplus to requirements for production, even when adjusting through disinvestment

Economic stress is linked to environmental stress, with an incapacity to mitigate or remediate land degradation

Potential for provision of ecosystem services and other protection purposes, yet to be realised

Incorporation of protection values is impeded by substantial financial, institutional, political and cultural barriers, strengthened by the continuing identification of landholders with their present lifestyles

Core attributes

Located in remote areas, lacking infrastructure

Incapacity to attract capital, labour and management

Reliant upon the survival capacity of existing landholders and a trickle of under-resourced newcomers

Alternative trajectories

Uncertain futures, with most regions currently in a state of flux

Conversion of large tracts to forestry for pulp and woodchips in southern states

Lack of success in production should facilitate either conversion to, or integration with, other uses, notably protection purposes

High potential for landholders to adapt their production strategies to enhance protection outcomes including provision of ecosystem services, notably sustainable landscape management, protection of biodiversity and threatened species as well as carbon sinks

Comparable potential for conversion to protection purposes, translating extensive tracts to conservation/indigenous occupance

Publicly sourced income for protection and infrastructure purposes may be supplemented by modest tourism revenues in select destinations

Source: Compiled by author.

Table 6
Conservation occupance (protection values emphasised)

Incidence

Dominantly located on land of negligible production value

In the high rainfall zone, these comprise mainly rugged ranges and coastal sandy landscapes

In the rangelands, submarginal areas of the arid interior and northern tropical savannas are being transferred to this occupance mode

Given Australia's plentiful supply of such lands, the conservation land estate has been recently expanding, but at a decelerating pace

Driving forces

Retreat of agriculture and grazing from submarginal lands

Growing awareness of environmental stress, threatened species and endangered ecosystems

Increased demand for experience with pristine or near-pristine landscapes, including ecotourism

Core attributes

Generally located on lands of low market value for production or consumption purposes

Much retained as pristine or near-pristine natural ecosystems also with wilderness values

Lack of public and private infrastructure

Alternative trajectories

In the ecumene, extensive tracts of rugged uplands and coastal sands are being allocated to conservation, usually with an ill-defined mix of purposes, including ecosystem preservation, recreation, tourism, catchment management and wilderness values

In the rangelands, frontier regions, such as Cape York Peninsula, the Darwin and Alice Springs hinterlands and are experiencing land conversion towards a mix of nature conservation and indigenous uses

Source: Compiled by author.

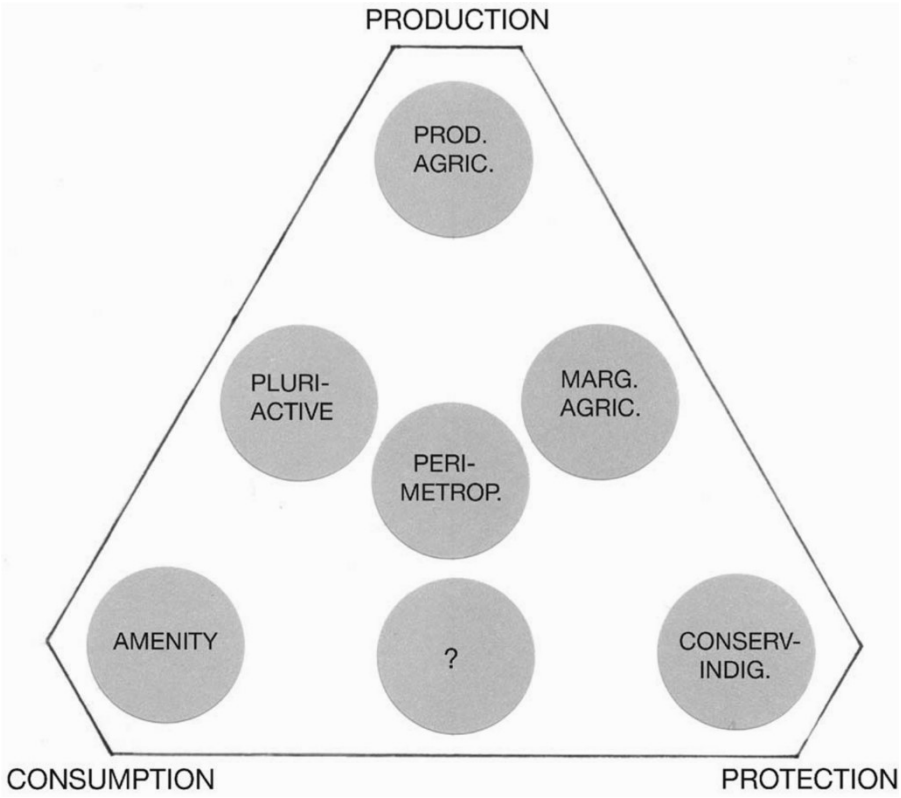
Table 7
Indigenous occupance (protection values emphasised)

Incidence
Continuing occupance of remote 'empty' lands, unsuited to pastoralism, formerly held as Aboriginal Reserve or Unoccupied Crown Land, with indigenous ownership only recently achieving legal recognition, under inalienable, non-transferable freehold title, legislated initially in South Australia (1966) and Northern Territory (1976) and subsequently in other jurisdictions
Rapid but decelerating land transfers over last two decades, mainly of remote, submarginal pastoral leases, and a few more productive farms
Scattered, tenuous recognition of common-law native title, following High Court decisions in Mabo (1992) and Wik (1996) cases
Currently embracing over 13 percent of Australia's land area
Driving forces
Political and judicial responses to internal and international pressures towards recognition of indigenous rights in western, affluent nations
Growing recognition of limited potential of marginal lands, facilitating their transfer from pastoral lease tenures intended for productivist occupance
Core attributes
Dominantly located on remote, submarginal lands of low market value, but of continuing high value for indigenous occupance
Mostly held under inalienable, non-transferable freehold title, held by the traditional owners
Multifunctional occupance, with precedence given to protection of indigenous cultural values, tied to land
Complex issues in land management, tied to lack of material resources and stresses created between indigenous and non-indigenous cultural values
Alternative trajectories
The dominant trajectory is indigenous occupance of remote lands of low productive potential and few sources of income, reliant on welfare payments
However, in these remote areas there are scattered 'resource-rich' communities, gaining income and employment from mining royalties or tourism, and also a few modest pastoral enterprises
In the more closely settled 'ecumene', indigenous occupance has been recognised only over small land tracts of low income-earning potential but high cultural significance

Source: Compiled by author from sources cited in accompanying text.

(All tables above sourced from Holmes, 2006)

To summarise the above information, the change that occurs in each rural area will be determined by both a range of pressure factors/drivers and the potential that exists in each region. Comparing each of these zones to each other, the diagram below illustrates the balance of production, consumption and protection values adopted in each zone.



(From Holmes, 2006)

As energy production and mining typically occur in rural landscapes it appears highly relevant to understand comprehensively the change and pressure factors that a relatively new industry (open cut mining) and social construct have imposed on a shared landscape and its stakeholders.

The Case of the Hunter Valley

The Upper Hunter Valley in particular can be classified as a prime example of Holmes's Peri-Metropolitan zone.

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Driving forces
Directly tied to immediate metropolitan demand for rural resources, notably:
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Need for regulation of rural space, specifying allowable uses and levels of nuisance through zoning.
Alternative trajectories
Localized complexity, with markedly divergent trajectories, often guided by zoning schemes and reflected in differential land markets
Marked differentiation between and within amenity-oriented and production-oriented zones

Source: Compiled by author.

In simple terms, the Upper Hunter Valley is a hotly contested landscape based on the range of economic potentials that could be supported by the landscape in its particular location. This goes some way to explaining how energy production (coal fired power stations and mining) in the Upper Hunter Valley became inextricably linked with the economic and social fabrics of the region.

My research strongly suggested that in the Upper Hunter Valley, production values reflected in land use increased rather than decreased leaving less capacity for the introduced consumption and protection values to be reflected in the land use (Francis-Coan, Buchmann, & Lai, 2017). Interestingly, production values more traditionally apply to agricultural production. Anecdotes shared with me during my research and indeed previous research describe the dwindling agricultural production being replaced by mineral resource production, largely in the form of coal mining.

My research identified a number of different constructions of the Upper Hunter Valley:

A working landscape that supports working families

The Upper Hunter Valley was constructed by members of the mining community as a working landscape that supports working families. A number of themes helped to further

describe this construction including; a landscape providing financial benefit, a resourcescape, skills and technical expertise, working families and continuity of the working landscape that requires established legitimacy.

This construction speaks to the shared history and experience of the mining community in the Hunter Valley which begins post European colonisation (invasion) of NSW but connects in some ways socially to the mining culture of the time in Britain from where some of the early miners came.

A Rural Idyll

This same landscape was perceived as a Rural Idyll firstly by the viticulture and tourism community. This particular Rural Idyll encompassed; a place that produces quality wine and tourism experiences, environmental conditions that produce unique wine, a sense of community, and a landscape that presents challenges and opportunity and continuity of the rural idyll.

The Upper Hunter Valley was also perceived as a Rural Idyll by members of the equine community. This Rural Idyll was shaped by; prestige derived from the rural idyll, a landscape that supports interconnectivity between people, a vulnerable landscape, a landscape shaped by human influence and contribution and a changing landscape that requires human adaptation.

These constructions speak firstly of the economic value attributed to the rural aesthetics of the Upper Hunter Valley, again with links to British/Irish perspectives. Further to this it speaks of environmental conditions that are mitigated where possible by humans for the purpose of rural commercial activity. This can also include mitigating the impacts of competing developments such as open cut coal mines. Finally, this construction notes the resulting sense of place and unique properties of the region gained through this process of mitigation and what the region is able to produce, in this case quality wine and horses.

A Landscape of Provision

Members of the NSW Government constructed the Upper Hunter Valley as a landscape of provision. This was articulated as a landscape responsive to future needs, a landscape that provides economic benefits, a source of energy and a managed landscape.

The landscape of provision particularly described economic revenue derived from mineral extraction (for export) and provision of large portions of the energy used by NSW. While other forms of production were recognised, it was apparent that coal extraction was perceived as the primary form of production.

A living landscape

The resident community of the Upper Hunter Valley perceived the area as a living landscape. This meant; a place of personal significance, natural landscape, a threatened landscape and a heterogeneous community that includes Indigenous people.

This construction considered the most diverse range of lifeforms present in the area including the variety of human and non-human stakeholders. Key threats perceived to this life mentioned by participants included expansion of open-cut mining and climate change. While all constructions attributed significance to the landscape, the living landscape appeared to be the most personal.

The above findings demonstrate just how differently a shared landscape can be constructed. Further to this, these constructions were linked to how the stakeholder groups perceived 'appropriate land use' in the region. Engaging with the landscapes in accordance with these different constructions allowed members of stakeholder groups to express their identities as members of these groups.

In the Hunter Valley open cut mining has acted as a catalyst for dramatic change across the triple bottom line. This particular form of mining has expedited social, environmental and economic change which has exacerbated tensions in the region.

Impacts of this change on the local community include what is now widely termed as *Solastalgia* (Albrecht et al., 2007). Quite literally this speaks of the psychological distress experienced in response to dramatic changes to one's surrounding landscape. I would suggest that any future planning consider this impact and the emerging research on the distress experienced in anticipation of future change to one's surroundings.

Social impacts due to the expansion of open cut coal mining in the Hunter Valley and other rural Australian regions are well documented in Sharon Munro's *Rich Land Wasteland: How Coal is Killing Australia* (Munro, 2012).

There have been class-related impacts as mining and energy production context changed in the Hunter Valley (Holmes & Hartig, 2007). As coal mining moved from underground pits in the Cessnock/Maitland area to open cut pits around Singleton and Muswellbrook, significant gaps in employment opportunity and retraining left some locals in vulnerable economic positions. Significantly, the unpreparedness of local institutions to support the local community through these changes to enable employment in the industry transformation was also identified. For example, increased student and institutional interest to provide for training in hospitality appeared to be directly linked to perceived reduced opportunity in the mining sector in the Cessnock/Kurri area (Holmes & Hartig, 2007) to offer new employment. In this case, Kurri TAFE was given as an institution that was training people in hospitality skills but the skills acquired through this training were deemed inadequate to employ graduates in the hospitality hotspot of Pokolbin less than 10-15km away. This demonstrates the need for different stakeholders to collaborate in the face of changing environment, economy and employment.

Land use in the region has been subject to heated public debate through media, legal action and direct protest action. My research strongly suggests that this conflict arises out of perceived threats to the potential for stakeholders to engage with the Upper Hunter Valley as guided by their constructions of the landscape. The initial concern that lead to my research was that this public conflict is damaging and counter-productive to the wellbeing

of the region as a tourist destination or any of the other potential capacities and constructs of the region.

Through my conversations with stakeholders, a number of points became clear.

- The NSW Government intends for the Upper Hunter Valley to remain significant in energy production for NSW, albeit coal fired energy appeared to be prioritised – which specific stakeholders groups are opposed to

- There is wide scope for renewable energy projects such as wind farms, solar farms and pumped hydro to support a transition to renewable energy production in the Upper Hunter Valley, in particular using rehabilitated open cut coal mine sites for these projects as demonstrated in this Climate Institute report. News of NSW Government discussion further supports this idea.

- The range of stakeholders in the Upper Hunter Valley are all acutely aware of the need to transition away from coal mining in the region and more broadly, fossil-fuel energy. Public positions taken by AGL and Glencore reflect the discussion I've heard at a number of different events including an Upper Hunter economic breakfast held by the Hunter Research Foundation where I presented my research. These statements by AGL and Glencore while supportive of a transition to renewable energy, will not alone address the concerns of other stakeholders and ensure Australia reaches a variety of targets for carbon emission reduction. Furthermore these statements are inconsistent with various forecasts of reduced demand for Australian coal exports.

- Stakeholders in the Upper Hunter Valley are placing hope and faith in tourism and innovation to support employment and progress the local economy as the inevitable transition from coal mining occurs. Much of this discussion related to the forecasts provided by the Hunter Research Foundation which note downturn in mining employment and rising unemployment in the Upper Hunter Valley.

- It is apparent that concerns in the area relate primarily to destruction of and changes in the Upper Hunter Valley landscape not necessarily energy production itself, which indicates potential for renewable energy projects to be supported by all stakeholder groups.

Conclusion and Recommendations

Energy production cannot be separated from social and environmental impacts as reflected in the triple bottom line. There are lengthy and plentiful examples of the negative impacts when energy production and mineral extraction have not been effectively considered in this way.

While the financial contribution of the mining sector to the NSW economy is recognised, the available reports demonstrate the more substantial contribution to employment in the region made by other stakeholders. This compels lawmakers in NSW to consider the

negative impact of open cut mining in the Upper Hunter Valley on these other stakeholders and factor these costs into an energy or planning related decisions and policy.

Top 5 industries by contribution to GRP in 2013 (compared to Regional NSW)

Hunter	Regional NSW
1. Mining (14.7%)	1. Manufacturing (8.3%)
2. Manufacturing (9.5%)	2. Health Care and Social Assistance (8.1%)
3. Health Care and Social Assistance (6.7%)	3. Mining (7.7%)
4. Construction (6.3%)	4. Construction (6.0%)
5. Public Administration and Safety (4.9%)	5. Education and Training (5.9%)

Top 5 employers by industry in 2011 (compared to Regional NSW)

Hunter	Regional NSW
1. Health Care and Social Assistance (13.7%)	1. Health Care and Social Assistance (14.3%)
2. Retail Trade (11.5%)	2. Retail Trade (12.5%)
3. Manufacturing (10.4%)	3. Education and Training (9.2%)
4. Education and Training (8.1%)	4. Manufacturing (8.7%)
5. Accommodation and Food Services (7.6%)	5. Accommodation and Food Services (8.5%)

Data provided by Deloitte Access Economics, August 2014

(Source: Hunter Economic Profile 2015)

Other data provides a similar and perhaps more detailed account of employment in the Upper Hunter LGA:

(Source: https://www.economyprofile.com.au/upperhunter/industries).

Current and previous consultation and decision-making practices in relation to land use in the Upper Hunter Valley are perceived by community as heavily weighted in favour of the mining industry. This has further served to heighten concern within the resident community and non-mining stakeholders.

Future assessments and planning may be faced with adverse community response if decision makers fail to balance the potential for success of all stakeholders. Conversely, planning and processes that account for different stakeholder perspectives may enjoy widespread support across the region and be more successful.

- Monitor the combination of Production, Consumption and Protection values reflected in the use of the Upper Hunter Valley landscape and in planning decisions.

- Incorporate Multifunctionalism into Strategic Land Use Planning and Policy. This means specifically accounting for the trajectories of change described above.

- Respond to Stakeholder Concerns Regarding how Changes in Land Use and current energy policy settings may Affect Their Ideal Representation of Rural Landscapes.

For any further clarification or elaboration on these comments please do not hesitate to contact me on [redacted] or via email, [redacted]

References:

Albrecht, G., Sartore, G.-M., Connor, L., Higginbotham, N., Freeman, S., Kelly, B., Stain, H., Tonna, A., & Pollard, G. (2007). Solastalgia: The distress caused by environmental damage. *Australasian Psychiatry, 15*(Supplement 1), 95-98. doi:10.1080/10398560701701288

Francis-Coan, S., Buchmann, A., & Lai, P.-H. (2017). Exploring land use conflict from a social representations point of view: A case study of the Upper Hunter Valley, NSW, Australia. *CAUTHE 2017: Time For Big Ideas? Re-thinking The Field For Tomorrow*, 805.

Holmes, J. (2006). Impulses towards a multifunctional transition in rural Australia: Gaps in the research agenda. *Journal of Rural Studies, 22*(2), 142-160.

Holmes, J., & Hartig, K. (2007). Metropolitan colonisatiton and the reinvention of place: Class polarisation alonog the Cessnock-Pokolbin fault-line. *Geographical Research, 45*(1), 54-70. doi:10.1111/j.1745-5871.2007.00404.x

Munro, S. (2012). *Rich Land, Wasteland- How coal is killing Australia*. Sydney: Pan MacMillan Australia.