What's next after the RET?

Industry perspectives on our energy policy future

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Introduction

The recent extended drought and catastrophic bushfires have highlighted the growing effects of climate change and the need for a net-zero carbon future for Australia. A renewable energy transition is key since other industries will rely on electrification to decarbonise their processes. The Renewable Energy Target (RET) scheme gave renewable projects a boost when renewable technology prices were non-competitive. However, this economic reality shifted when renewable technologies such as wind and solar reached parity with thermal generation. With renewable technology prices falling, the industry experienced an investment boom with 14 gigawatts (GW) of new renewable projects being accredited under the RET from 2001 to 2019. From August 2019, renewable energy represented 23.5% of Australia's total electricity generation (by capacity, GW), achieving the RET.

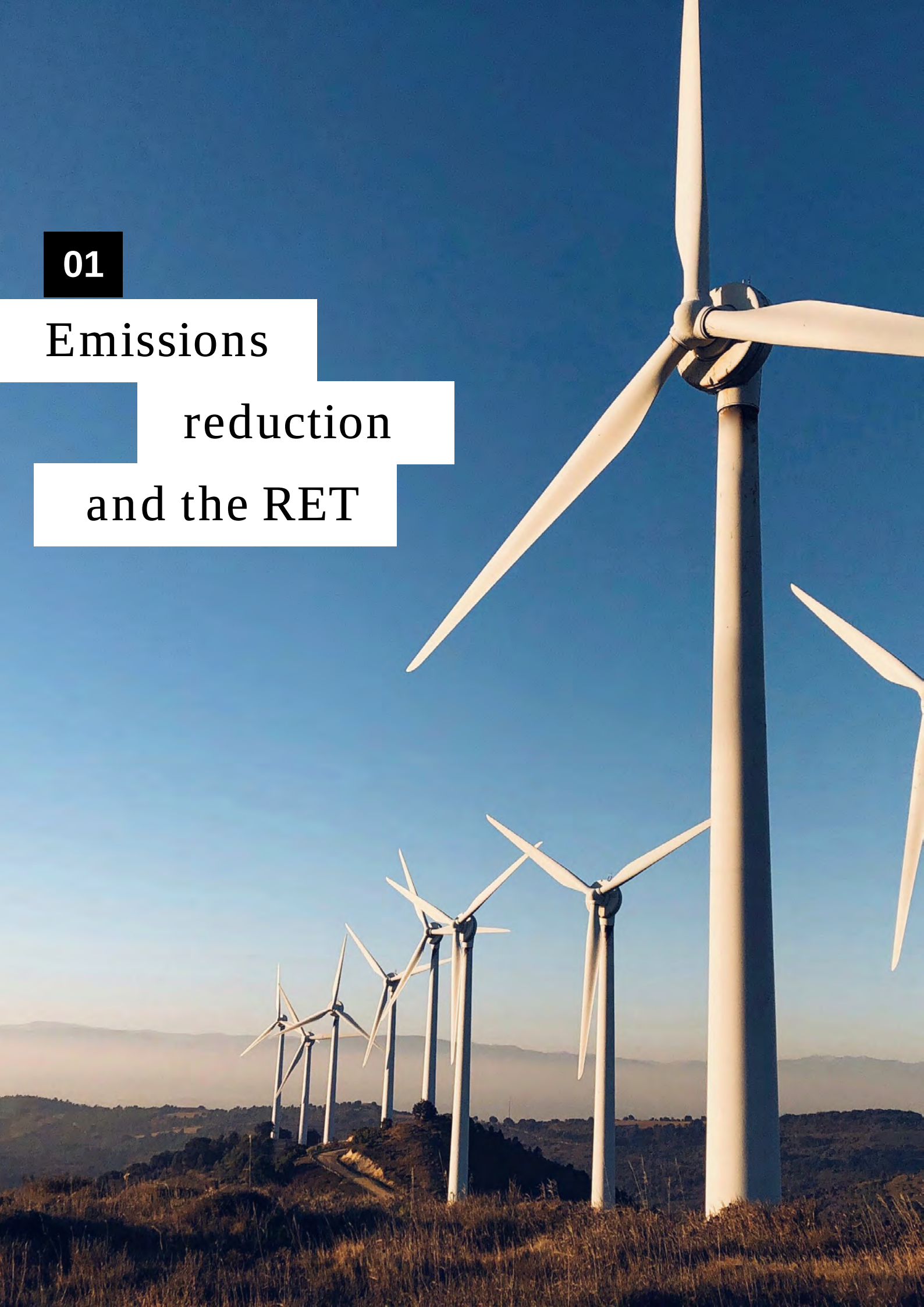
Investment in new build generation of all technologies has slowed since the RET was achieved, despite the pipeline of scheduled closures for coal-fired power stations and Australia's emission reduction commitments under the Paris Agreement. These facts highlight the need to overcome current investment barriers. In this paper, we have explored key market issues and have given the voice to industry perspectives in order to unlock Australia's renewable energy investment potential.

In July 2020, PwC interviewed over 50 industry participants across the value chain including investors, developers, electricity retailers and large electricity consumers. Participants shared their views anonymously on a range of industry and market topics. Regulatory bodies were not interviewed for this paper in order to produce an industry only view. We have identified the following key challenges:

- Transmission and distribution underinvestment – resulting in extended connection delays, reductions in marginal loss factors (MLF), curtailment and system strength issues
- Dealing with carbon – there is an absence of a prescriptive carbon policy and pricing and a need to link renewable energy generation to carbon abatement certificates.

Tackling these challenges is extremely important to stimulate investment in order to achieve emission reduction goals and support the economic recovery from the COVID-19 crisis.

The purpose of this paper is to share the insights of the 50 industry expert participants to give voice to the broader renewable energy sector, and does not represent PwC's specific views.



01

Emissions reduction and the RET

The RET

In 2001, the RET scheme was introduced so that electricity retailers and other large electricity buyers would increase their percentage of electricity sourced from renewable energy. The RET was modified in 2005 to reach a 2020 target of 33,000 GWh of renewable electricity generation in Australia, which is equal to 23.5% of total electricity generation.[1] It was composed of two schemes, the Large-scale Renewable Energy Target (LRET) and the Small-scale Renewable Energy Scheme (SRES). The LRET involves creating Large-scale Generation Certificates (LGCs) for each megawatt-hour (MWh) of renewable electricity produced. Electricity retailers and other liable entities are required to surrender LGCs to show their compliance with the LRET's legislated annual targets. The SRES delivers an upfront discount on solar power systems up to 100 kW installed most usually by households, small businesses and community groups.

Large-scale target met. The 33,000 GWh target was met on 30 August 2019 with the approval of four large wind and solar power stations.

Figure 1 shows the capacity of projects accredited under the RET.

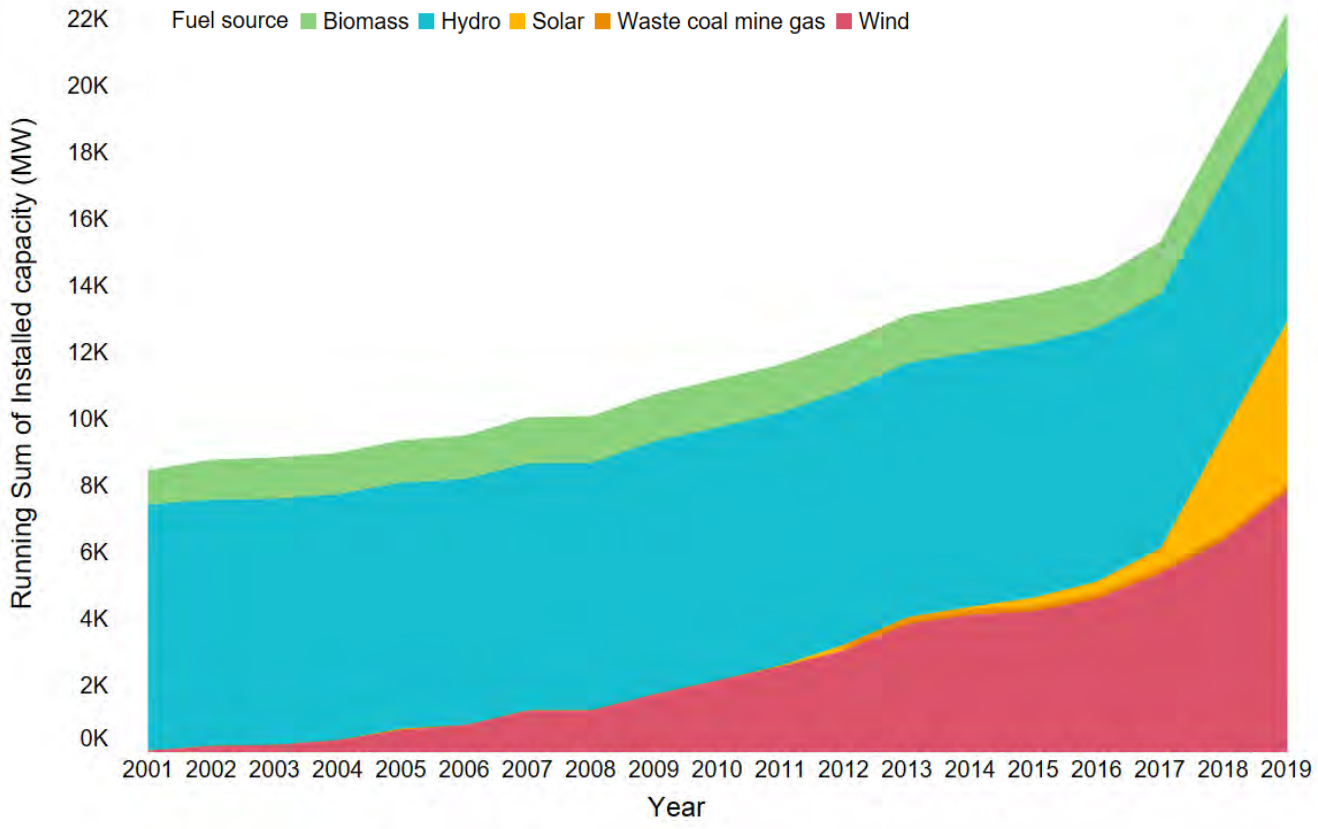


Figure 1: Capacity of projects accredited during the RET (Source: Clean Energy Regulator, Historical accredited power stations and projects)

589 renewable energy projects were either in operation or development when the RET was achieved. Most of the existing assets were wind and hydro, with a large capacity of solar in progress.

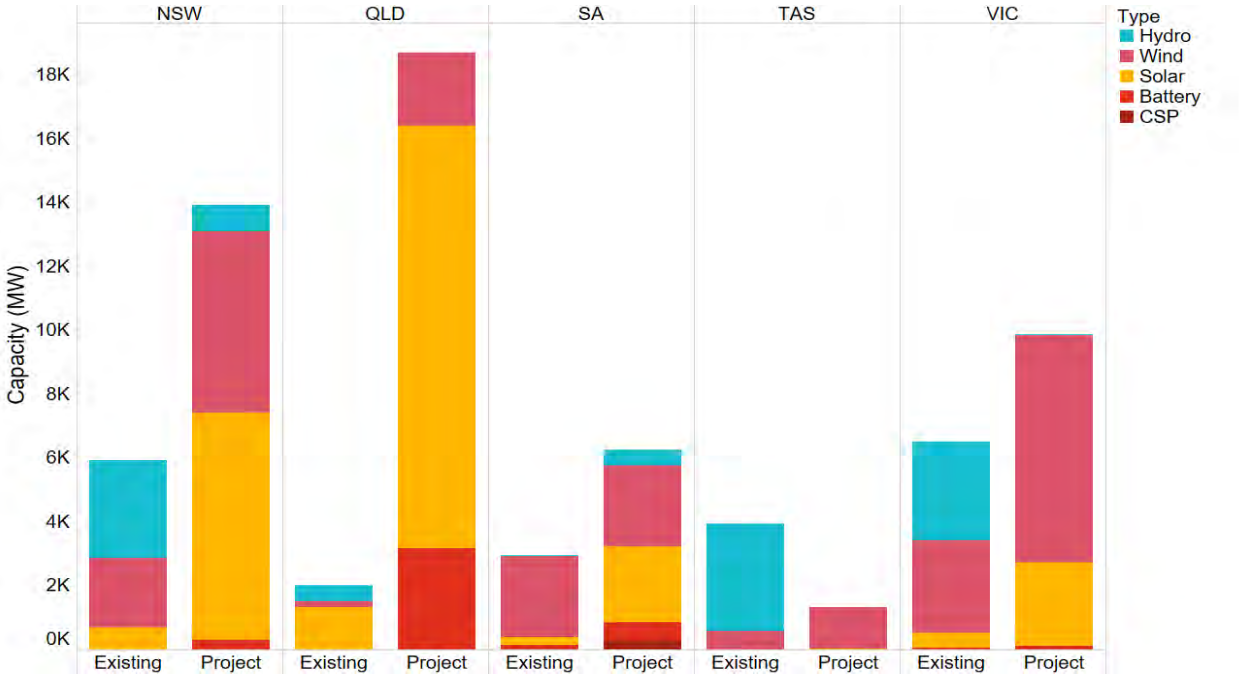


Figure 2: Renewable assets in the NEM (existing and development projects) Source: AEMO, NEM Generation Assets, 8 August 2019

13.4% increase in renewable energy generation from 8.2% in 2006 to 21.5% in 2019 (TWh) across the NEM. The growth can be seen in Figure 3.

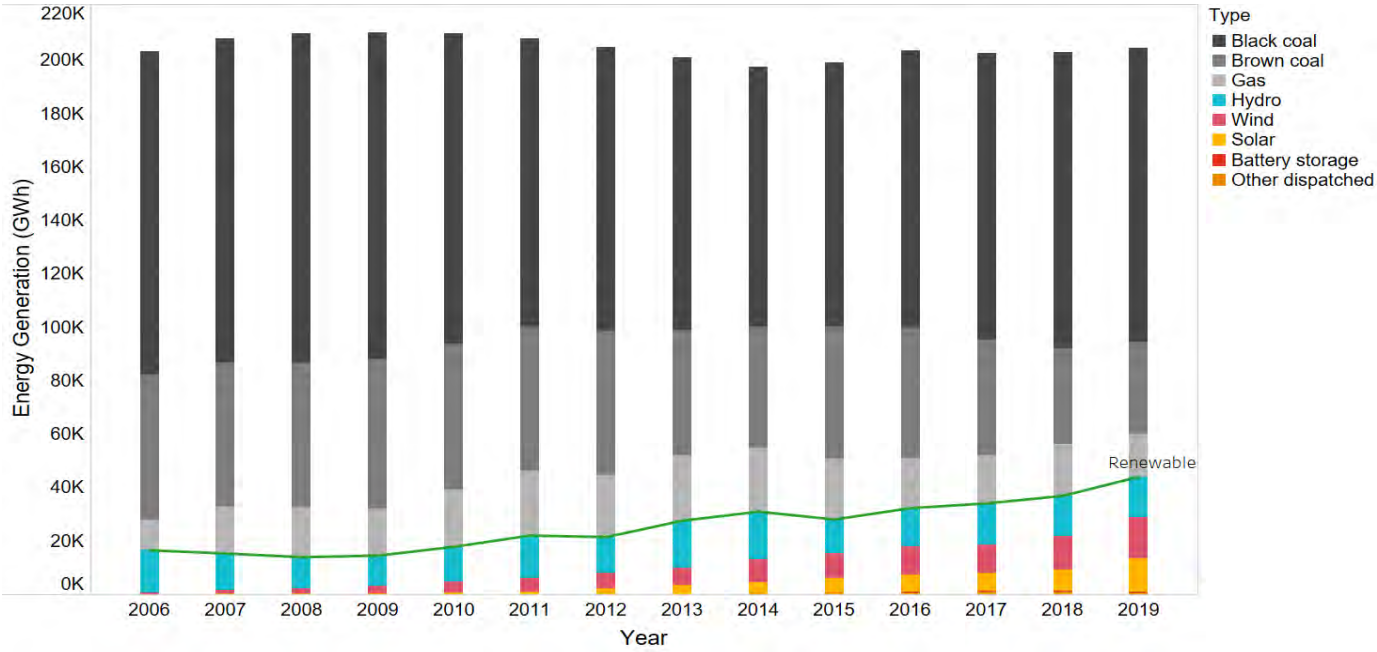


Figure 3: Changes in electricity generation in the NEM by source
Source: Australian Energy Regulator, State of the energy market 2019 update – Chapter 2 NEM

Industry opinion

When questioned about the RET, 100% of our industry participants thought it was successful. They all agreed that **'the RET was the instrument in Australia that drove large-scale renewable development'** and 'kickstarted renewables before they would have been competitive'. This was when fossil fuel technology was relatively more economic and renewable 'PPAs were being signed at over $100/MWh, they're now being signed in the $40s'.

However, a significant 29% of our industry participants had negative impressions of the RET. The negative feedback reflected views that the RET was not established for the purpose of displacing existing generation but this was the consequence. New generation stimulated by the RET displaced or replaced ageing coal assets including Hazelwood's early exit from the NEM. According to some industry participants, the market no longer holds excess supply. The change in balance between supply and demand meant that electricity prices were at risk. Three in ten participants commented that the RET didn't consider the existing mechanism and the energy transition; it was not intended that renewable generation would operate as a standalone firmed system offering a like for like replacement of ageing coal generation.

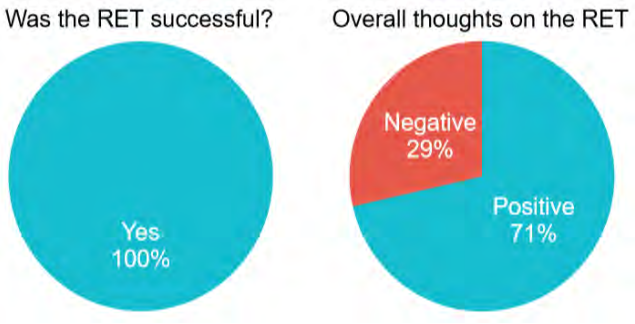


Figure 4: RET PwC survey results

Paris Agreement

Global Paris Goal:
Limit global warming to 1.5°C (max 2°C) above pre-industrial levels

Aus 2030 Target:
26-28% reduction of 2005 levels

The Paris Agreement was designed to address the Kyoto Protocol's flaws. Adopted in 2015, it aims to limit global warming to 1.5°C (and a maximum of 2°C) above pre-industrial levels. Australia's negotiated target under the Paris Agreement is a 26-28% emissions reduction on 2005 levels by 2030, which amounts to an annual target of 441 MtCO2-e.[2]

The Australian Energy Regulator has projected that in 2030 Australia's emissions will increase to 563 Mt CO2-e, which is almost 30% above Australia's Paris target.[3] The current trend in emissions is seen in Figure 5.

Australia will take part in the upcoming Glasgow Climate Change Conference. The United Nations is encouraging countries to commit to a 2050 net zero target.

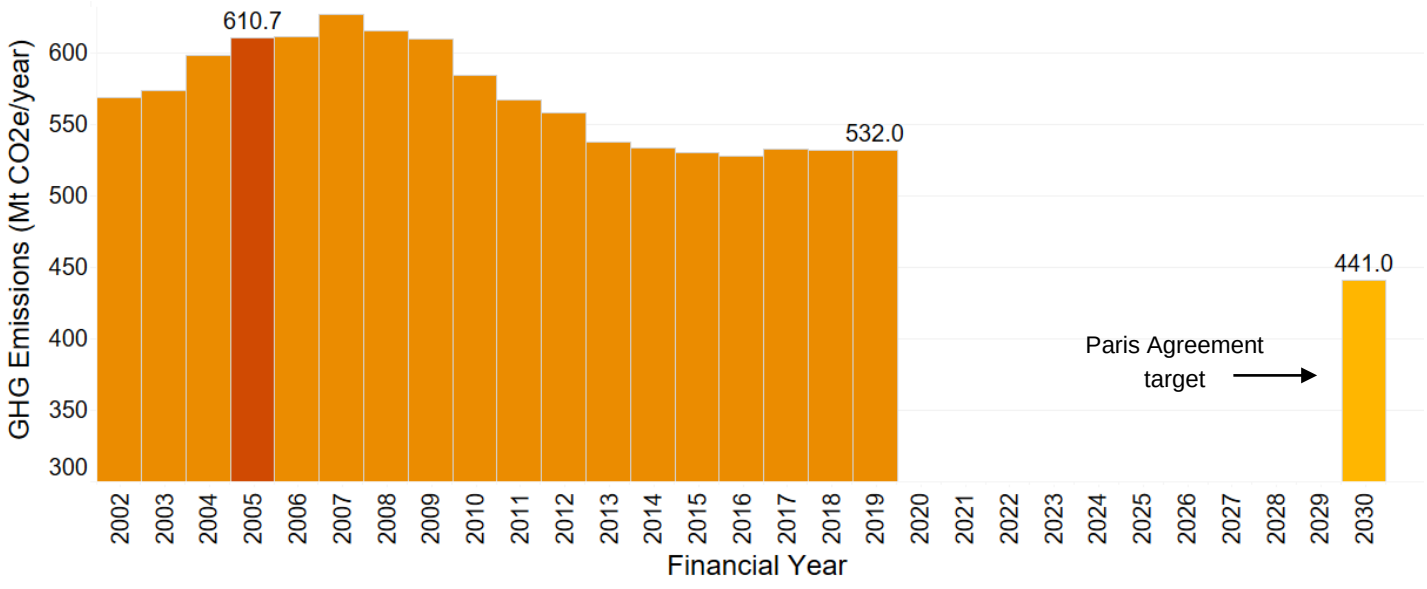


Figure 5: Historical annual greenhouse gas emissions and 2030 target Source: Department of the Environment and Energy, Quarterly Update of Australia's National Greenhouse Gas Inventory

Emissions Reduction Fund

The Emissions Reduction Fund (ERF) was created to provide incentives for organisations and individuals to reduce their emissions through new practices and technology development and to undertake activities that store carbon. Under the scheme participants can earn Australian Carbon Credits (ACCUs), issued by the Clean Energy Regulator. One ACCU represents one tonne of carbon dioxide equivalent stored or avoided by a project. These credits can be sold to the Australian Government or in the secondary market to entities required to offset their emissions.

According to the Technology Investment Roadmap First Low Emissions Technology Statement, the Australian Government's role as far as policy is to help 'bring down technology costs towards the stretch goals is to influence and co-invest with the private sector and other levels of government and encourage a supportive enabling environment'.[4] One interpretation of the Statement is that Australian Government will not intervene via specific carbon policy beyond the ERF and supporting technologies.

Australia's energy mix

The large contribution of emissions from electricity is due to a great proportion of generation in Australia being sourced from fossil fuels. In the 2018-19 financial year in the NEM, 71% installed generation capacity was sourced from coal and 8% was sourced from gas.[3] In Australia, NSW and Queensland are the highest electricity users and have the highest carbon intensive energy mix as shown in Figure 6 below. These proportions of coal and the statistics above are evidence for the need to increase in renewable energy generation, not only for the electricity sector to reduce its own emissions, but also where possible to support the electrification of other sectors too. For example, in the transport industry, the transition to electric fleets (from fossil fuel based internal combustion engines) and, in the future, renewable energy can be used to produce hydrogen to sustainably power vehicles

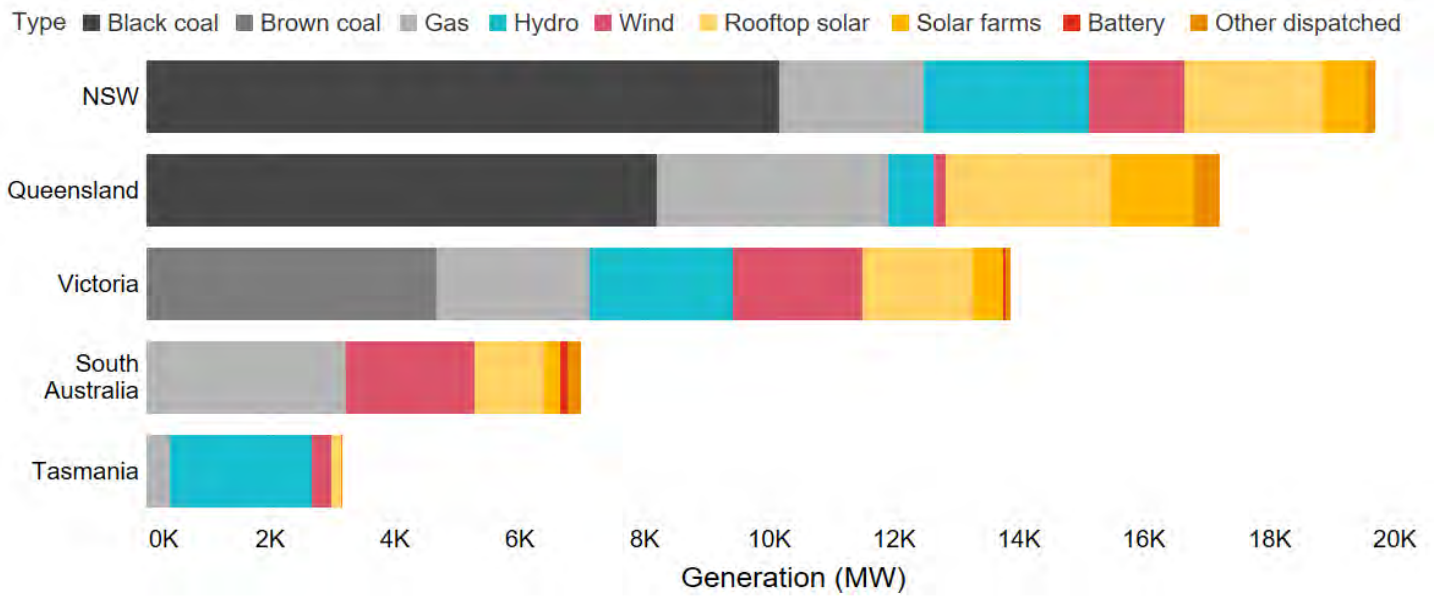
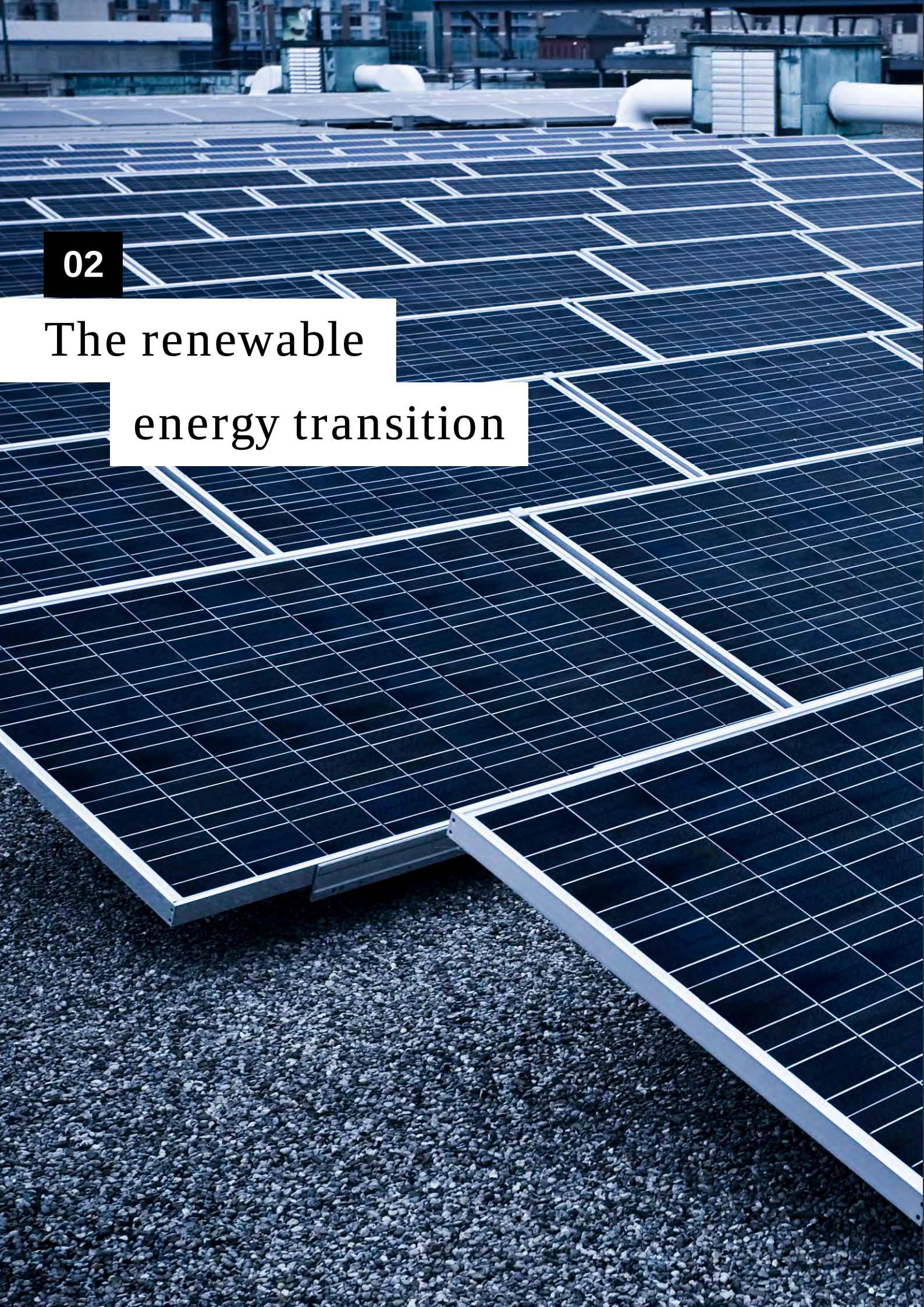


Figure 6: Electricity generation in the NEM, by region and fuel source (Source: Australian Energy Regulator, State of the energy market 2019 update – Chapter 2 NEM)



02

The renewable energy transition

Decline in renewable energy generation cost

The cost of renewable energy equipment has declined and continues to drive investment. Hydropower, onshore wind, solar PV and bioenergy are now less expensive per MWh of production than fossil fuel sourced generation. These declines are driven by several factors including a decrease in costs for the manufacture of solar PV modules and wind turbines, balance of system plant and decline in hydropower installation costs, and a shift towards cheaper bioenergy combustion technologies. Innovation in solar technology (hardware and software) has increased the efficiency of solar farms, also driving down solar PV cost. Innovation in wind turbines generators (WTG) has increased capacity. Solar and wind are now the cheapest energy sources when generating, with costs projected to continue to decrease.

Decrease in cost of electricity by source in 2018[5]

-26% **Concentrated solar power**

-14% **Bioenergy**

-13% **Solar PV**

-13% **Onshore wind**

-11% **Hydropower**

-1% **Geothermal**

-1% **Offshore wind**

Should the RET be extended as it is?

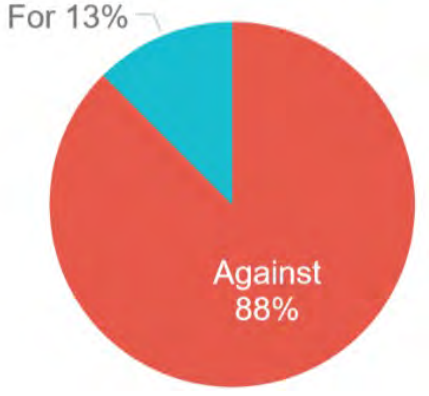


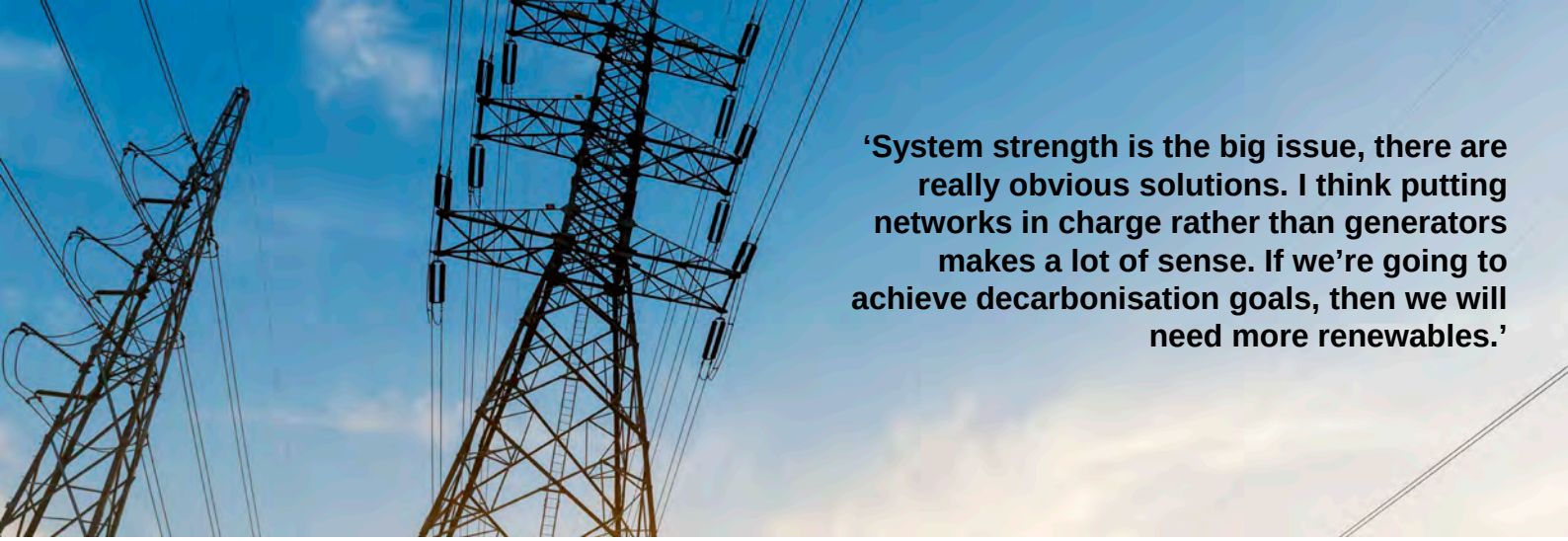
Figure 7: RET extension survey results

Industry opinion

The industry agreed 'we've seen a rapid drop in the cost of wind and solar'. **'With the latest boom, very little of it is RET driven'** and is instead due to **'the lowering of the technology/ equipment costs'**, the desire to shift money to Australia' and private sector sustainability targets. Participants largely agreed that **'renewables can compete without the additional support'.** Extending the RET would put extra costs on customers and we should instead 'support schemes that put price incentives on problems we're trying to solve'

In addition, a significant number of industry experts opposed the extension of the RET as an incentive largely due to:

- The original RET mechanism is not fit for purpose for what the NEM needs today
- Any resulting variable renewable generation ought to be coupled with firming generation as a collective price to allow the market to compare with the status quo (i.e. solar generation or wind generation + firming generation = total market price);
- Incentives would be better served for existing challenges in the NEM such as dealing with the consequence of additional asynchronous generation (e.g. the impacts on system strength), or perhaps challenging the current reliability standards
- The market must look for solutions that extend beyond the most readily available variable and firming generation, and critically assessing the generation of last resort that will satisfy the current reliability standards.



‘System strength is the big issue, there are really obvious solutions. I think putting networks in charge rather than generators makes a lot of sense. If we’re going to achieve decarbonisation goals, then we will need more renewables.’

Retirement of coal-fired power stations

Australia’s coal-fired power stations are some of the oldest and least efficient in the world, with an average age of 33 years.[6] According to the Integrated System Plan (ISP) of the Australian Energy Market Operator (AEMO), over 26 GW of new grid-scale renewables is required to replace to 15 GW or 63% of Australia’s coal-fired generation by 2040. This trend is shown in Figure 8. Coal stations are reaching the end of technical life or are not economically viable to run anymore. The retirement could result in an estimated 83% decrease in Australia’s emissions.[7]

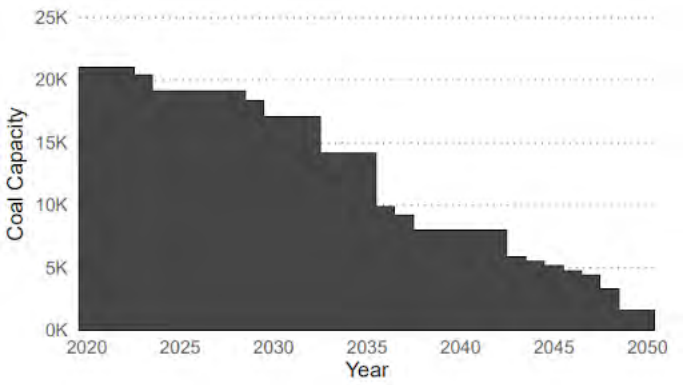


Figure 8: Australian coal capacity with closure at end of technical life. (Source: AEMO ISP 2020)

Grid issues and system strength

The Australian power system grid is ageing. Transmission infrastructure was originally designed to support thermal (coal and gas) power stations close to load centres. An increase in the connection of renewable projects in diverse locations remote from load centres, and the creation of new transmission has not kept up with demand which has put electrical stress on the power system. Additionally, there are concerns regarding ‘system strength’. System strength refers to the ability of the power system to maintain and control voltage at any given location in the power system, both in steady state and after a disturbance. Synchronous generators (coal, gas, hydro) are electro-magnetically coupled to the power system which provides stability to the grid after a disturbance. Wind and solar farms are asynchronous, inverter based generators which are currently grid-following, providing limited system strength. Another natural by-product of synchronous generators is providing inertia. Inertia is a related element to system strength, acting as a buffer against rapid change/disturbance in a power system while other controls respond to the disturbance. There are genuine concerns that replacing coal/gas with renewables will not sufficiently provide equivalent power quality replacement, leading to the need to procure additional system services (currently provided by synchronous generators).

A focus on batteries and grid-forming inverters

Traditionally batteries were considered to provide revenue generating services and some non-revenue generating services such as fast frequency response and voltage control services. They were not utilised to support the network’s need for inertia. Innovation in system strength has shown that a combination of a battery energy storage system (BESS) and grid-forming inverters can provide 'digital or synthetic inertia' to stabilise the grid.

Unlike standard grid-following inverters that control real and reactive current, innovations in grid-forming inverters will be able to offer optionality and the ability to operate without external command by allowing wind and solar inverters to form voltage and frequency levels like traditional generators.

BESSs are now able to provide a range of network services including grid support services that extend beyond synchronous condensers, and synchronous gas generation. There are limitations on size. The same capacity of BESS is limited to 1.3x rated fault current injection, whereas synchronous condensers may contain 4x rated fault current injections. The implication of this means that a bigger battery is required today, and engineers are looking at ways to address this limit.

Example: The Hornsdale Battery Extension in South Australia is Australia’s first trial of digital or synthetic inertia. The project will provide firming to renewables, Frequency Control Ancillary Services (FCAS), fault current injections and market arbitrage.

03

Industry voice

Addressing investment barriers

There are multiple factors creating an investment barrier in the renewable energy sector, resulting in more than a 50% downfall in investment from 2018 to 2019.[8] Figure 9 shows the range of issues raised in our interviews with 50 industry participants. Two key themes resonated with the industry and our energy team: grid issues, and dealing with carbon.

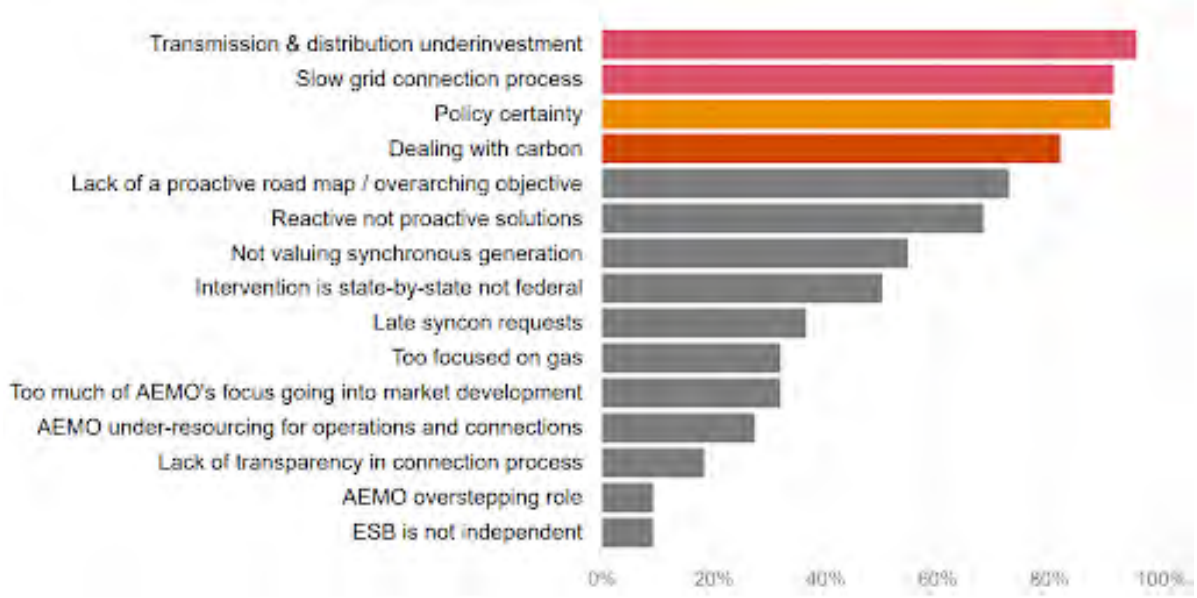


Figure 9: Identified issues from industry interviews.

Transmission and distribution underinvestment

As a result of the grid issues in 2008, AEMO introduced MLFs with the stated aim of creating locational signals for projects. The MLF is a multiplier that is applied to a generator's market settlements in the NEM and therefore affects a generator's revenue. According to the Australian Energy Market Commission (AEMC) factors that contribute to a lower MLF include:[9]

- the generation of electricity further away from a regional reference node
- a surplus of local generators supplying electricity in a single area – i.e. grid congestion
- a high supply of electricity being generated during times when demand is low.

Each year AEMO re-calculates the MLF, which creates volatility in generators' profit. For example, in the 2018/19 re-assessment AEMO cut many projects' MLF by 10-22%. The Powering Australian Renewables Fund's Broken Hill solar farm suffered a 40% decline in revenue/MLF over two years, due to the construction of new nearby solar and wind farms. With a project's offtake price generally fixed for 10 years, these drastic changes significant erode profit with no mechanism to offset this risk. Further it is difficult to predict how many projects are planning to connect to a part of the grid in the future. This presents uncertainty for investors and decelerates investments.

Another consequence of congestion issues are material connection delays. Windlab's solar, wind and battery project at the Kennedy Energy Park in north Queensland experienced an eight-month delay for grid connection. Adani Renewables' Rugby Run solar farm, also in Queensland, was connected six months after construction ended. These delays can be caused system strength concerns and administrative issues.

Under rules introduced in 2018, new generators are required to 'do no harm' to the minimum system strength of the local grid. Depending on the localised issue, many solar and wind generators are having to install additional expensive machinery (e.g. synchronous condensers, static var compensators) with outlays ranging from $10-$25 million NPV. The Western Murray region of the NEM experienced major power system problems with five operating solar farms, Wemen, Bannerton, Karadoc, Gannawarra (Vic) and Broken Hill (NSW), having their generation curtailed by AEMO to 50% for seven months because of oscillations and voltage fluctuations due to inverter issues.

MLFs and curtailments require an investment not a regulatory change

Some industry participants were sympathetic to generators experiencing harsh MLF reductions but others blamed the market for over-investing and developing in poor locations of the grid.

Discussions on different Loss Factor (LF) structures revealed that 100% of participants were against an average LF as 'it doesn't offer the right incentives to build in strong areas of the network' and punishes investors who made the right decisions. The majority of participants were open to discussing the idea of a dynamic or time of year LF. Dynamic LFs 'reflect real time losses in the system providing transparency'. It was also expressed that time of year/day LFs could take into consideration the effects of seasons and intermittent renewables.

When discussing LFs and regulatory change, the majority of participants suggested the real problem is under investment in transmission infrastructure. 'The most obvious effect we're observing at the moment is **there are not enough price signals or indications or government support to build the right transmission or have the right transmission in place for where the next generation will occur.'**

100% against an average MLF

One participant stated that they 'see a role for governments in driving augmentation of the transmission network to make it fit-for-purpose for future energy systems'. This view was shared commonly with participants declaring **'if governments are going to intervene, they need to intervene in transmission'.** Comparing this to other sectors, 'it's always been a pretty low risk strategy to start building out an infrastructure, when it comes to gas and roads we're very proactive to build the infrastructure before projects are developed, but when it comes to the renewable transition it's been ignored'.

The Regulatory Investment Test for Transmission (RIT-T) process is a framework protecting customers from monopoly transmission upgrades and was partly blamed for the delayed response**. 'The RIT-T process has made it very difficult for any major transmission network upgrades to take place, it's not able to consider future generation projects, so it not adequate for transitioning to a new energy system'.** Opinions were expressed that 'the regulatory asset base (RAB) should increase for new transmission, but once coal closures occur, the transmission in those areas should be taken off the RAB'.

When asked who should pay for new transmission and distribution infrastructure, participants mostly pointed at the Australian Government. Stating that **'the Government could easily in a post COVID-19 world underwrite needed transmission assets',** as they 'are best placed to accept the risk'. Private entities could build and operate the assets, with support from the Government, then as projects 'connect on and the assts become fully utilised then you roll the costs the government has incurred into the RAB'. Views were also shared that private investors and superannuation funds who are 'happy to invest in hardware with longer returns' could also be funding these assets.

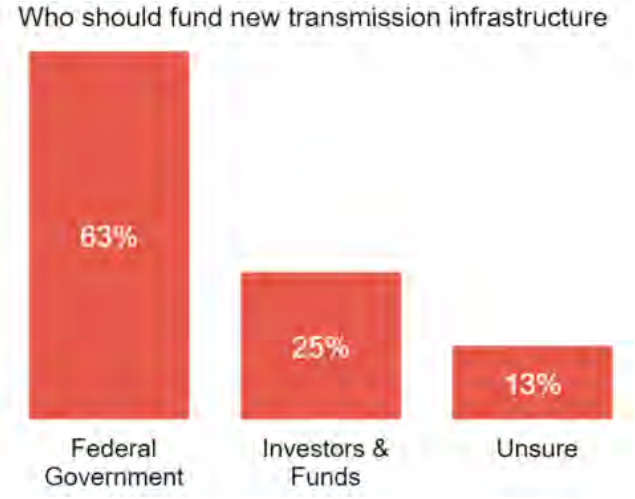


Figure 10: Transmission infrastructure survey results

Renewable Energy Zones (REZs) being planned by the government to encourage investment in resource rich zones in conjunction with transmission upgrades. Participants' responses vary from positive to concerned. Some thought that this was 'a good little way for the government to intervene'. Concerns included guaranteeing high MLF factors, congestion between the interface of the REZ and the rest of the network, and the speed that transmission assets would be developed.

The ‘do no harm’ approach must be reconsidered

Participants expressed concerns with the obligation to ‘do no harm’ and resulting in the need for extensive capital for system strengths infrastructure including synchronous condenser installations. Many agreed that ‘it has to be really clear up front what the costs are before you make the final investment decision, to be whacked with a synchronous condenser halfway through construction is totally unfair’. Others noticed ‘the interpretation of the rules changing with generation performance standards’, making it difficult to get permission to connect and being allowed to dispatch, stating **‘it’s a minefield for investors’.**

Some view system strength as a network problem that already exists and the costs should not be incurred by new entrants. It was expressed that there needs to be **‘more transparency and collective solutions for network transition issues through a market wide effort’.**

It was stated that **‘synchronous services such as inertia, system strength and voltage control aren’t valued in the market’**. Stating that ‘1 MWh of pumped hydro is not the same as 1 MWh of solar due to its natural system strength by-products’.

Dealing with Change

Most investors think that policy is playing catchup with the rapidly changing technology mix. Examples include:

- Coordination of generation and transmission investment implementation (COGATI): introduces locational marginal pricing and creates an additional cost for generators when acquiring financial transmission rights to hedge against price risk from congestion.
- Day-ahead market: buyers and sellers trading electricity the day before.
- 5-minute settlement: rule to change the settlement period for the electricity spot price from 30 minutes to five minutes, starting in 2021.
- Snowy 2.0: Snowy Hydro received funding from the Australian Government to expand the Snowy Scheme to provide 2GW/350 GWh of energy storage.

Generally participants expressed gratitude for government programs involving favourable market consultation used in developing new initiatives.

The risk of long term uncertainty is the nemesis of increased investment

There was a sense of confusion on the various role between the number of market bodies (AEMO, AEMC, Energy Security Board), each with differing goals or roles and responsibilities in the system, which added to investor uncertainty.

COGATI and the day-ahead market were all given as examples of market uncertainty. **'A number of headlines coming out of the regulatory bodies are things that the industry says we don't need'**. 100% of participants were against COGATI and a day-ahead market, stating **'COGATI is a solution to a problem that doesn't exist'** and that they will 'add more problems due to the complexity they introduce'.

Participants see the role of the Australian Renewable Energy Agency (ARENA) and Clean Energy Finance Corporation (CEFC)is to support and encourage early stage development in technologies that are not currently economically viable in Australia, such as hydrogen.

Figure 11: Energy market survey results

'The single biggest thing the government could do: is to provide investor certainty, and support those long term investment signals necessary for investors'.

Let the market mechanism do its job

An opinion held by many participants was that **'if you let the market do its job, it will do its job and send out the right signals'.** It was made clear that interfering with the market can have negative effects. In relation to the RET – 'when looking at a market in transition, don't create side markets that can potentially distort investment signals, you try to incorporate it into the market itself. The wholesale price was providing the signal that the market needed. If that price wasn't enough for the wind to come in, **that's not a market issue, that's a technology issue'.**

There were differing views with regard to upcoming coal closures and the significant storage capability required (batteries and pumped hydro). One suggestion was to adopt the ERCOT model, which has a price adder in pricing intervals with elevated reliability risks. Another was to go to 'market based ancillary services – frequency control, ramping capacity, services that AEMO really needs', which are not being valued at the moment. We note there are rule change proposals currently in the market covering ancillary services.

Another view was that we 'don't need a change in market design. In the future the likely thing that will occur is the pricing structure will be in reverse. Peak and off-peak will swap. A lot of modelling shows low day prices (low cost solar) and high overnight prices as higher cost renewables and pumped hydro are operating. **It's not a market design issue, it's how the market evolves'.**

Dealing with Carbon

The Australian Government has committed to not introduce emissions reduction targets after the Paris Agreement and has no specific carbon policy other than the ERF and the Technology Investment Roadmap. In contrast, every state and territory has now announced a net zero carbon emissions target. There is some certainty in acknowledging that that Australian Government does not intend enact carbon targets, however, there is a lack of homogenisation between the various carbon instruments including credits created by renewable generation (e.g. LGCs and STCs), and other instruments such as ACCUs, Verified Carbon Units (VCUs), and similar international credits.

The LRET continues to 2030, but now the target has been achieved, LGC prices will continue to drop off the back of unsupported demand. As the cost of renewables continues to fall, investors no longer need government subsidies. Energy policy implementation and government interference are increasingly perceived as an investment risk. The ability for opposing parties to modify these policies/schemes once elected increases this risk.

Renewable energy is clearly an effective carbon abatement strategy, so there needs to be a link between carbon and renewable electricity generation. A link between LGCs and other carbon instruments should be carefully considered.

If one believes in the market's ability to choose the appropriate mix of certificates, and also believes that there is no one single certificate capable to provide all the carbon market offset needs, does this promote the case to establish a link between the certificates?

LGCs counted as carbon credits

100% of participants agreed that climate policy in Australia is lacking and that we are missing an 'overarching agreed objective'. It was raised that **'with COVID-19 we have seen globally that people are prepared to accept restrictions and policy to achieve public good'.** Some participants supported an overarching carbon reduction target that does not directly affect the NEM. **'We can't waste the opportunity to get political consensus on climate change'.**

When discussing energy policy, all participants expressed that policy uncertainty stalls investment. Stating that **'the transitionary period was not framed by an early clear, transparent, long term, well-constructed policy framework that we can make investment decisions off'** which has caused some 'lurching decisions'.

Some of the policy uncertainty is attributed to changing Liberal and Labor governments making it hard to 'get an energy policy through that matches the timeframe of the investment cycle of the typical energy generator investor'. An investor stated that **'short term policies make us think twice or three times about investing, that's why we don't have Australia as a major destination for energy infrastructure investment'**. One idea included setting up an independent Australian entity (e.g. Reserve Bank) capable of surviving government changes, that does not have to report to the minister, with a clear direction of what it is doing, to be responsible for Australia's energy security both now and into the future.

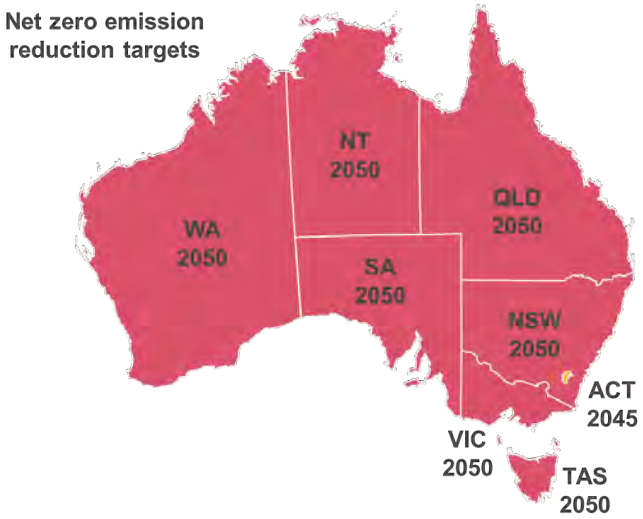


Figure 12: Net zero emission reduction targets

When interviewing the participants about carbon and energy policy, to attain some investor certainty 44% advocated for 'no policy'. **'The problem with putting in a carbon tax or any government regime is that you get a change of government and it's going to change, and no one gets any certainty'.** Others were of the view that **'we do need an emissions policy but leave the energy market alone'.**

Multiple participants expressed the need for LGCs to be counted as ACCUs, as **'there has to be some value in a new renewable plant reducing carbon intensity'.** The RET could then be potentially continued as an emissions intensity scheme, with the LGC as 'an abatement certificate rather than a pure MWh certificate'. These could then 'link to whatever else the government is wanting to achieve in other sectors' and be used by corporates to meet their sustainability targets.

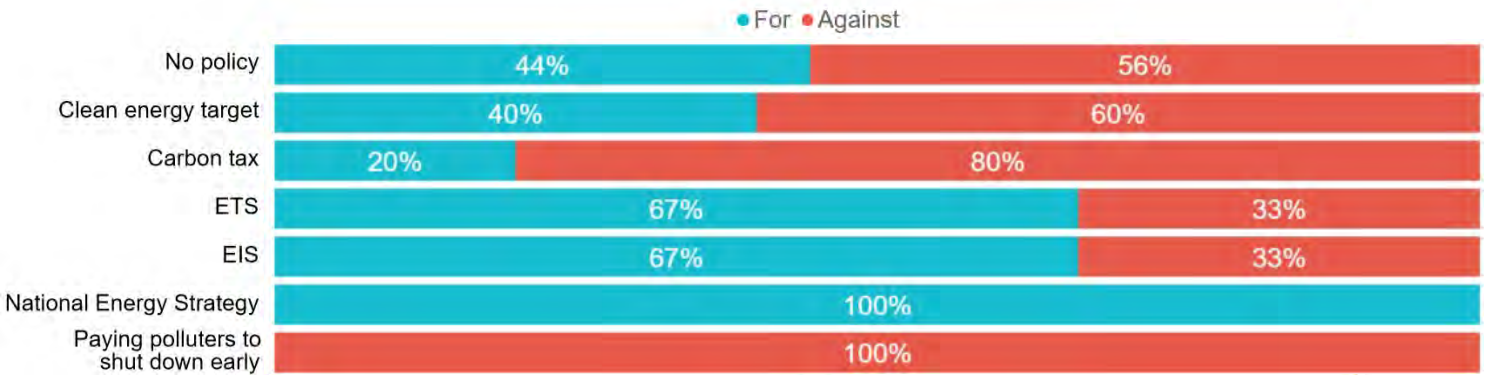


Figure 13: Policy and strategy survey results

Concluding views of experts

There is no doubt that the RET achieved its objectives at a time when the Australian energy market had limited renewable energy penetration and there was adequacy of supply of existing generation. In recent times, the need to decommission ageing thermal plants, the limitations on transmission networks, the growing number of variable renewable generation, as well as concerns about how to deal with carbon, have all lead the industry to question, what is next after the RET?

In trying to answer that question, we have consulted individually with experts in the market who understand the nature and the challenges facing the sector. Their majority view is that Australia can achieve the energy transition and think beyond Glasgow without the need for a new RET. It is apparent that there is no one single solution, one single view, one single problem. Instead, there are a number of principles and areas that collectively address 'what is next after the RET'?

Collective prioritisation of transmission challenges

The industry experts were unanimous that the challenges of congestion, curtailment, changes to loss factors and requirements for system strength such as synchronous condensers are directly related to the limitations of the power system grid. Innovations such as the shared network zones and network lead solutions to accelerate grid services can play an enormous role to resolve some of the current challenges. However, investment in transmission and distribution is necessary along with grid reform to ensure an efficient process. Investment from the all stakeholders is necessary and openly encouraged to stimulate this with speed. A number of the industry participants also flagged the necessity to open up and liberalise the current monopolistic structure of the transmission and distribution sector in a hope that competition will accelerate delivery, increase market options, and lower prices.

Give the market flexibility to deal with carbon technology

Socially conscious businesses do not distinguish between the means of achieving carbon neutrality. The interviews highlighted that it seems inevitable that current instruments, such as the LGCs, and carbon abatement certificates (ACCUs) will be homogenised or integrated in the future. Their view is that this needs to be carefully considered to avoid over-investment in less effective technologies, and potentially allowing the electricity sector to do more of the heavy lifting on carbon abatement.

Contribution

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