

**Submission  
No 194**

## **SUSTAINABILITY OF ENERGY SUPPLY AND RESOURCES IN NSW**

**Organisation:** Newcastle Greens

**Date Received:** 15 September 2019



**Newcastle Greens**



*Newcastle Greens submission to the  
NSW Inquiry into the sustainability of  
energy supply and resources*

15 September 2019

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## Submission; Inquiry into sustainability of energy supply and resources in NSW

The Newcastle Greens is an autonomous local group of The Greens New South Wales. We welcome this Inquiry and appreciate the opportunity to comment. We believe the community of Newcastle is anxious to see positive recommendations and outcomes resulting from your deliberations. We want secure, affordable, safe, clean and sustainable energy. Renewable energy is best placed to meet society's needs.

### Introduction:

*“A substantial majority of Australians is concerned about climate change (73%) and agrees that the Government needs to implement a plan to ensure the orderly closure of old coal plants and their replacement with clean energy (70%) within the next 20 years (67%). Furthermore, an overwhelming majority (84%) of Australians support the statement that “the government should focus on renewables, even if this means we may need to invest more in infrastructure to make the system more reliable”.*<sup>1</sup>

Ideological debates that question the science of climate change and the urgent necessity to reduce greenhouse gas emissions have repeatedly and conveniently ignored the economic, environmental and social advantages of renewable energy to the consumer. Lobbying from fossil fuel consortiums has historically succeeded to influence Australian politics and just as lobbyists for tobacco companies manufactured confusion in the 1960s and 70s<sup>2</sup>, fossil fuel lobbyists have manipulated the public into uncertainty about the benefits of renewable energy<sup>3</sup>.

It is not surprising that the coal industry is pouring millions of dollars into pro-coal advertising<sup>4</sup>. The idea that persuasive advertising, targeting “soft converters” (i.e. people who have “limited information about the Australian coal industry and open to being convinced of its future role”) will improve the industry's image and longevity is a desperate attempt to delay the inevitable; especially since BHP and Rio Tinto have abandoned their coal assets, preferring to promote ‘decarbonising the economy’.

The electricity sector is identified as the largest contributor to Australia's greenhouse gas emissions and effective reform of this sector is a key step in tackling climate change<sup>5</sup>. The transport sector follows<sup>6</sup>.

Australia stands out in the global community as having no 2030 or 2050 renewable energy target, no decarbonisation strategy for electricity and no coal phase-out plan<sup>7</sup>. The technology and the economic

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<sup>1</sup> <https://www.tai.org.au/sites/default/files/Renewable%20Electricity%20Policy%20for%20Australia%20%5BWeb%5D.pdf> Renewable electricity policy for Australia, Mark Diesendorf, November 2018.

<sup>2</sup> <https://www.theguardian.com/environment/2018/mar/20/can-climate-litigation-save-the-world> Can climate litigation save the world?, Damian Carrington, The Guardian, 20 Mar 2018

<sup>3</sup> <https://press-files.anu.edu.au/downloads/press/p303951/html/Chapt05.xhtml?referer=&page=10> Global Warming and Climate Change: what Australia knew and buried Maria Taylor, 2014

<sup>4</sup> <https://www.abc.net.au/news/2019-08-07/coal-lobby-hopes-to-make-australians-proud-about-coal/11388830> Coal research group turns hand to advertising in bid to make Australians 'feel proud' about rock, Stephen Long, 7 Aug 2019

<sup>5</sup> [https://www.climatecouncil.org.au/wp-content/uploads/2018/06/CC\\_MVSA0143-Briefing-Paper-Australias-Rising-Emissions\\_V8-FA\\_Low-Res\\_Single-Pages3.pdf](https://www.climatecouncil.org.au/wp-content/uploads/2018/06/CC_MVSA0143-Briefing-Paper-Australias-Rising-Emissions_V8-FA_Low-Res_Single-Pages3.pdf) Australia's Rising Greenhouse Gas Emissions, Climate Council, 2018

<sup>6</sup> [climatecouncil.org.au/resources/transport-climate-change](https://climatecouncil.org.au/resources/transport-climate-change)

<sup>7</sup> <https://climateanalytics.org/briefings/evaluating-australias-climate-policy-action/> Evaluating Australia's climate policy action, Climate Analytics, May 2019

incentives to transform the electricity sector already exists; it is the political and institutional will of vested interests that delays our transition.

Political debate at the federal level still focusses on the false assumption that coal and gas offer the cheapest costs of generation. Nevertheless, Victoria has committed to a renewable energy target of 40 per cent by 2025. Queensland has a target of 50% clean energy by 2030 and the ACT is aiming to run completely on renewables by 2020<sup>8</sup>.

We cannot ignore Australia's increasing emissions from the burning of fossil fuels<sup>9</sup> or that Australians continue to subsidise fossil fuels to the tune of \$29 billion annually, representing 2.3 per cent of our GDP. On a per capita basis, Australian fossil fuel subsidies amount to a staggering \$1,198 per person<sup>10</sup>. The International Monetary Fund (IMF) has found that when the wider social and environmental costs of fossil fuels are considered, the price of coal was typically less than half of its true cost and that if fossil fuels were priced appropriately, global carbon emissions would be reduced by 28 per cent.

Newcastle is home to the world's largest coal export facility. The 2017 announcement by Professor Roy Green, Chairman of the Port of Newcastle, that "the long-term outlook for coal is a threat to the Port" should indicate the urgency with which NSW Government policy makers need to deal with both the global and regional shifts from fossil fuel power generation and investment.

### NSW can and should go it alone:

The Newcastle Greens are encouraged that The Hon. Matt Keane, NSW Energy and Environment Minister, has publicly stated that in the absence of a national policy that integrates energy and climate, NSW is prepared to "go it alone"<sup>11</sup>. At the recent Australian Clean Energy Summit, he stated, "We want NSW to be the easiest jurisdiction in which to develop new energy infrastructure in the entire OECD"<sup>12</sup>.

We acknowledge the NSW Government can hang its hat on clean energy initiatives<sup>13</sup> aimed at reducing high electricity costs and security of supply to consumers. However, without clear directives and timelines to transition to 100% renewable energy, fossil fuel energy generation in NSW will continue. Prolonging our fossil fuel reliance for short term financial gain is grossly irresponsible when renewable energy offers new opportunities to benefit our region. Importantly, there is more than substantial evidence<sup>14</sup> to show that we can limit climate change impacts and costs to consumers without reducing energy use, if we

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<sup>8</sup> <https://www.abc.net.au/news/science/2019-05-10/solar-energy-power-grid-renewables-policy/11088002> *Solar energy is on the rise, as coal-fired power stations age and gas prices rise — but is the grid ready?* ABC Science, May 2019

<sup>9</sup> *2018 State of the Climate Report*, BOM, CSIRO

<sup>10</sup> <https://reneweconomy.com.au/global-fossil-fuel-subsidies-reach-5-2-trillion-and-29-billion-in-australia-91592/> *Global fossil fuel subsidies reach \$5.2 trillion, and \$29 billion in Australia*, Michael Mazengarb, May 2019

<sup>11</sup> <https://www.smh.com.au/politics/federal/nsw-warns-of-going-it-alone-on-energy-as-industry-moans-federal-gap-20190730-p52c32.html> *NSW warns of 'going it alone' on energy as industry moans federal gap*, Peter Hannam and Colin Kruger July 2019

<sup>12</sup> <https://www.pv-magazine-australia.com/2019/08/03/clean-energy-summit-tackles-transmission-for-transition-at-the-heart-of-the-nem/> Aug 2019 Natalie Filatoff PV Magazine

<sup>13</sup> <https://energy.nsw.gov.au/renewables/clean-energy-initiatives> *Smart Energy for homes and businesses NSW Gov*

<sup>14</sup> <https://reneweconomy.com.au/aemo-models-step-change-shift-to-renewables-for-20-year-planning-blueprint-97802/>

switch to renewable energy. The NSW Government's continued support of the short-term fossil fuel projects is blinkered and irresponsible and delays inevitable investment in renewable energy.

### New energy systems have emerged as cost competitive:

Brett Redman, Chief Executive of AGL, recently stated that "The cheapest energy being produced right now is already renewables"<sup>15</sup>.

The 2018 NSW Government's Renewable Energy Action Plan - Completion Report, December 2018<sup>16</sup> states:

*"Today, solar and wind are the cheapest forms of newbuild electricity generation in Australia and private sector interest in renewable investment is strong. In November 2018, there were almost 90 renewable energy projects, totalling around 18,500 MW, either approved or progressing through the NSW planning system. These projects represent an impressive \$26 billion in potential investment in NSW and if built could deliver enough energy to power all NSW households.*

*The NSW transmission network operator, TransGrid has also stated that it has received more enquiries from projects wanting to connect to the grid than ever before, with around 40,000 MW of proposed solar, wind and hydro projects looking to connect. The NSW Government is progressing work to increase NSW's network capacity by prioritising Energy Zones in the Central-West, South-West and New England regions."*

Minister Keane has stated that "the challenge for NSW is to ensure the grid remains reliable and affordable"<sup>17</sup>. At the recent Clean Energy Summit, he noted that there is not enough existing transmission capacity for new renewable projects to connect<sup>18</sup>.

Trans Grid's Caroline Taylor stated at the Summit that "Post-regulatory approval, transmission typically takes four years to deliver. A solar farm may take six to nine months to deliver. *For the most efficient outcome to occur transmission needs to be well planned and delivered in advance of generation investment*"<sup>19</sup>[our emphasis].

With the growing public demand for renewable energy - noting the continued and increasing distributed energy resources, such as rooftop solar that are helping to meet energy demands - the NSW Government

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<sup>15</sup> <https://www.smh.com.au/politics/federal/nsw-warns-of-going-it-alone-on-energy-as-industry-moans-federal-gap-20190730-p52c32.html> NSW warns of 'going it alone' on energy as industry moans federal gap, Peter Hannam and Colin Kruger July 2019 <https://www.smh.com.au/politics/federal/nsw-warns-of-going-it-alone-on-energy-as-industry-moans-federal-gap-20190730-p52c32.html>

<sup>16</sup> <https://energy.nsw.gov.au/media/1536/download>

<sup>17</sup> <https://www.smh.com.au/politics/federal/nsw-warns-of-going-it-alone-on-energy-as-industry-moans-federal-gap-20190730-p52c32.html> NSW warns of 'going it alone' on energy as industry moans federal gap, Peter Hannam and Colin Kruger July 2019 2019

<sup>18</sup> <https://www.pv-magazine-australia.com/2019/08/03/clean-energy-summit-tackles-transmission-for-transition-at-the-heart-of-the-nem/> Clean Energy Summit tackles transmission for transition at the heart of the NEM, August 2019 Natalie Filatoff PV Magazine

<sup>19</sup> <https://www.pv-magazine-australia.com/2019/08/03/clean-energy-summit-tackles-transmission-for-transition-at-the-heart-of-the-nem/> Clean Energy Summit tackles transmission for transition at the heart of the NEM, August 2019 Natalie Filatoff PV Magazine

must do more than just acknowledge the transmission problem. There is currently no plan, policies or interim targets or trajectories on how the state will achieve 100% renewable energy.

There is ample evidence to show that the opportunity exists to retire coal fired stations and replace that service with renewable energy if the electricity system is flexible enough to respond to shortfalls in intermittent generation supply (i.e. wind and solar farms) with dispatchable generation, time-shifting and storage (e.g. bagasse, hydro, solar thermal, microgrids, pumped hydro batteries etc.) and through additional transmission interconnection capacity that integrates National Electricity Market regions<sup>20</sup>.

It is worth remembering that The Independent Review into the National Electricity Market (NEM, 2016)<sup>21</sup>, chaired by Australia's then Chief Scientist Dr Alan Finkel, identified seven key themes that reflect the issues facing our national electricity market. These include and remain:

- Technology is transforming the electricity sector
- Consumers are driving change
- The transition to a low emissions economy is driving change
- Variable renewable electricity generators, such as wind and solar PV, can be effectively integrated into the system
- Market design can support security and reliability
- Prices have risen substantially in the last five years
- Energy market governance is critical

At the moment proactive local<sup>22</sup> and state governments<sup>23</sup>, proactive electricity retailers<sup>24</sup>, community energy groups<sup>25</sup> and individual households<sup>26</sup> and businesses<sup>27</sup> are transforming the energy sector from the old model of privately owned and centralised coal and gas power stations supplying passive consumers, to a new model based on local renewable energy generation, storage and trading. This is happening regardless and in spite of Federal and State Government inaction.

The City of Newcastle has a long history of action to transform its renewable electricity consumption and its corresponding carbon emissions. During the delivery of Council's Greenhouse Action in Newcastle (2001-2008) plan, the Council reduced its emissions by 13.6% below 1995 levels. This progress continued

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[https://www.aph.gov.au/Parliamentary\\_Business/Committees/Senate/Environment\\_and\\_Communications/Coal\\_fired\\_power\\_stations/Final\\_Report](https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Coal_fired_power_stations/Final_Report) Clean Energy Finance Corporation Submission to Senate Inquiry into Retirement of Coal Fired Power Stations 2017

[www.environment.gov.au/system/diles/resources/97a4f50c-24ac-4fe5-b3e5-5f93066543a4/files/independent-review-national-elec-market-premium.pdf](http://www.environment.gov.au/system/diles/resources/97a4f50c-24ac-4fe5-b3e5-5f93066543a4/files/independent-review-national-elec-market-premium.pdf) Preliminary report of the Independent Review into the future security of the National Electricity Market, Executive Summary Dec 2016, Dr Alan Finkel, Chief Scientist, Chair of the Expert Panel

<sup>22</sup> <http://newcastle.nsw.gov.au/Council/News/Latest-News/CEFC-finance-to-build-Newcastle-s-solar-farm> March 2018 City of Newcastle has secured a \$6.5 million loan from Australia's Clean Energy Finance Corporation (CEFC) to help build the region's biggest solar farm, March 2018.

<sup>23</sup> <https://reneweconomy.com.au/deep-dive-into-the-acts-100-renewable-energy-target-41592/> June 2019 Renew Economy Deep dive into the ACT's 100% renewable energy target, June 2019 Renew Economy

<sup>24</sup> <https://www.powershop.com.au/renewable-energy/>

<sup>25</sup> <https://onestepoffthegrid.com.au/university-newcastle-inks-deal-source-100-firmed-renewables/> University of Newcastle inks deal to source 100% "firmed" renewables, Sophie Vorrath December 2018

<sup>26</sup> <https://renew.org.au/wp-content/uploads/2018/09/ATA-Household-Battery-Study.pdf> Household Battery Analysis, 2015 ATA Energy Projects Team Prepared by: Andrew Reddaway, Damien Moyses

<sup>27</sup> <https://reneweconomy.com.au/landmark-deal-to-power-coles-underpins-three-nsw-solar-farms-51379/> Landmark deal to power Coles underpins three NSW solar farms, Sophie Vorrath, August 2019, Renew Economy

through the Newcastle 2020 Carbon and Water Management Action Plan, adopted in 2011. This Action Plan enabled the Smart Buildings Smart Workforce project which involved a range of energy efficiency upgrades and retrofits at high-use social, cultural and recreational facilities and key Council operational buildings. It has also enabled the rollout of Council's solar photovoltaic (PV) systems and renewable energy generation infrastructure across the city.

In addition to the City of Newcastle's landmark 5MW Solar Farm at the Summerhill Waste Management facility, Newcastle currently hosts an extensive renewable energy generation infrastructure, including eight existing solar installations at our Waratah Works Depot (91kW), the Art Gallery (86kW), City (44kW), Wallsend (80kW) and New Lambton (9.9kW) libraries, No.1 and No.2 Sportsgrounds (10.2 kW including 14kWh battery storage and 20.16 kW including 22kWh battery storage respectively) and Newcastle Museum (100kW), alongside the 2.2MW landfill gas generator and the 2.5kW wind turbine co-located at Summerhill Waste Management Facility.

Modelling conducted for the business case for the Summerhill Solar Farm confirmed that it will produce more than 7.1 gigawatt-hours a year of electricity, mostly in peak or shoulder periods. Effectively, the combination of the Council's renewable energy generation and energy efficiency improvements implemented across the LGA means that approximately 50% of Council's annual 14.1 gigawatt-hours of electricity usage is supplied by its own renewable energy infrastructure.

In August this year, the City of Newcastle resolved to move Council's operations to 100% renewable electricity. Detailed business case modelling was undertaken by external consultants to understand the financial impacts, opportunities and risks associated with entering into renewable power purchase agreements (PPAs) and extending contract tenure beyond traditional lengths. Renewable PPAs, which have been popular overseas, are increasingly available in Australia. By locking in longer-term contracts, PPAs can provide significant advantages in reducing exposure to electricity price risk. The energy strategy adopted by Council is intended to create a hedge against market volatility and reduce the financial risks that can arise in undertaking traditional contracting methods. This business case demonstrated conclusively that significant savings can be achieved against BAU by moving to a contracting strategy incorporating 100% renewable electricity supply.

The business case noted that while increased proportion of renewable generation in the NEM is expected to further reduce wholesale electricity prices over time, renewable PPA pricing through longer term contract periods is more reflective of the current low cost of capital funding for construction. A decision to delay while waiting for future reductions in wholesale pricing represents a financial penalty by paying higher pricing in current years.

The City of Newcastle expects to move to 100% renewable energy by 1<sup>st</sup> January 2020.

We need to see legislated, binding targets that achieve a minimum of 5% increase of renewable energy generation per annum and increase over time to 100% of all electricity generated in NSW by 2030. We need a legislated energy storage target to ensure reliability of renewable energy supply.

The NSW Government can immediately take proactive steps including –

- Implement a state-based renewable energy target, including interim targets, in the absence of an adequate federal target or mechanism.
- Move to create a state-based greenhouse gas pricing regime and renewable energy targets where federal schemes are not enough to reduce the state's emissions.

- Support investment in electricity transmission infrastructure which is directed to increasing the supply and availability of renewable energy.

## Inadequate Government Policies to curb fossil fuels:

Government policies need continual independent review and updating in order to respond to and manage NSW's transition to a cleaner, more reliable and affordable energy reliant system.

Fossil fuel projects present costly risks to the community of stranded assets, pollution and climate change liabilities and will be affected by domestic and global strategies to reduce greenhouse gas emissions. Neither the private nor public sectors will support outdated technology when renewable energy technologies are cheaper, accessible and are 'clean'.

Obviously, for an effective and efficient transition to a renewable energy economy, long term, predictable policy settings are needed. A just transition cannot be achieved unless the Government fully accounts for climate change risk in any development and gives clear commitments with immediate time frames to phase out fossil fuel use.

Professor Will Steffen recently advised the IPC considering the Wambo Open Cut Coal Mine Project that "meeting the carbon budget consistent with the Paris accord climate targets (therefore) means that not only must currently operating mines and gas wells be closed before their economic lifetime is completed but also that no approved (but not yet operating) and no proposed fossil fuel projects, based on existing reserves, can be implemented"<sup>28</sup>.

The Environmental Defenders Office has published 'Climate-ready planning laws for NSW: Rocky Hill and Beyond' which demonstrates how NSW planning laws can be made climate-change ready. The report recommends that NSW needs overarching climate legislation to set specific targets for reducing greenhouse gas emissions and to increase renewable energy<sup>29</sup>.

Faced with consistent expert and community objections to coal mining and export in the Hunter region, mining giant Glencore have noted that the NSW Planning system is conducive to their industry: <sup>30</sup> -

*(i) there is no government policy or legal principle that dictates the extent to which GHG emissions generated by either the Project or the combustion of the Project's coal by other developments, are to be considered and weighted in determining a development application under the EP&A Act, and there is no prescribed quantitative criteria against which the Project's GHG emissions are to be assessed;*

*(ii) in the absence of any government policy or legal principle that dictates the extent to which GHG emissions generated by either the Project or the combustion of the Project's coal by other developments, must be considered and weighted in the determination of a development application under the EP&A Act, it is for the consent authority to determine how much weight*

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<sup>28</sup> <https://www.ipcn.nsw.gov.au/resources/pac/media/files/pac/projects/2018/11/united-wambo-open-cut-coal-mine-project-ssd-7142/independent-experts-engaged-by-edo-on-behalf-of-hunter-environment-lobby/united-wambo-expert-climate-change-report--william-steffen.pdf> Expert Report United Wambo Open Cut Coal Mine Project, Independent Planning Commission (IPC) Public Meeting 11 December 2018 Professor Will Steffen Emeritus Professor

<sup>29</sup> [https://www.edonsw.org.au/climate\\_ready\\_planning\\_laws](https://www.edonsw.org.au/climate_ready_planning_laws) March 2019

<sup>30</sup> Mangoola Coal Continued Operations Project Observations from Glencore Coal Assets Australia regarding the Rocky Hill and Wallarah 2 Cases on Climate Change and Greenhouse Gas Emissions, May 2019



*it is to accord to the climate change impacts and GHG emissions generated by the Project or the combustion of the Project's coal by other developments, as the Court's decision in the Wallarah 2 case confirms;*

Further noting –

1.61 *Importantly, the Australian Government or the NSW Government have not – in any climate change policy or law – indicated that the development of new coal mines, or expansions of existing coal mines, is to be prohibited or restricted in any way for the purpose of achieving Australia's NDC* (Intended Nationally Determined Contributions (INDCs) is a term used under the United Nations Framework Convention on Climate Change (UNFCCC) for reductions in greenhouse gas emissions that all countries that signed the UNFCCC were asked to publish at the 2013 United Nations Climate Change Conference held in Warsaw).

Two thirds of Australia's thermal coal exports come from NSW, with Australia being the world's second largest exporter<sup>31</sup>. Newcastle Port is the world's largest coal export terminal.

The publicly opposed, but approved in 2015, T4 coal terminal at Newcastle Port was scrapped in 2018 with a sizeable 24% unutilised coal capacity remaining at the Port. NSW coal exports have declined since 2015, with more contraction expected as global coal consumption declines in line with significant renewable energy deployment<sup>32</sup>.

The Newcastle and Hunter community forecast coal's decline in both export capacity and its inability to offer long term benefit the region when opposing T4. Contrary to the spurious and ongoing claims that the coal industry will increase exports, there is already stranded capacity at the Port. Within the four years since approval of the fourth coal terminal, Professor Roy Green, the new chairman of the Newcastle Port Board, made headlines when he said that the "long-term outlook for coal is a threat to the port" signalling the port's desire to shift to other exports<sup>33</sup>.

Employment opportunity in the resources sector, including the gas industry, is dependent on a sustainable demand for their product. If there's no demand, there's no jobs.

## Coal Fired Power Stations:

The majority of Australia's coal fired power stations are old, inefficient and unlikely to be retrofitted with carbon capture and storage technologies. Power stations are using obsolete subcritical coal technology<sup>34</sup>. The Climate Change Authority's *2016 Policy Options for Australia's electricity supply sector: Special Review Report* noted that the electricity sector is Australia's largest source of emissions and that decarbonizing the sector will require withdrawal of high-emissions generators over the coming decades<sup>35</sup>. These unreliable generators pose a threat to the reliability to NSW's energy systems.

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<sup>31</sup> Office of the Chief Economist, Resources and Energy Quarterly, June 2018

<sup>32</sup> *NSW Thermal Coal Exports Face Permanent Decline Grim Outlook Prompts the Need for a Planned Transition, Executive Summary*, Institute for Energy Economics and Financial Analysis IEEFA.org November 2018

<sup>33</sup> <https://www.theguardian.com/australia-news/2017/dec/19/port-of-newcastle-chairmans-comments-on-coal-are-basically-a-call-for-help> Newcastle wants to reduce reliance on coal – but that's easier said than done, Michael McGowan, Dec 2017 Last modified Feb 2018

<sup>34</sup> [https://www.climatecouncil.org.au/wp-content/uploads/2018/07/CC\\_MVSA0148-Report-End-of-the-Line-Coal\\_V3-FA\\_Low-Res\\_Single-Pages.pdf](https://www.climatecouncil.org.au/wp-content/uploads/2018/07/CC_MVSA0148-Report-End-of-the-Line-Coal_V3-FA_Low-Res_Single-Pages.pdf) *End of the line: Coal in Australia*, Climate Council, 2018

<sup>35</sup> <http://climatechangeauthority.gov.au/special-review>

In February this year The Australia Institute Climate & Energy Program released its NSW Gas & Coal Watch analysis of 2018<sup>36</sup>, summarized below.

### **A breakdown every fortnight: NSW gas & coal power 2018**

*NSW suffered 27 major breakdowns at gas and coal fired power-plants in 2018 – more than one a fortnight - removing hundreds of megawatts of energy from the grid suddenly and without warning.*

*The Australia Institute Climate & Energy Program has today released its NSW Gas & Coal Watch analysis of 2018, which tracks unscheduled breakdowns in gas and coal plants across the National Energy Market.*

#### **Key findings:**

- *NSW gas & coal fired power stations broke down 27 times during 2018 – more than one break down every fortnight.*
- *Every coal power station in NSW experienced at least one breakdown.*
- *The most breakdowns were experienced at the aging Liddell (11 breakdowns) and Vales Point (5 breakdowns) power stations.*
- *The new and supposedly ‘state of the art’ Tallawarra gas power station experienced three breakdowns.*
- *During the June “energy crisis” last year, over half of NSW’s coal and gas generators were offline while wholesale electricity prices spiked to around \$2400 per MWh five times in just one week.*

Increasingly, banks and financial service companies are not supporting projects that mine or burn coal used for electricity generation, and it now appears there are no Australian insurers willing to underwrite new thermal coal developments<sup>37</sup>.

In December 2017, the National Australia Bank announced it was ceasing all lending to new thermal coal projects<sup>38</sup>. Australian insurance giant Suncorp will no longer invest in, finance or insure new thermal coal mines and power plants and will not underwrite any existing thermal coal projects after 2025. Bank Australia advertises “The bank that doesn’t lend to the fossil fuel industry is the bank Australia needs”<sup>39</sup>.

Rio Tinto sold its last coal assets in August 2018 and in its 2019 ‘Industry associations and climate change’<sup>40</sup> document categorically stated that climate change is “a critical global challenge”. Accordingly, the corporation will “publicly [argue] against subsidies for coal” and calls on fossil-fuel lobby groups to

<sup>36</sup> <https://www.tai.org.au/content/breakdown-every-fortnight-nsw-gas-coal-power-2018>

<sup>37</sup> <https://www.theguardian.com/australia-news/2019/jul/26/insurance-giant-suncorp-says-it-will-no-longer-cover-new-thermal-coal-projects> Insurance giant Suncorp says it will no longer cover new thermal coal projects, Adam Morton, Environment editor The Guardian Jul 2019

<sup>38</sup> <https://www.theguardian.com/australia-news/2017/dec/14/national-australia-bank-stops-all-lending-for-new-thermal-coal-projects> National Australia Bank stops all lending for new thermal coal projects, The Guardian Gabrielle Brooks, The Guardian, Dec 2017

<sup>39</sup> <https://www.bankaustralia.com.au/cleanmoney>

<sup>40</sup> [https://www.riotinto.com/documents/RT\\_industry\\_associations\\_climate\\_change.PDF](https://www.riotinto.com/documents/RT_industry_associations_climate_change.PDF) Rio Tinto, Industry associations and climate change, Rio Tinto, 2019

conduct all media in relation to renewables, decarbonisation and carbon pricing in a technology-neutral way, consistent with Paris targets. It committed itself to “recognise the valuable contribution that renewables make in reducing emissions, and not undermine the role they have in the energy mix”.

The Rocky Hill Coal Mine decision in February 2019, made clear that rapid and deep reductions in Australia’s contribution to greenhouse gas emissions are required immediately<sup>41 42</sup>. Repercussions from that decision to new coal development applications are now in evidence<sup>43 44</sup>, where the coal industry is expected to rigorously account for the environmental, social and greenhouse gas emissions of their proposals<sup>45</sup> wherever they occur.

Four, aged coal fired power stations are located in our region - Liddell, Bayswater, Eraring and Vales Point – all of which operate without the modern pollution control technologies of Europe or North America, or most of Asia. Coal combustion is one of NSW’s biggest sources of pollution, with prevailing winds spreading particles over major population centres, now including areas of Sydney<sup>46</sup>.

Lake Macquarie, where the Vales Point and Eraring coal-burning power stations are located, is in the top 100 air pollution hotspots, followed by the Hunter Valley, which is home to the Liddell and Bayswater power stations<sup>47</sup>. Communities are suffering from the pollution.

The Australasian Centre for Corporate Responsibility (ACCR) will present the following resolution<sup>48</sup> to Origin, operator of the Eraring Power Station at their October 2019 AGM:

**Public health risks of air pollution from coal operations:** *The burning of coal to generate electricity is a major contributor to climate change, and it produces air pollution and coal ash, both of which are harmful to public health. We are calling on Origin to disclose the risk of public health impacts from the Eraring coal-fired power station in NSW, which it owns and operates. We also want Origin to publish a financial assessment of the capital and operating expenditure required to retrofit and maintain Eraring with modern pollution controls.*

Unlike other countries, there are no legislated limits on how much sulphur dioxide Australian coal power stations are allowed to emit. Ageing coal-burning power stations in Australia are allowed to emit up to

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[https://www.edonsw.org.au/wambo\\_export\\_condition?utm\\_source=eBulletin+list+June+2018&utm\\_campaign=f6636ed55d-ebull2019Aug9&utm\\_medium=email&utm\\_term=0\\_0aa74baca5-f6636ed55d-109501](https://www.edonsw.org.au/wambo_export_condition?utm_source=eBulletin+list+June+2018&utm_campaign=f6636ed55d-ebull2019Aug9&utm_medium=email&utm_term=0_0aa74baca5-f6636ed55d-109501)

<sup>42</sup> <https://www.newcastleherald.com.au/story/6308928/hunter-coal-mine-linked-with-australias-climate-change-paris-agreement-commitments-in-nsw-first/>.

<sup>43</sup> <https://www.ipcn.nsw.gov.au/resources/pac/media/files/pac/projects/2019/02/dartbrook-coal-mine-modification-7/determination/dartbrook-coal-mine-mod-7--statement-of-reasons-for-decision.pdf>

<sup>44</sup> <https://www.newcastleherald.com.au/story/6332128/departments-cold-call-on-independent-planning-commissions-coal-condition-plan/> Singleton’s United Wambo joint venture coal mine expansion has notched a few firsts, Newcastle Herald Joanne McCarthy August 2019

<sup>45</sup> <sup>45</sup> NSW Independent Planning Commission cites ‘unsatisfactory’ greenhouse gas assessment, JoAnne McCarthy Newcastle Herald August 2019

<sup>46</sup> Enviro Justice Australia 2018

<sup>47</sup> [https://www.greenpeace.org.au/research/so2report/?\\_ga=2.199875694.1997050359.1566181010-1779553825.1566181010](https://www.greenpeace.org.au/research/so2report/?_ga=2.199875694.1997050359.1566181010-1779553825.1566181010) Invisible killer: Toxic sulfur dioxide hotspots revealed in Australia, Greenpeace Environment Trust August 2019

<sup>48</sup> <https://accr.org.au/2019/07/29/origin/>

almost 12 times more sulphur dioxide than old power stations in China. Industrial smelting and the burning of coal, oil and gas are the leading causes of toxic sulphur dioxide pollution in Australia. The toxic sulphur dioxide plume in New South Wales potentially impacts 1.7 million people<sup>49</sup>.

Right now, Hunter Energy plans to reopen The Redbank Coal facility near Singleton, a facility that originally closed in 2014 and was considered the dirtiest power station in Australia. Its emissions intensity was rated by the Australian Energy Market Operator at 1.4 kg of CO<sub>2</sub> equivalent per kilowatt hour – the worst of any black coal generator in Australia at the time, and more than the current dirtiest power station in the country, the Yallourn brown coal facility in Victoria (1.3kg/kWh)<sup>50</sup>. Evidently, the proponents have a long-term plan to reduce emissions from the site, but the cumulative impacts of another dirty coal fired power station in our region will have immediate and severe health impacts on the community.

## Coal Seam Gas:

Gas extraction is an incredibly energy intensive process and produces a large amount of potent heat-trapping emissions. LNG and CSG emissions in Australia are significant but dwarfed by what is released when the gas is decompressed and burned at end use destinations. Research shows that increasing gas extraction is leading to more fugitive emissions<sup>51</sup>.

Comparing the greenhouse benefits of CSG or LNG to coal to justify its use is an unrealistic debate. These fuels are known to create climate change and environmental and health risks. Comparisons of the greenhouse credentials of CSG (or coal) should be made with other alternatives energy sources such as hydro, solar and wind.

There is one remaining coal seam gas project left on the NSW drawing board and that is the proposed Santos field at Narrabri. There is strong, widespread community opposition to the project, particularly regarding the potential impact of drilling and fracking on waterways and farms. Even in the unlikely event the project secures approval, supply of gas to the NSW market is likely to be years away and expensive<sup>52</sup>. This is a project which commits future generations to catastrophic climate conditions, with its company chairman announcing that their planning scenario analysis in relation to climate change created a “4-degree pathway”<sup>53</sup>.

Consumers are worried by the fugitive emissions and environmental impacts of gas as well as the management and continuing manipulation of the domestic gas market by vested interests<sup>54</sup>.

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[https://www.aph.gov.au/Parliamentary\\_Business/Committees/Senate/Environment\\_and\\_Communications/Coal\\_fired\\_power\\_stations/Final%20Report/c02](https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Environment_and_Communications/Coal_fired_power_stations/Final%20Report/c02)

<sup>50</sup> <https://reneweconomy.com.au/hunter-valley-group-plans-to-re-open-australias-dirtiest-coal-generator-46960/> Hunter Valley group plans to re-open Australia's “dirtiest” coal generator Giles Parkinson, March 2019

<sup>51</sup> <https://climateanalytics.org/briefings/evaluating-australias-climate-policy-action/>

<sup>52</sup> <https://www.smh.com.au/business/markets/santos-coal-seam-gas-plan-still-has-hurdles-to-clear-nsw-government-20190621-p5202c.html> Santos coal seam gas plan still has hurdles to clear NSW government Peter Hannam and Nick Toscana June 2019

<sup>53</sup> <https://reneweconomy.com.au/4-degrees-separation-santos-proves-gas-not-climate-solution-87779/> 4 degrees of separation: Santos proves gas not climate solution Renew Economy Daniel Gocher May 2017

<sup>54</sup> ABC 7.30 Report 20.8.19

AGL, historically the largest provider of natural gas to NSW, made the strategic decision to exit gas exploration and production entirely in 2016 and focus on “renewable-focused and customer driven” energy production<sup>55</sup>.

In 2013 Dart Energy “mothballed” its NSW coal-seam gas operations<sup>56</sup>, and in 2015 Metgasco accepted government compensation to end CSG exploration and extraction at Bentley. Both these proposals faced committed local opposition<sup>57</sup>, as did AGL in Gloucester<sup>58</sup>. In 2014 Tweed Shire Council wrote to the Department of Planning and Infrastructure to reaffirm their position that the Tweed Shire be free of CSG and other unconventional gas operations<sup>59</sup>. In 2016 Lismore City Council called on the state government to declare the North Coast region a CSG/unconventional gas exclusion zone, similar to those in the Hunter protecting the wine and horse training industries<sup>60</sup>.

In 2018 Newcastle City Council voted unanimously to oppose Asset Energy’s seismic testing and offshore mining development, reflecting the community opposition from environmental groups, locals and fisheries<sup>61</sup>.

Gas prices remain high and we continue to rely on it to meet peak demand. The transformation of the domestic gas industry from a local industry to one which sells two-thirds of our gas to Asia has seen international prices for gas set the high domestic price. There is the real risk that investing in more gas for the domestic market will lock in high electricity prices and pollution, whereas renewable energy production places downward pressure on electricity bills simply because renewable energy production is cheap to run.

A proposal to build a CSG import terminal at Port Kembla<sup>62</sup> to “secure” 70% of NSW’ gas needs, and for another proposed import terminal at Newcastle to “supply” 80% of NSW gas needs<sup>63</sup> when our substantial gas reserves are being sent offshore, flies in the face of economic reasoning. These proposals will ensure Australia’s Paris Agreement targets are *not* met. NSW consumers should *not* be paying additional costs, both in monetary and environmental terms, for Australian gas.

Bruce Robertson from IEEFA points out:

*“Hearing Australia’s New South Wales government rush through two import gas terminal approvals is like revisiting the fantasy world of Mary Poppins. **We don’t need the expense of LNG import terminals** and particularly not the cost of liquefaction. Each time our gas leaves*

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<sup>55</sup> <http://www.theaustralian.com.au/business/mining-energy/agl-abandons-csg-as-prices-fall/news-story/daeb23cbafad4646f091f6236096af4c> AGL Abandons CSG as prices fall out of gas, The Australian Feb 2016 Matt Chambers

<sup>56</sup> <http://www.theaustralian.com.au/business/mining-energy/dart-energy-withdraws-from-csg-projects-as-state-ruling-bites/news-story/3b8e6db62410b6e03b702fa9da14fd> Dart Energy withdraws from CSG projects as state ruling bites

<sup>57</sup> <https://www.northernstar.com.au/news/adios-amigos-peter-henderson-exits-metgasco/30337162/NEWS> Hamish Broome 1st June 2016

<sup>58</sup> <http://www.theherald.com.au/story/3706071/agl-withdraws-from-gloucester-gas-project-photos/> AGL withdraws from Gloucester gas project Newcastle Herald Matt Carr February 2016

<sup>59</sup> <http://www.tweed.nsw.gov.au> Coal Seam Gas Tweed Shire Council, Feb 2017

<sup>60</sup> [http://www.lismore.nsw.gov.au/cp\\_themes/default/page.asp?p=DOC-QDF-04-78-50](http://www.lismore.nsw.gov.au/cp_themes/default/page.asp?p=DOC-QDF-04-78-50) Lismore City Council CSG resolutions

<sup>61</sup> <https://www.sbs.com.au/news/oil-companies-environmental-plans-to-become-more-transparent-under-new-rules> A new government regulation was enacted today which forces oil companies’ environmental plans to be made public for consultation before they are approved. Catriona Stirrat, APRIL 2019

<sup>62</sup> <https://www.nsw.gov.au/news-and-events/news/port-kembla-gas-terminal-gets-planning-approval/>

<sup>63</sup> <https://www.australianmining.com.au/oil-gas/newcastle-lng-terminal-receives-critical-project-status/> Newcastle LNG terminal receives critical project status, August 2019

*the country, it is liquefied. As we will be stupendously buying our own gas back, it will need to be shipped across oceans to us, and then taken through the re-gasification again. The cost of liquefaction, shipping and re-gasification will be worn by the customer, not the gas suppliers* <sup>64</sup>.

The falling cost of renewables puts any expensive fossil fuel at risk of becoming an uncompetitive stranded asset. With increasing renewable energy ready for export to the grid, and continued advances in electric technology, energy efficiency and lower costs, transition from gas is both feasible and currently underway<sup>65 66</sup>. Progression of any gas project will delay the uptake of renewable energy systems.

Analysis shows that historical high gas prices have collapsed demand for gas powered electricity. Gas usage for power generation is at its lowest level in a decade at just 7.9% of Australia's National Energy Market in 2018. Demand for gas generated electricity in eastern Australia has declined 41% since 2014. Simply put, gas is not a transition fuel in Australia. It is too expensive<sup>67</sup> and environmentally damaging.

The Australasian Centre for Corporate Responsibility (ACCR) resolutions to be presented to Origin's October 2019 AGM highlight the public awareness of the diminishing role for gas<sup>68</sup> -

*"Climate targets: The IPCC 1.5°C report recommends that in order to reach net zero carbon emissions by 2050, gas must play a diminishing role in primary energy supply. Failing to limit global warming to 1.5°C will seriously impact the functioning of our financial systems and society at large. Companies which do not put in place appropriate plans will likely face rapid and terminal loss of social license and value. We are urging Origin to set and publish short, medium and long-term emissions reduction targets aligned with the Paris Agreement.*

Notwithstanding community disapproval, Origin along with Santos, continue to call on governments to "unlock" gas resources<sup>69</sup>. However, just because NSW has an abundant supply of gas resources does not justify its extraction. In light of the industry's poor environmental record, climate impacts and domestic unaffordability, we should be prioritising the advancement of clean, renewable energy.

## Energy in Transport:

Australia's reliance on imported liquid fuels has increased significantly over the past two decades. The Greens New South Wales recognise that the global supply of oil will reach a maximum in the future and

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<sup>64</sup> 2019 <http://ieefa.org/federal-government-needs-to-stop-the-magical-gas-merry-go-round/> *New LNG import terminals will further increase energy costs for consumers* Bruce Robertson August 2019

<sup>65</sup> [https://www.nrdc.org/experts/merrian-borgeson/ca-billion-efficiency-now-open-electrification?fbclid=IwAR3PbpL3b9MqxDCtE6sR9ppfkvFp0TbrO\\_U7E\\_uoQwfNBJWcooy8\\_v7aXU](https://www.nrdc.org/experts/merrian-borgeson/ca-billion-efficiency-now-open-electrification?fbclid=IwAR3PbpL3b9MqxDCtE6sR9ppfkvFp0TbrO_U7E_uoQwfNBJWcooy8_v7aXU) *CA's \$1 Billion for Efficiency Now Open to Electrification* August 2019 Merrian Borgeson, NRDC

<sup>66</sup> <https://renew.org.au/research> *Renew Research Are we still cooking with gas?*

<sup>67</sup> <http://ieefa.org/the-staggering-cost-of-gas-in-australia/> *IEEFA update: The staggering cost of gas in Australia*, Bruce Robertson July 2019

<sup>68</sup> <https://accr.org.au/2019/07/29/origin/>

<sup>69</sup> Sydney Morning Herald, August 2019 *Energy Giants urge states to 'unlock' resources*, Sydney Morning Herald, August 2019 Nick Toscano



that growing demand and declining supply will lead to escalating prices and increasing scarcity. It is therefore imperative that the transition to non-fossil fuel power and energy takes place as quickly as possible.

The transport sector is Australia's second largest source of greenhouse gas emissions. In NSW it is responsible for 27.4 million tonnes of emissions – equivalent to the emissions of three Liddell fired power stations. NSW has the unenviable lead compared to other States in transport emissions<sup>70</sup>.

With an abundance of diverse energy resources and the global transport sector moving towards an electric future, our governments should prioritise domestic electricity generation to improve Australia's fuel security and bring forward the benefits of electric and automated vehicles.

A new report from French-based global banking group BNP Paribas<sup>71</sup> confirms this – showing that a mixture of solar, wind and electric vehicles can deliver more than six times the “mobility” returns on each dollar invested than oil and demonstrates the huge capital efficiency of wind, solar and EVs over the petroleum industry.

### **The death toll for petrol:**

*With 36% of demand for crude oil today accounted for by LDVs and other vehicle categories susceptible to electrification, and a further 5% by power generation, the oil industry has never before in its history faced the kind of threat that renewable electricity in tandem with EVs poses to its business model: a competing energy source that*

*(i) has a short-run marginal cost (SRMC) of zero,  
(ii) is much cleaner environmentally,  
(iii) is much easier to transport, and  
(iv) could readily replace up to 40% of global oil demand if it had the necessary scale. We conclude that the economics of oil for gasoline and diesel vehicles versus wind- and solar-powered EVs are now in relentless and irreversible decline, with far-reaching implications for both policymakers and the oil majors.”*

The NRMA's 'The Future is Electric' report<sup>72</sup> (2017) highlights the transition to electric vehicles would provide significant benefits across energy, transport, public health, infrastructure and industry development and that carbon emissions from vehicles could be reduced by 90%. The transition to electric vehicles has already been embraced in other countries.

The report notes with the cessation of Australian commercial vehicle manufacturing, we are fully reliant on importing vehicles for personal and commercial use. With such a significant emphasis on electrification

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<sup>70</sup> <https://www.climatecouncil.org.au/resources/transport-climate-change/> *Waiting for the Green Light: Transport solutions to Climate Change*, Climate Council September 2018

<sup>71</sup> <https://investors-corner.bnpparibas-am.com/investment-themes/sri/petrol-eroci-petroleum-age/> *wells, wires, and wheels... - Eroc and the tough road ahead for oil*. Mr. Mark Lewis ,global head of sustainability research BNP Paribas asset management August 2019

<sup>72</sup> <https://www.mynrma.com.au/community/news-and-media-centre/the-future-of-cars-is-electric>

worldwide, particularly among major vehicle manufacturers and markets, it's important that we plan and prepare for an expanded electric vehicle fleet in Australia.

This will necessitate government action to bring forward initiatives so that the benefits of electric and automated vehicles can be made available to the people of NSW. NSW needs to set targets for zero vehicle emissions and ensure that all cost benefit analyses for transport project business cases account for the greenhouse gas pollution that projects will lock in over their lifetime<sup>73</sup>.

The City of Newcastle is again at the leading edge of future sustainable transport initiatives through a suite of projects currently underway under the Smart Move Newcastle (SMN) program<sup>74</sup>. Smart Move Newcastle, which is a component of the Newcastle Smart City Strategy 2017-2021<sup>75</sup>, includes provision for the installation of a city network of electric vehicle charge points to support and facilitate the projected uptake of privately-owned electric vehicles (EVs).

The SMN project also includes a focus on distributed energy generation and storage as a means to leverage the adoption of EVs as a necessary precursor to a renewable-powered network more broadly<sup>76</sup>. Longer term, the SMN project will look at aggregating city-wide solar energy generation, battery storage, and predictive analytics and demand management to supply power to the EV network. An 'E-Transit Hub' was installed at a Council facility in the Newcastle CBD in late July this year; the charging station is the first to roll out across the city and includes a 44kW solar car park cover, three EV chargers and more than 120kWh of battery storage. Three other EV charging sites are planned for the CBD for installation by early 2020. The City is also currently planning the expansion of the public EV network to other suburbs<sup>77</sup>, and has identified an opportunity to work on a wider charging network plan with neighbouring Councils to ensure that there is an efficient and well-located network of charge points<sup>78</sup>.

## Energy Efficiency:

Energy efficiency measures which result in a reduction in overall energy use offer major economic, social and environmental benefits, including by lowering energy costs, improving air quality, removing the need for new generating capacity and reducing greenhouse gas emissions. At the same time, energy consumption, on both a per capita and an overall basis, should be reduced to lower greenhouse gas emissions and conserve resources.

The Energy Efficiency Council's 'The World's First Fuel Report'<sup>79</sup> shows if Australia adopted leading international practices in energy efficiency, we could:

- Slash the energy bills of households and businesses by \$7.7 billion a year

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<sup>73</sup> <https://www.climatecouncil.org.au/resources/transport-climate-change/> *Waiting for the Green Light: Transport solutions to Climate Change* Climate Council September 2018

<sup>74</sup> <https://www.infrastructure.gov.au/cities/smart-cities/collaboration-platform/Smart-Move-Newcastle-Intelligent-Mobility-Energy-and-Data.aspx>

<sup>75</sup> <https://www.newcastle.nsw.gov.au/Living/Our-City/Smarter-Living/Strategy-and-Actions>

<sup>76</sup> <https://citiespowerpartnership.org.au/sustainable-transport-achievement-shortlisted-finalists/>

<sup>77</sup> <http://newcastle.nsw.gov.au/Council/News/Latest-News/City-prepares-for-electric-vehicle-future>

<sup>78</sup> <http://newcastle.nsw.gov.au/getattachment/0be64446-5b11-4306-ae4e-de5ceae90cdb/Ordinary-Council-Meeting-Agenda-27-November-2018.aspx>

<sup>79</sup> <http://www.eec.org.au/news/eec-news/article/australia-is-on-its-knees-while-world-leaps-ahead-on-energy-efficiency>  
*Australia Is On Its Knees While World Leaps Ahead On Energy Efficiency* June 2019



- Create 120,000 extra jobs; and
- Meet half of Australia's commitment to reduce emissions by 26-28 per cent by 2030.

Reducing our demand for energy and better aligning when we generate and use energy dramatically reduces the cost of generation, storage and network infrastructure. The report states that Australia is ranked as the worst developed country for energy efficiency policy and performance, resulting in energy bills and greenhouse gas emissions being far higher than they need to be<sup>80</sup>.

The Energy Efficiency Council report makes strong recommendations that Australian states should and can undertake, including complementing national targets with their own targets, and most critically, putting mechanisms in place, including allocating funding and improving governance, to ensure that new or existing targets are met.

An independent review carried out earlier this year found the ACT's Energy Efficiency Improvement Scheme (EEIS) is achieving its four objectives of encouraging efficient use of energy, reducing emissions, reducing energy use, and reducing costs for households, businesses and low-income households.<sup>81</sup>

Canberrans saved a total of \$240 million, including \$15 million saved off the energy bills of low-income households. Average weekly savings are \$5.65 for participating households and \$57 for participating businesses. Importantly, the total savings achieved by EEIS is four times greater than the running costs of the scheme. The existing scheme has assisted more than 45% of Canberra households, including low income priority households and rental properties.

## Newcastle and the Hunter Regions:

The Newcastle and Hunter regions bear considerable adverse impacts and the costly environmental legacy from reliance on coal mining and production. Transition from coal is overdue. In 2017 Audrey Zibelman announced that energy transition to renewables is inevitable and unstoppable. Coal and gas fired generators aren't in the picture – they are, simply put, too expensive to the community to consider<sup>82</sup>. However, a just transition out of coal (and gas) will not commence until we cease allowing new or expanding fossil fuel infrastructure.

NSW needs an independent statutory authority to oversee an orderly transition away from fossil fuel energy production.

We need environmental laws that achieve justice for communities fighting to protect their air quality, water resources and biodiversity, the impacts of climate change, and who value the notion of intergenerational equity.

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<sup>80</sup> *The 2018 International Energy Efficiency Scorecard*, American Council for an Energy Efficient Economy, Washington DC Castro-Alvarez, F., Vaidyanathan, S., Bastian, H., & King, J., 2018

<sup>81</sup> [https://www.cmtedd.act.gov.au/open\\_government/inform/act\\_government\\_media\\_releases/rattenbury/2018/Energy-efficiency-delivering-big-savings-for-Canberrans](https://www.cmtedd.act.gov.au/open_government/inform/act_government_media_releases/rattenbury/2018/Energy-efficiency-delivering-big-savings-for-Canberrans) *New Energy Efficiency Scheme to address climate change and reduce energy bills* Press Release; also see <https://reneweconomy.com.au/new-energy-efficiency-scheme-to-address-climate-change-and-reduce-energy-bills-72782/>

<sup>82</sup> <http://reneweconomy.com.au/how-aemos-new-boss-will-reform-australias-energy-vision-37484> Renew Giles Parkinson Mar 2017

Transition planning for the retirement of aged systems requires timelines and support for workers and their communities but has been consistently delayed by governments. Professor Roy Green, Port of Newcastle Chair, forewarned of the imminent changes that will occur to the Hunter region with the inevitable transition to renewable energy, noting the reality that diversifying economic reliance on coal will take years to create the necessary momentum and decades to fully take effect<sup>83</sup>.

The CFMMEU has recognized that the energy transition underway will see continued coal infrastructure closures<sup>84</sup>. Many studies have been carried out that show a renewable energy future can offer a new framework for traditional employment in regions affected by the inevitable demise of fossil fuel industries and some initiatives are underway now in the Hunter Region<sup>85</sup>.

The 2019 report *Weathering the storm: The case for transformation in the Hunter Valley*<sup>86</sup>, highlights that without investment in alternative employment and industry, more than 5,000 jobs and \$705m in wages could be lost if global declines in coal occur as predicted.

The Australian National Outlook 2019<sup>87</sup> presents a convincing view of Australia's future both from a 'Slow Decline' ((if business and governments fail to take significant action on identified challenges)) and an 'Outlook Vision' that involves focusing on long term goals. The report nominates five main 'shifts' to Australia's future, of which Energy is included<sup>88</sup>:

*An Energy Shift will manage Australia's transition to a reliable, affordable, low-emissions energy economy that builds on Australia's existing sources of comparative advantage.*

- *Manage the transition to renewable sources of electricity, which will be driven by declining technology costs for generation, storage and grid support*
- *Improve energy productivity using available technologies to reduce household and industrial energy use*
- *Develop new low-emissions energy exports, such as hydrogen and high-voltage direct current power*

## Social Licence:

A social licence to operate is considered one of the top risks facing mining<sup>89</sup>. When companies and governments lose community trust, conflict occurs.

Through its pledge made under the Paris Agreement, The Australian Government has made a political commitment to other nations to reduce its emissions and contribute to the global goal of achieving net-zero emissions by 2050. But Australia's greenhouse gas emissions continue to rise, and Australia remains one of the few OECD countries promoting investment in new domestic coal-fired power.

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<sup>83</sup> <https://www.theherald.com.au/story/6180440/planning-for-change-just-makes-good-sense/> Port of Newcastle chair Roy Green says Hunter can't rely on being protected from history's headwinds, Roy Green, May 2019

<sup>84</sup> <https://me.cfmmeu.org.au/news/new-independent-authority-needed-manage-transition-energy-workers>

<sup>85</sup> <https://www.energyinnovation.net.au/project/the-hunter-energy-transition-alliance> Hunter Energy Transition Alliance

<sup>86</sup> [https://www.lockthegate.org.au/weathering\\_the\\_storm\\_transforming\\_the\\_hunter\\_valley](https://www.lockthegate.org.au/weathering_the_storm_transforming_the_hunter_valley) *Weathering the storm: The case for transforming the Hunter Valley* Neil Perry, Jan 2019

<sup>87</sup> <https://www.csiro.au/en/Showcase/ANO> - Australian National Outlook, 2019

<sup>88</sup> <https://www.csiro.au/en/Showcase/ANO>

<sup>89</sup> <https://www.csiro.au/en/Research/MRF/Areas/Community-and-environment/Social-licence-to-operate/Voconiq>

As a member of the G20, Australia has committed to the phase out of inefficient fossil fuel subsidies over the medium term, as agreed in 2009. As a signatory of the Convention on Biological Diversity (Aichi Target 3), it has also committed to phasing out environmentally harmful subsidies, including those to fossil fuels, by 2020 (UN, 1992). However, the Government continues to provide significant support towards the production and consumption of all fossil fuels and fossil fuel powered electricity<sup>90</sup>.

As a consequence, many in the community are taking action. Civil disobedience is rising<sup>91</sup>. The extent of consistent negative economic, scientific, political, environmental, and legal coverage via the media about government inaction on both renewable energy opportunity versus continued reliance on fossil fuels has never been greater.

Climate change related litigation is taking place globally<sup>92</sup> and will inevitably occur in Australia. Comments from the Australian Securities and Investments Commission, the Australian Prudential Regulatory Authority and the Reserve Bank of Australia are testament to this<sup>93</sup>. These organisations have all cited risks posed by climate change as a central concern for our economy and financial stability.

It has been asserted that, if the stewards of public authorities are failing to account for climate risk in their decision making, this represents a dereliction of the responsibility of these entities to contribute to the broader government promises made internationally<sup>94</sup> to achieving global zero emissions by 2050.

The Newcastle Greens believe it is incumbent on the NSW Government to immediately re-examine their approach to assessing and mitigating climate change risks, independent of and largely due to the lack of Federal Government initiatives and policy<sup>95,96</sup>.

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<sup>90</sup> <https://www.odi.org/publications/11360-g20-coal-subsidies-australia> *G20 Coal subsidies: Australia Research reports and studies June 2019*, The Overseas Development Institute ODI

<sup>91</sup> <https://www.theguardian.com/environment/2019/aug/22/australias-climate-change-inaction-is-now-bipartisan-protest-is-all-we-have-left> *Australia's climate change inaction is now bipartisan. Protest is all we have left* Jeff Sparrow The Guardian August 2019

<sup>92</sup> <https://www.theguardian.com/environment/2018/mar/20/can-climate-litigation-save-the-world> *Can climate litigation save the world?* Damian Carrington March 2018

<sup>93</sup> <https://www.canberratimes.com.au/story/6184421/brace-for-impact-climate-change-litigation-is-fast-approaching> May 2019 Arthur Marusevich, May 2019

<sup>94</sup> <https://cpd.org.au/wp-content/uploads/2019/02/CPD-Discussion-Paper-Public-authority-directors-duties-and-climate-change.pdf> *Public Authority Directors' Duties and Climate Change*, CPD Jan 2019 *Policy Implications of Failure of Public Authorities to Account for Climate Risk*

<sup>95</sup>

[https://d3n8a8pro7vnm.cloudfront.net/edonsw/pages/5668/attachments/original/1561084199/190601\\_Environmental\\_and\\_Planning\\_Law\\_in\\_the\\_Age\\_of\\_Human\\_Rights\\_and\\_Climate\\_Change.pdf?1561084199&utm\\_source=eBulletin+list+June+2018&utm\\_campaign=23c1a5e4d6-eBull21June2019&utm\\_medium=email&utm\\_term=0\\_0aa74baca5-23c1a5e4d6-109501](https://d3n8a8pro7vnm.cloudfront.net/edonsw/pages/5668/attachments/original/1561084199/190601_Environmental_and_Planning_Law_in_the_Age_of_Human_Rights_and_Climate_Change.pdf?1561084199&utm_source=eBulletin+list+June+2018&utm_campaign=23c1a5e4d6-eBull21June2019&utm_medium=email&utm_term=0_0aa74baca5-23c1a5e4d6-109501) *Environmental and Planning Law in the Age of Human Rights and Climate Change* The Hon Michael Kirby AC CMG

<sup>96</sup> <https://www.theguardian.com/australia-news/2019/may/13/torres-strait-islanders-take-climate-change-complaint-to-the-united-nations> *Climate change litigation against the Australian government* May 2019 Katharine Murphy

## Conclusion:

A 100% renewable energy future will improve our health and environment, will sustain local investment and opportunity and employment, and enhance our region's proven capacity for innovation, technology, manufacturing, agriculture, tourism and service industries. The present growth in renewables is being driven by the fact that they are now cheaper to build than any other new generation infrastructure, as well the fact that renewable energy production places downward pressure on electricity bills simply because its production is cheap to run.

The NSW Government must focus on delivering a fairer, zero emissions electricity grid that works in the interest of our community. The Government has an obligation to provide certainty to industry, local Councils and the community. This obligation is centred upon the Government's role to provide planning and development policy that is best for the community, not best for short-term fossil fuel industry profits, by providing clear guidance on climate change considerations.

The Newcastle Greens is on the record, having long promoted the benefits of diversifying from reliance on fossil fuels. There is more than substantial evidence to show that we can limit climate change impacts without reducing energy use if we switch to renewable energy<sup>97</sup>. Continuing with outdated technology and polluting systems undermines the potential of renewable energy to replace fossil fuel dependence, as well as the opportunities renewable energy affords to expand the range of emerging technologies, services and employment opportunity for the people living in our region.

We need a bipartisan approach and commitment to a clean, affordable and safe energy future. To achieve this, we need to work together with a clear vision in mind.

We urge this Inquiry to fully consider Greens NSW Climate Change and Renewable Energy Plan 2019 in its deliberations<sup>98</sup>.

## Key Recommendations:

**Invest in renewable energy:** Commit \$1 billion to support local community renewable projects, and a further \$1.5 billion a year in large-scale, publicly owned renewable energy projects.

**Upgrade the power grid:** Build much-needed new public network infrastructure, connecting our abundant renewable energy resources to the National Electricity Market.

**Invest in household solar and batteries:** Provide rebates for one more than million households to install solar panels and battery storage.

**Invest in clean energy storage:** Increase NSW's energy storage infrastructure, ensuring NSW has a clean, publicly owned and reliable energy supply for the future.

**Quit coal by 2030:** Make it illegal to mine, burn or export thermal coal by 2030, and use the auctioning of pre-2030 export permits to finance a Clean Energy Transition Fund.

**Support the transition from coal:** Fund a ten-year plan to support workers and communities who currently depend on the coal industry to develop new skills and opportunities.

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<sup>97</sup> <https://reneweconomy.com.au/aemo-models-step-change-shift-to-renewables-for-20-year-planning-blueprint-97802/>  
AEMO models "step change" shift to renewables for 20-year planning blueprint, Giles Parkinson August 2019

<sup>98</sup> <https://greens.org.au/nsw/renewables#powernsw>