



Phillip Riley Research Series

The Future Is Renewable: Targets and Policies By Country

Australia: South Australia,
Victoria & New South Wales |
March 2017



PHILLIP RILEY

Introduction

This Phillip Riley research series is an investigation into the renewable energy policies of Australia, the United States and various Asia Pacific nations. The reports look into the countries' renewable energy potential, climate change targets and the success of their policy to date. Each report focuses on the current and future use of renewable energy and takes into account the political, geographical and economic challenges unique to each nation.

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Author:

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Targets and Policies By Country: South Australia, Victoria & New South Wales

South Australia

Through early investment in renewable energy, South Australia has positioned itself as a leader within the renewable energy field. The state distinguishes itself from others as although there are significant reserves of fossil fuels present, their energy mix is not dependent on coal. South Australia's energy generation is lead by natural gas, which is closely followed by wind power. The current renewable energy target in South Australia aims to increase the state's renewable energy production to 50% by 2025 and achieve net-zero emissions by 2050¹. The state has also committed to an investment target of \$10 billion in low carbon generation by 2025¹. This transition to clean energy has already begun to take place with the closure of a number coal-fired power plants in Port Augusta. As mentioned in the previous report, state wide blackouts have occurred in South Australia resulting from too many intermittent systems coupled with a severe storm and subsequently, a heatwave. This has resulted in some scepticism towards other states in Australia transitioning toward renewable energy. Despite this scepticism, the South Australian Government has implemented a number of programs and plans to promote investment in the renewable energy sector. Although recently South Australia has received criticism, hopefully with the continued development and research into renewable energy, the state is able to overcome these problems and achieve their long-term targets.

South Australia's current energy mix consists of a large proportion of renewable energy, especially when compared to other Australian states. The recent decline in the generation of fossil fuels has positioned South Australia as the renewable energy

¹<http://www.renewablessa.sa.gov.au/>

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leader within Australia. Of the fossil fuels that are currently being generated, natural gas and coal contribute the most, respectively. Although a larger proportion of natural gas is generated, South Australia has placed an emphasis on reducing their generation of coal. This is due to a number of reasons, namely, natural gas is better coupled with more intermittent systems (such as wind and solar power – which South Australia is highly dependent on) and it produces less carbon dioxide emissions per joule than compared to coal.

In order to significantly reduce their generation of coal, South Australia announced the permanent closure of the only two coal-fired power plants within the state. Located in Port Augusta, the coal-fired power plants produced over 50% of the state's carbon dioxide emissions from electricity generation². As of early 2016, neither of the plants are in operation, however are yet to be replaced. This has left an empty market and loss of jobs in Port Augusta. There have been recent campaigns to replace the plants with a solar thermal power station. This would not only create many jobs in the region, but also replace those jobs lost within the coal industry. The solar thermal project is currently in planning, however will be difficult to build without appropriate funding from the government³.

In order to support renewable energy investment and growth within South Australia, RenewablesSA⁴ was developed by the state government. RenewablesSA is responsible for a number of documents outlining how South Australia will transition towards clean energy. In 2011, RenewablesSA developed a Renewable Energy Plan for South Australia⁵. The plan outlines a number of initiatives to promote renewable energy growth, including grants to support renewable energy research. The plan also looks

² <https://www.theclimategroup.org/sites/default/files/archive/files/Greenhouse-Indicator-Generation-Report-2009.pdf>

³ <http://www.abc.net.au/news/2016-09-12/port-augusta-solar-project-needs-100-million-to-shine/7837292>

⁴ <http://www.renewablesa.sa.gov.au/>

⁵ RenewablesSA, A Renewable Energy Plan for South Australia, 2011, <http://www.renewablesa.sa.gov.au/files/111019-renewable-energy-plan-for-south-australia.pdf>

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into developing legislation which would provide access for renewable investors to government owned land. This bill has since been passed through both the upper and lower houses⁶.

When the South Australian Renewable Energy Plan was developed, the state target at the time was to increase renewable energy production to 33% by 2020⁷. During this period, there was also a national renewable energy target in place. This target was to increase Australia's renewable energy production to 20% by 2020⁸. Through the development of the Renewable Energy Plan, allowing early investment in renewable energy technologies, South Australia achieved both these targets over seven years ahead of schedule. Following the early achievement of the 2020 state target, a new target for 2025 was set in 2014. The new state target aims to increase renewable energy production to 50% by 2025.

Alongside the aforementioned 2025 state target, South Australia also saw the implementation of an investment target. Set in 2013, the target aims for South Australia to invest \$10 billion in low carbon generation by 2025⁹. This investment target is unique to South Australia and it places the focus on increasing renewable energy whilst also reducing emissions, the latter of which is sometimes overlooked by other states. In order to help achieve both 2025 targets, RenewablesSA developed a Low Carbon Investment Plan for South Australia¹⁰. The plan consists of four key strategies to promote low carbon generation investment. A strategy included under this plan is the Bio-energy Roadmap for South Australia¹¹. As bio-energy is not a well

⁶ <http://www.austlii.edu.au/au/legis/sa/bill/plmaceab2014618/>

⁷ RenewablesSA, Projected Carbon Intensity for South Australian Renewable Energy Target in 2020, 2010, <http://www.renewablesa.sa.gov.au/files/1j1869-final-report-projected-carbon-intensity-for-south-australian-renewable-energy-target-in-2020-feb2010.pdf>

⁸ Clean Energy Regulator, History of the Scheme, 2016, <http://www.cleanenergyregulator.gov.au/RET/About-the-Renewable-Energy-Target/History-of-the-scheme>

⁹ RenewablesSA, Proposed Economic Targets for Low Emission Investment in South Australia, 2013, <http://www.renewablesa.sa.gov.au/files/130930-final2-report-for-dmitre.pdf>

¹⁰ RenewablesSA, A Low Carbon Investment Plan for South Australia, 2015, <http://www.renewablesa.sa.gov.au/files/93815-dsd-low-carbon-investment-plan-for-sa-final-web-copy.pdf>

¹¹ Jacobs/RenewablesSA, A Bio-energy Roadmap for South Australia, 2015, <http://www.renewablesa.sa.gov.au/files/a-bioenergy-roadmap-for-south-australia--report--version-1-appendix-a-removed.pdf>

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developed renewable energy within the state, this roadmap intends on laying the foundation for new bio-energy projects. Another strategy included in the plan is providing support for Adelaide's first hybrid-electric car share initiative. This incorporates solar photovoltaic and battery storage within Adelaide's central business district. Through supporting GoGet, Australia's largest car share company, this project aims to provide individuals with experience driving an electric vehicle and in turn, increasing awareness and acceptance of electric vehicles. South Australia is on trend to achieve both 2025 targets. As of 2015-16, South Australia had invested \$7.1 billion in low carbon investment and approximately 43% of electricity produced within the state was from renewable energy sources¹².

Despite being on track to achieving both 2025 targets, South Australia recently received criticism following two instances of state wide blackouts. The blackout in 2016 was caused as a result of a storm causing damage to electricity transmission infrastructure. This resulted in a state wide (excluding Kangaroo Island) blackout. The second blackout occurred in 2017 and resulted from an extended heatwave alongside issues with transmission lines (causing certain generators not able to be turned on). These factors, resulted in the demand for electricity exceeding generation. Federal Minister for Energy, Josh Frydenberg stated that the lack of power was caused by wind power only providing 2.5% of South Australia's energy needs. He then continued by saying that this amount is a lot less than expected, and that this uncertainty is one of the problems associated with intermittent systems¹³. In these two instances South Australia has experienced some difficulties in the delivery of energy generated from renewable sources. However, hopefully with continued development and research into renewable energy storage, the intermittency of the systems is able to be reduced.

¹² The Government of South Australia, South Australia's Renewable Energy Future, 2015, http://www.statedevelopment.sa.gov.au/upload/energy/facts/Renewable%20and%20future%20electricity%20generation_DSD_11216.pdf?t=1481241303925

¹³ <http://www.abc.net.au/news/2017-02-08/sa-heatwave-forces-rolling-blackouts-angering-government/8252512> ⁷

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This would allow for these issues to be overcome, and minimising the likelihood of blackouts in South Australia becoming a recurring situation.

In addition to the 2025 targets sets, South Australia has also developed a 2050 target. This long-term target aims for the state to reach net zero emissions by 2050¹⁴. This 2050 is in line with both Victoria's and New South Wales' 2050 targets. The South Australian State Government also intends to establish Adelaide as the world's first carbon neutral city. The State Government aims to do this through enhancing low-carbon jobs and industries and reducing emissions from waste¹⁵. South Australia appears to be on track to achieve their clean energy targets and have positioned themselves as a renewable energy leader within Australia. The state has achieved this through early and continuous investment into clean energy technologies. Although South Australia has had some recent difficulties in maintaining power generation, hopefully this will not continue into the future. If South Australia continues development, research and investment into renewable energy technology, the state can continue to act as a renewable energy leader within Australia and the rest of the world.

¹⁴ The Government of South Australia, Target Zero, 2015, <http://www.climatechange.sa.gov.au/target-zero/>

¹⁵ The Government of South Australia, Carbon Neutral Adelaide, 2016, http://www.climatechange.sa.gov.au/files/sharedassets/climate_change/carbon-neutral-action-plan.pdf

Targets and Policies By Country: South Australia, Victoria and New South Wales

Victoria

Victoria currently has an ambitious renewable energy target set, helping to reposition them as a clean energy state. Currently, set under the Climate Change Act 2016, Victoria aims to increase their renewable energy generation to 25% by 2020 and 40% by 2025. Victoria's long-term goal under this legislation is to have net zero emissions by 2050¹⁶. As of 2015, renewable energy accounted for approximately 14% of Victoria's electricity generation¹⁷. Both Victoria along with the rest of Australia have had a long history relying on coal to form the majority of their energy mix. As a result, increasing the reliance on renewable sources can only be achieved by a large restructuring of the energy mix – altering Victoria's base load supply. Moreover, the prospect of job loss resulting from the closure of coal fired power stations has also raised public concern. Despite these concerns, Victoria currently has a number of newly implemented strategies and frameworks in place in order to help increase their renewable energy generation. The Victorian State Government has also implemented a more long-term document, the Climate Change Framework, which looks at achieving Victoria's 2050 target. Although Victoria has set ambitious targets, the changes in the sector are yet to be reflected in the state's energy mix.

Coal constitutes a majority of the energy generated within Victoria and has a long history being the dominant energy source. Although the generation of coal within Victoria has decreased slightly in recent years, there is still large dependency on the fossil fuel. Currently it generates approximately 85% of Victoria's electricity

¹⁶[http://www.legislation.vic.gov.au/domino/Web_Notes/LDMS/PubPDocs.nsf/ee665e366dcb6cb0ca256da400837f6b/7BD94EEFDEE4690DCA258073007E0980/\\$FILE/581271bi1.pdf](http://www.legislation.vic.gov.au/domino/Web_Notes/LDMS/PubPDocs.nsf/ee665e366dcb6cb0ca256da400837f6b/7BD94EEFDEE4690DCA258073007E0980/$FILE/581271bi1.pdf)

¹⁷Victoria State Government: Environment, Land, Water and Planning, Victoria's Climate Change Framework, http://www.climatechange.vic.gov.au/_data/assets/pdf_file/0005/369032/DELWP0039_ClimateChange_Framework_v14.pdf 9

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consumption, with wind power being the next major contributor (6%)¹⁷. As such a large and long-term dependency has been placed on coal, this has resulted in some challenges in increasing the proportion of generation from renewable sources. As coal powered stations require a longer period of time to begin generating electricity, after previously being turned off (when compared to natural gas) they are not easily paired with intermittent systems such as wind and solar power. Moreover, switching to renewable energy generation must eventually result in the closure of these coal fired power plants. Therefore in order for Victoria to significantly increase their renewable energy generation and capacity, a large restructuring of the energy system must occur.

Concerns have been raised in Victoria related to the job loss that will follow from the eventual closure of the coal-fired power plants. An example of this took place following the announcement of the closure of the Hazelwood Power Station. The power station, which is located in the Latrobe Valley of Victoria, supplies up to 25% of Victoria's base load electricity supply¹⁸. Although the closure will result in hundreds of workers losing their jobs, the Hazelwood Power Plant was identified in 2005 as one of the most emissions-intensive coal power plants within the OECD¹⁹. The Victorian Government was forced to find a balance between the emissions produced by the plant, and the jobs that would be lost as a result of its closure. In this instance, the choice was easier to make as the Hazelwood Power Station was approaching the end of its operational life. The Victorian government has acknowledged the impact that the loss of jobs will have on this region. A plan to help the transition of the Latrobe Valley community has been included as part of the Climate Change Framework developed in 2016.

Victoria's Renewable Energy Roadmap²⁰ was released in 2015, and outlines initiatives

¹⁸ <http://www.power-technology.com/projects/hazelwood/>

¹⁹ <http://www.wwf.org.au/?2320/Hazelwood-tops-international-list-of-dirty-power-stations#gs.t4eZUh4>

²⁰ Victoria State Government: Department of Environment, Land, Water and Planning, Victoria's Renewable Energy Roadmap, 2015, <http://delwp.vic.gov.au/energy/renewable-energy/?a=351525>

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aimed at accelerating the development of renewable energy in Victoria. The Roadmap achieves this by identifying key areas in which changes can be made. For example, the Roadmap identifies and addresses the current barriers being faced by distributed generation (locally generated electricity that is fed back into the grid, e.g. solar panels on a residential roof) and storage. It is acknowledged in the roadmap that currently the process that connects distributed generation to the grid is not transparent, consistent nor customer friendly. The current framework prevents the installation of distributed generation projects with those in rural areas, low-income households and rental tenants. One of the ways the government intends to improve connection is by reviewing the current technical constraints preventing the connection of distributed energy generation. Through this review, the government is hoping to decrease the current barriers and increase accessibility in connecting to the grid. As the Roadmap was implemented in 2015, it is still too soon to determine if it has successfully increased renewable energy generation in Victoria. However, the Victorian Government has stated that any feedback received from the Roadmap and any further methods developed to promote clean energy will be the basis for the Renewable Energy Action Plan, which is yet to be released.

In Mid-2016, the Victorian State Government announced TAKE2²¹ which is Victoria's commitment to reach net zero emissions by 2050. This commitment was then supported in legislation under the Climate Change Act 2016. TAKE2 is unique as it is the first government-led climate change pledge program within Australia. TAKE2 acknowledges that in order to reduce the impact of climate change, everyone has a role to play. In order to achieve this long-term state goal, TAKE2 takes both a top-down and a bottom-up approach. The program encourages both consumers and businesses

²¹ Victoria State Government: Department of Environment, Land, Water and Planning, TAKE2: Acting Now on Climate Change, 2016, http://www.climatechange.vic.gov.au/data/assets/pdf_file/0006/369033/DELWP0046_ClimateChange_Take2_Summary_singlesector_layout_v19.pdf

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to make pledges alongside the government, to help keep warming under two degrees. In order to achieve both the short-term targets (starting at 2020 and being updated every five years thereafter) and the long-term targets (net zero emissions by 2050), the Victorian Government pledges to cut emissions in its operations and key sectors of the Victorian economy, including agriculture, transport and waste. The State Government intends on doing this through a number of programs including the ResourceSmart Schools²² initiative and the removal of 50 level crossings²³ across Melbourne. As TAKE2 was announced in mid-2016, it is still early on in its development meaning significant changes in Victoria's emissions are yet to be seen. The unique nature of TAKE2 differentiates itself from other projects that have been implemented in Victoria and across Australia. Hopefully this distinctive approach adopted by the Victorian Government will be able to successfully reduce emissions and help keep warming below two degrees.

The Change Adaption Plan (2017-2020)²⁴ was developed to address the short-term targets set by the Victorian Government. Through placing an emphasis on the 2020 target this will help Victoria be on track to achieving its future long-term targets. The plan outlines the government's plan for the next four years to ensure integrated and effective action occurs across all of Victoria's sectors. A particular focus is placed on partnerships. Partnering with local governments allows for this action to be effective and to help reduce the impacts of climate change. An example includes a partnership between the Victorian Government and agricultural industries. This will encourage investment in new technologies and research, allowing the sector adapt with the changing climate. A full list of the actions the Victorian Government has taken under the Climate Change Adaption Plan can be found on page 54 of the plan.

²² <http://www.resourcesmartschools.vic.gov.au/>

²³ <http://levelcrossings.vic.gov.au/>

²⁴ Victoria State Government: Department of Environment, Land, Water and Planning, Victoria's Climate Change Adaption Plan: 2017-2020, 2016,

http://www.delwp.vic.gov.au/_data/assets/pdf_file/0011/369929/Victorias-Climate-Change-Adaptation-Plan-2017-2020.pdf

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The Victorian Government released the Climate Change Framework²⁵ which provides an overview on how Victoria will reach net zero emissions. The framework details all of the programs currently being implemented, and those what will be introduced in the future. In order to achieve net zero emissions by 2050, this requires long term planning, ensuring the Victorian economy is climate-resilient. Moreover, due to Victoria's coal dependence, it also requires transformation to take place in a number of key sectors. An example involves working with the Latrobe Valley to transition, during and following the closure of the Hazelwood Power Station. The Climate Change Framework along with many of the other programs have only recently been implemented within Victoria. As a result, it is difficult to gauge how successful these programs have been. With the Climate Change Act 2016 resulting Victoria's renewable energy targets being set in legislation and many other plans and initiatives underway, it is likely that Victoria will change in the coming years. A transformation in the state's key sectors will hopefully translate to reduced emissions and increased renewable energy technologies.

²⁵ Victoria State Government: Environment, Land, Water and Planning, Victoria's Climate Change Framework, http://www.climatechange.vic.gov.au/_data/assets/pdf_file/0005/369032/DELWP0039_ClimateChange_Framework_v14.pdf

Targets and Policies By Country: South Australia, Victoria and New South Wales

New South Wales

New South Wales has a long history of generating and exporting coal. Many states within Australia have begun to reduce their dependency on coal, however New South Wales has fallen behind. According to the Australian Government, in 2016 New South Wales had the lowest renewable energy supply out of any state²⁶. A reason behind the delayed implementation of renewable energy technologies may be due to the Hunter Valley Coal Chain located within the state. New South Wales has received criticism due to a lack of commitment regarding increasing their renewable energy supply and a reluctance to set a state target. Despite this, of the renewable energy technologies that have been implemented, hydropower generates the most energy. In 2016, the New South Wales Climate Change Policy Framework was developed. Currently under this framework New South Wales has a state target of net zero emissions by 2050, the same as South Australia and Victoria. Moreover, under the implementation of this framework it is required that the New South Wales Climate Change Fund develop a Strategic Plan. The Draft Strategic Plan was released in 2016, with the final Strategic Plan expected to be released in 2021. Although New South Wales has a bad reputation with regards to a dependency on coal and a lack of renewable energy, this may change with the recent development in state programs.

New South Wales is home to numerous coal fired power plants in the Hunter Valley region, and as a result their energy mix has a long history of being dependent on coal. The Hunter Valley Coal Chain²⁷ is located in Newcastle, New South Wales and is the world's largest coal export port, consisting of approximately 35 coal mines²⁸. As a

²⁶ Australian Government, Department of Industry, Innovation and Science, Australian Energy Statistics, <https://industry.gov.au/Office-of-the-Chief-Economist/Publications/Pages/Australian-energy-statistics.aspx#>

²⁷ <https://www.hvccc.com.au/Pages/welcome.aspx>

²⁸ <https://www.hvccc.com.au/AboutUs/Pages/History.aspx>

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result, this region not only generates and exports large amounts of coal but also provides numerous jobs. This may explain New South Wales' reluctance to decrease the high proportion of coal in their power supply. Despite many states beginning the transfer away from coal, the New South Wales State Government is attempting to maintain the productivity within the region. This has been done through the investment of a medium-scale solar thermal energy booster for a coal fired power station within the Hunter Valley region. Although this would result in reduced emissions within the region, in order for New South Wales to significantly reduce their emissions further, more sustainable, renewable energy technologies must be implemented. Furthermore, there has been recent speculation regarding the expansion and reopening of coal mines within the upper Hunter Valley region. This would further impede New South Wales from achieving their renewable energy targets and increase the state's carbon dioxide emissions.

Within New South Wales' electricity supply, hydropower is the third major contributor, following coal and natural gas respectively. The majority of the state's hydropower energy originates from the Snowy Mountains. The Snowy Mountains Scheme²⁹ was originally developed to collect and store water, however the potential for the generation of hydroelectricity within the system soon became apparent. The multi-reservoir hydro scheme, which was completed in 1974, provides 32% of all renewable energy that is available to the eastern mainland grid of Australia³⁰. The scheme generates large amounts of peak-load electricity to New South Wales and the rest of Australia. Although this scheme puts New South Wales forward as a leader in hydroelectric power generation, the technology used is now mature. In order to reposition themselves as the leader of hydropower within Australia, further expansion of this sector must occur. This may include installation of small-scale hydropower

²⁹ <http://www.snowyhydro.com.au/>

³⁰ <http://www.snowyhydro.com.au/our-energy/hydro/the-scheme/>

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facilities and the expansion and refurbishment of existing plants. Although the Snowy Mountains Scheme provides New South Wales with the majority of their renewable energy generation, in order to increase this generation further, a diversification of the sector must occur. As a result the development of a variety of schemes have been developed to expand renewable energy capacity and generation.

The New South Wales Energy Action Plan³¹ was implemented in 2013 and aims to increase renewable investment, and grow renewable energy expertise through research. It is stated in the plan that New South Wales supports the national target of 20% renewable energy by 2020³² (as discussed in the previous report). During this period, New South Wales had not yet set a state renewable energy target. The Energy Action Plan outlines three main goals and numerous actions that will help the renewable energy industry grow efficiently. An example of an action included within the plan, is facilitating the construction of the Solar Flagships Project. The New South Wales Government contributed \$64.9 million in funding for the development of the solar photovoltaic project in Broken Hill and Nyngan. These solar plants, located in rural New South Wales, are expected to power around 50 000 homes and reduce greenhouse gas emissions. Moreover, the plan also goes into the details of each renewable energy type, and the way in which the state government intends on expanding these technologies. The plan also places a specific emphasis on research in this field.

The Energy Action Plan was deemed a success by Leslie Williams (Parliament Secretary for Renewable Energy), stating that in the first year following the plan's implementation, the state government had completed over a third of the actions

³¹ New South Wales Government: Department of Industry - Resources and Energy, NSW Renewable Energy Action Plan, 2013, http://www.resourcesandenergy.nsw.gov.au/_data/assets/pdf_file/0010/475318/nsw-renewable-energy-action-plan.pdf

³² Clean Energy Regulator, History of the Scheme, 2016, <http://www.cleanenergyregulator.gov.au/RET/About-the-Renewable-Energy-Target/History-of-the-scheme>

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outlined the plan³³. However, when a comparison is made to other Australian states, it can be seen that New South Wales has the lowest percentage of renewable energy electricity, and highest consumption of overall energy³⁴. Therefore, in order for New South Wales to significantly increase their renewable electricity, the development of a more holistic, long-term plan needed to occur.

In 2016, the New South Wales Climate Change Policy Framework was released. This framework outlines New South Wales' long-term plans for reducing the impacts of, and adjusting to the changing climate. The framework also outlines the state's 2050 goal of net zero emissions and emphasises the importance of increasing New South Wales' resiliency to climate change. The framework summarises the policy that will need to be set in order to achieve emissions savings and enable effective action on climate change to occur. As an emphasis is placed on policy, the framework acts more as a compilation of the end goals the New South Wales State Government is hoping to achieve. The methods that need to be undertaken in order to achieve these goals are outlined in the Draft Climate Change Fund Strategic Plan

The Draft Climate Change Fund Strategic Plan (2017-2022)³⁵, which was released in 2016, details the priority areas in which the New South Wales Government intends on investing in, in order to reduce the impacts of climate change. The plan states that it will provide funding from the Climate Change Fund towards accelerating advanced energy, national leadership in energy efficiency and preparing for a changing climate. Included in this, New South Wales would see funding put towards clean energy upgrades for rental households, to reduce power bills. The State Government has

³³ New South Wales Government: Department of Industry - Resources and Energy, Report Hails NSW Renewable Energy Plan a Success, 2014, http://www.resourcesandenergy.nsw.gov.au/_data/assets/pdf_file/0005/539501/141222_Report-hails-NSW-Renewable-Energy-Action-Plan-a-success.pdf

³⁴ Climate Council, Game On: The Australian Renewable Energy Race Heats Up, 2016, <http://www.climatecouncil.org.au/uploads/2acac0b824742ec83f99676255ae5a81.pdf>

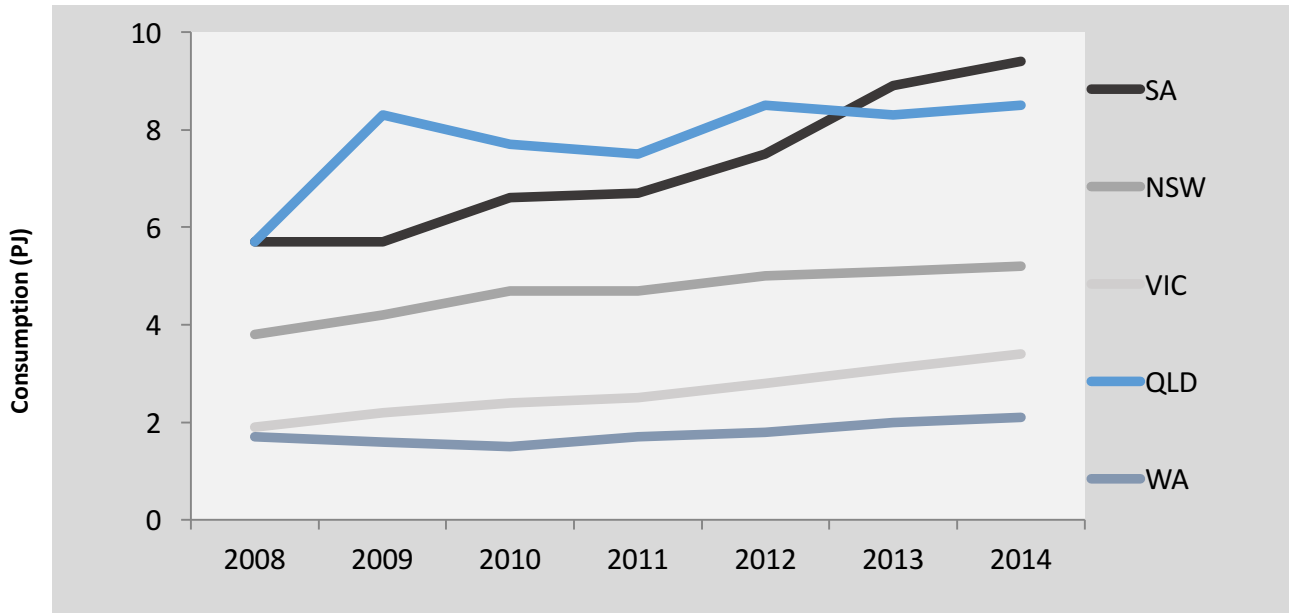
³⁵ New South Wales Office of Environment and Heritage, Climate Change Fund: Draft Strategic Plan 2017-2022, 2016, <http://www.environment.nsw.gov.au/resources/climatechange/Environmentalfuturefundingpackage/draft-climate-change-fund-strategic-plan-20160438.pdf>

Australia: New South Wales

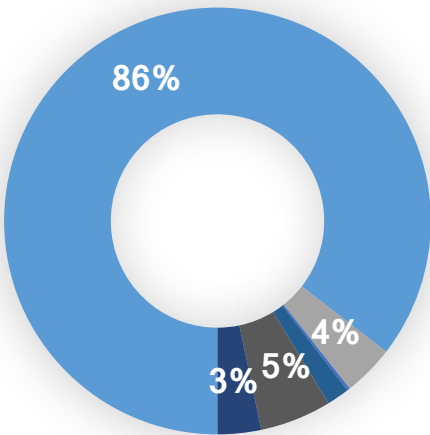
placed an emphasis on this area, as around one third of households within New South Wales are rental households. By providing ratings for rental households, this lets interested parties know which properties are more energy efficient and therefore will have a lower electricity bill. As future-renters are more inclined to opt for the cheaper, more energy efficient option, this encourages landlords to install energy-efficient products, such as solar hot water. A variety of other actions are included in the plan in order to achieve the three priority areas detailed above. Moreover, the plan also acknowledges that in order to achieve net zero emissions, the closure of coal fired power stations must occur. The plan details the closure of the Liddell Power Station and the Bayswater Power Station, and emphasises the importance of a smooth transition into reliable, affordable energy.

The Draft Climate Change Fund Strategic Plan was developed in order to receive the general public's feedback on the actions being undertaken to address the priority investment areas. The New South Wales Government intends on taking into account the feedback received, whilst monitoring the success of the actions under the draft plan. It is stated in the draft plan that the government intends on continuously evaluating the state's progress through the development of annual reports from 2017 onwards. The New South Wales State Government will also release the Climate Change Fund Strategic Plan (2022-2027) in 2021, which looks at the future progression of New South Wales' shift to renewable energy. New South Wales has been slow to plan and implement their renewable energy technologies, which currently, has resulted in minimal changes to their energy mix. However, the recent development of plans and frameworks has hopefully laid the groundwork for change to occur. The development of the 2050 target alongside these documents will hopefully result in increased renewable energy within New South Wales' energy sector in the near future.

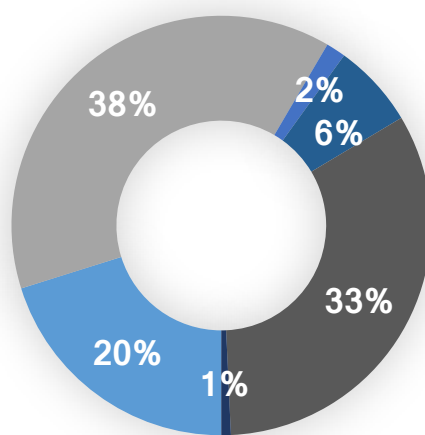
Proportion of Renewable Energy Consumption by State (2008-2014)



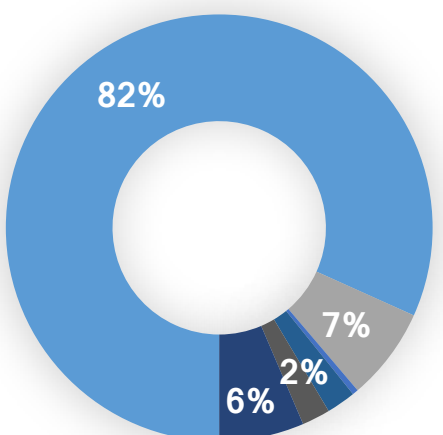
Energy Generation by Source, Victoria (2015)



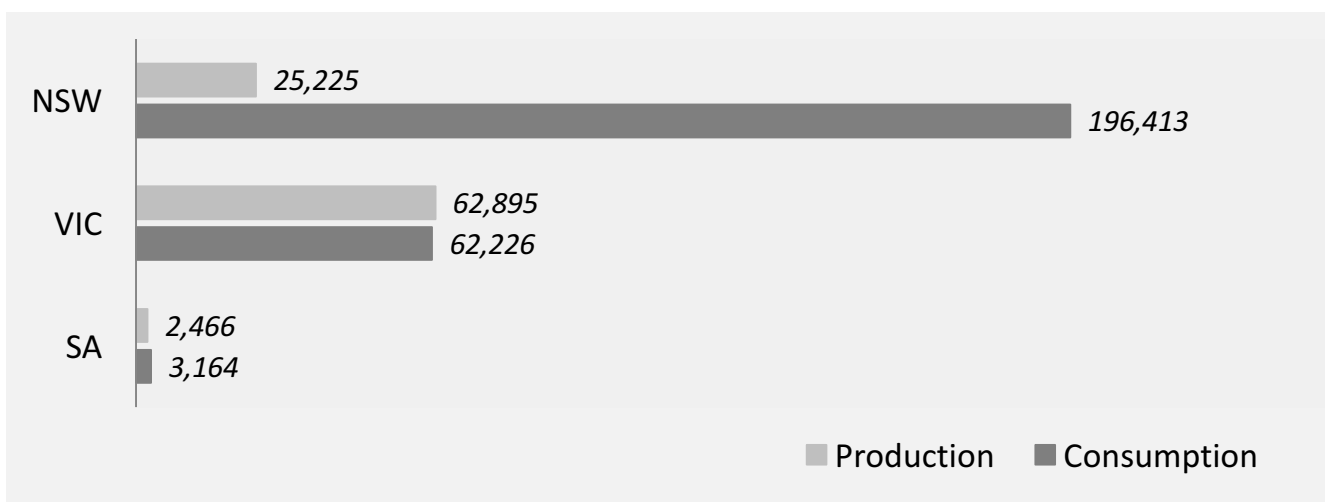
Energy Generation by Source, South Australia (2015)



Energy Generation by Source, New South Wales (2015)



Production and Consumption of Coal by State (kt) (2015)



Further Resources

South Australia

The Government of South Australia, Climate Change, <http://www.climatechange.sa.gov.au/home>

RenewablesSA, Renewable Energy Resource Maps <http://www.renewablesa.sa.gov.au/investor-information/resources>

The Government of South Australia, Zero Waste SA, <http://www.zerowaste.sa.gov.au/>

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