



CHAPTER

3

STRATEGIC AND STATUTORY CONTEXT

3 Strategic and statutory context

This chapter sets out the strategic context of Snowy 2.0 in the current energy market, and the relevant legislative and approvals process for the proposed Exploratory Works.

3.1 Introduction

The first part of this chapter sets out the strategic context of Snowy 2.0 having regard to its critical significance for the NEM, aligns with NSW and relevant State and Commonwealth governments policies and reports relating to energy security and reliability, and the management of the KNP.

The second part of the chapter provides the statutory context of Exploratory Works. This includes a summary of the relevant Commonwealth and NSW legislation and approval processes that permit assessment of Exploratory Works within the KNP. Further details of the regulatory framework for Exploratory Works are provided in Appendix C.

3.2 Strategic context and justification

Given Exploratory Works constitute investigatory works for Snowy 2.0, there is a need to address the strategic context of both Exploratory Works and Snowy 2.0 (that is, including the main works and their operation that will be covered in a subsequent application and supporting EIS).

Therefore, defining the strategic context for Snowy 2.0 and Exploratory Works requires discussion of:

- the current and future needs and challenges facing the electricity generation sector and how Snowy 2.0 (along with Exploratory Works) is consistent with the government policies aimed at addressing these challenges;
- the critical role that Snowy Hydro plays in the sector and the significant contribution that Snowy 2.0 can make to the electricity generation sector by providing dispatchable energy generation and large-scale energy storage to underpin the reliability and security of the NEM; and
- the level of support for an expansion of the Snowy Scheme in the relevant land use planning documents for the management of the KNP.

3.2.1 Energy generation in Australia and NSW and its future

i National Electricity Market

Under Australian constitutional arrangements, the regulation of energy is the responsibility of the various states and territories. In NSW, the Minister with responsibility for general matters relating to electricity is the Minister for Energy and Utilities, with the electricity system, comprising generation, transmission and distribution through to retail business spread across separate operators.

Four companies transport electricity around NSW. TransGrid manages the high voltage transmission power lines and towers, cables and substations, while three electricity distributors, Ausgrid, Endeavour Energy and Essential Energy, deliver the electricity to consumers in their network regions.

These assets and transmission lines form part of a larger interconnected network that covers Australia's eastern and south eastern seaboard and forms the NEM. The NEM provides transmission of electricity to almost 10 million homes and businesses across five state-based networks and six cross-border connections. As shown on Figure 3.1, the NEM network extends across Queensland, NSW, the Australian Capital Territory, Victoria, Tasmania and South Australia. Not included in the NEM are Western Australia and the Northern Territory, primarily due to the distance between networks.

The generation of electricity within the area covered by the NEM has traditionally been by means of a relatively small number of large coal and gas-fired power stations, supplemented with other sources of power, including the generation of hydro-electric power by the Snowy Scheme.

The day-to-day management of the NEM is carried out by the Australian Energy Market Operator (AEMO). The economic regulation of electricity, gas and energy retail markets is carried out by the Australian Energy Market Commission, who is also responsible for the National Energy Objective. The National Energy Objective is aimed at looking after the interests of electricity consumers with respect to, amongst other things, security and reliability of the national electricity system.

ii Australia's commitment to renewables

Since 2000, when the Commonwealth *Renewable Energy (Electricity) Act 2000* (the REE Act) was enacted, Australia has demonstrated a commitment to increasing the use of renewable energy sources for electricity generation. For both economic and social factors, new and replacement coal-fired power stations are not favoured compared with gas-fired and hydro-electric power to provide the balancing required by such a transition to a power system that is increasingly dominated by renewable energy. Snowy 2.0 will provide a further limb to this balancing requirement of the NEM and power system with large-scale storage, adding to the network's security and reliability.

The objects of the REE Act are to encourage additional generation of electricity from renewable sources, to reduce emissions of greenhouse gases in the electricity sector and to ensure that renewable energy sources are ecologically sustainable.

The Commonwealth Government has also established the Australian Renewable Energy Target scheme, intended to reduce emissions of greenhouse gases in the electricity sector and encourage additional generation of electricity through investment in sustainable and renewable sources.

It should also be noted that, in late 2015, the Commonwealth Government signed the Paris Agreement – a global agreement that sets in place a durable and dynamic framework for all countries to take climate action from 2020. As part of this agreement, the Commonwealth Government has agreed to reduce greenhouse gas by 26-28% from levels in 2005, by 2030.

iii NSW Renewable Energy Action Plan

The NSW Government's support for the renewable energy sector is set out in the NSW Renewable Energy Action Plan (2014). This plan positions NSW to increase the use of energy from renewable sources at least cost to the energy customer and with maximum benefits to NSW.

Renewable energy provides a pathway to lasting economic prosperity that does not take resources away from future generations and reduces the impact of our activities on the natural environment. Reducing environmental impacts through increased use of renewable energy is a key objective of the NSW Renewable Energy Action Plan which, along with specific economic and community drivers to benefit NSW, has been designed to support broader environmental objectives to reduce carbon emissions.

The implementation of the Plan will also support Australia's commitments under the Paris Agreement. This commitment is also supported by the NSW Climate Change Policy Framework which aims to achieve net-zero emissions by 2050 and to make NSW more resilient to a changing climate. However, it should be noted that unlike some states and territories, NSW does not have a legislative state-based renewable energy target.

The Plan also forms part of the NSW Government's initiatives to develop a transmission strategy that supports a transition to a reliable, affordable and modern energy system for the state and support the planning for additional transmission infrastructure that may be needed to connect new power generators to the grid.

While NSW is well-placed to meet the State's current energy needs, major traditional energy generators will reach the end of their lives and are likely to be retired over the coming decades. This has the potential to lead to energy supply shortfalls and rising prices for consumers. Reliable, affordable energy is fundamental to the future economic well-being of NSW. With the planned retirement of a substantial proportion of existing generation capacity, there is an unavoidable need to provide replacement generating capacity and improve energy security.

Snowy 2.0, with its 2,000 MW of electricity generation and quick-start capabilities for delivery of about 175 hours of storage (350 GWh), is well-positioned to ensure the reliable and secure electricity needed for NSW's continued economic strength. For these reasons, it is considered that Snowy 2.0 (and by extension, Exploratory Works) is consistent with the broader objectives of the NSW Renewable Energy Action Plan.

iv NSW Energy Security Taskforce and Energy Zones

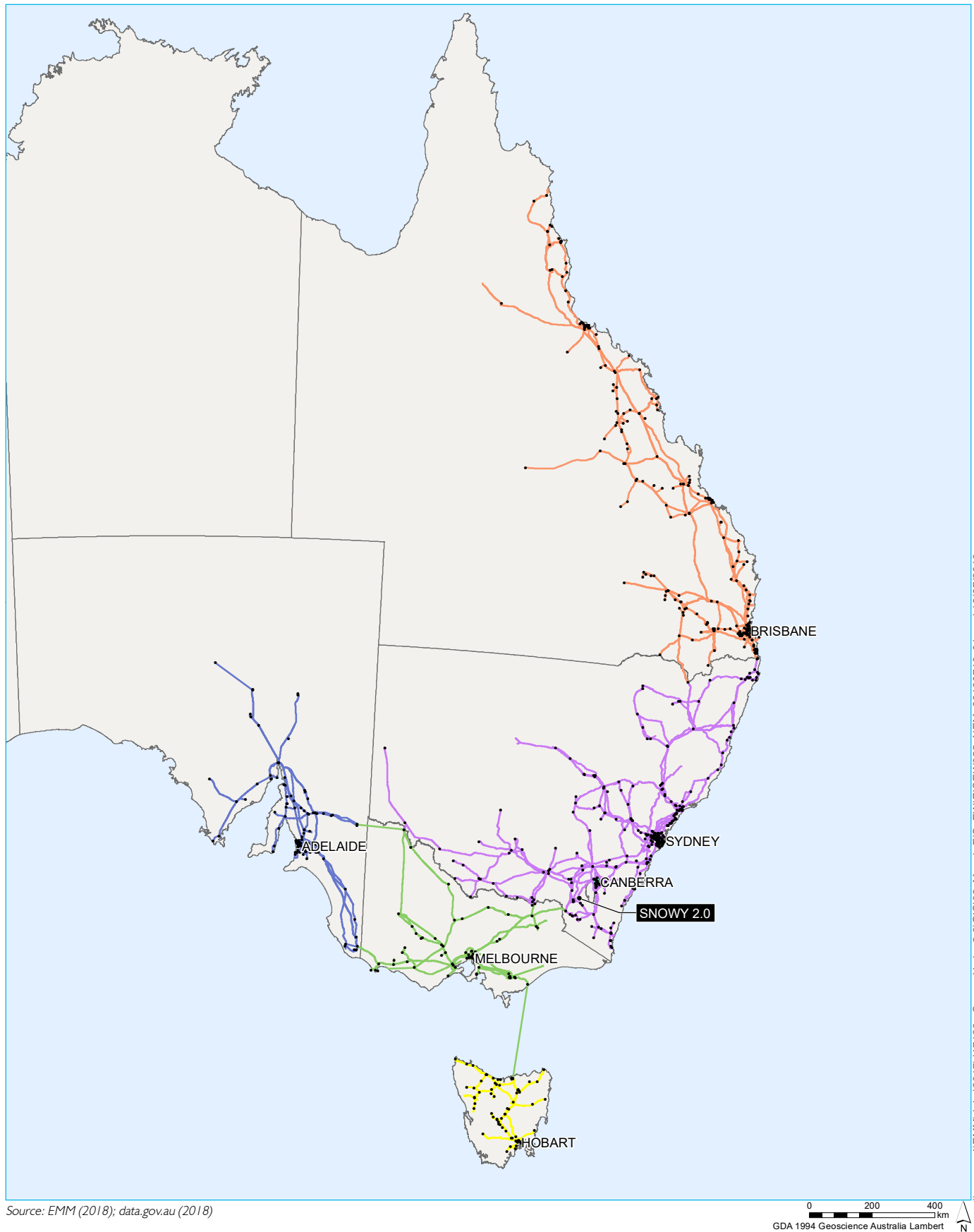
The NSW Government has stated it is committed to a secure, affordable and clean energy future for households and businesses and supports an orderly, private-sector led transition to a modern energy system (NSW Government 2018).

In February 2017, the NSW Minister for Energy and Utilities established a NSW Energy Security Taskforce to investigate how the State manages its energy security and resilience. The Taskforce released their final report in December 2017, with a number of recommendations to improve energy security in NSW over the long-term. One of these recommendations focussed on the identification and development of Energy Zones, which was a key recommendation in the Finkel review (Recommendation 5.1).

In its submission to AEMO's Integrated System Plan consultation phase (NSW Government 2018), the NSW Government stated that developing Energy Zones in NSW would provide opportunities to better match supply and demand across the NEM minimising transmission losses, due to:

- its central location within the NEM;
- its high connectivity to the other states; and
- it has the highest energy demand.

Energy Zones were proposed to help unlock the pipeline of generation projects, support more competition in the energy market and help deliver low-cost energy for NSW consumers. These zones are across the state, as shown on Figure 3.2, covering renewable energy sources of wind, solar, hydro and biomass.



KEY

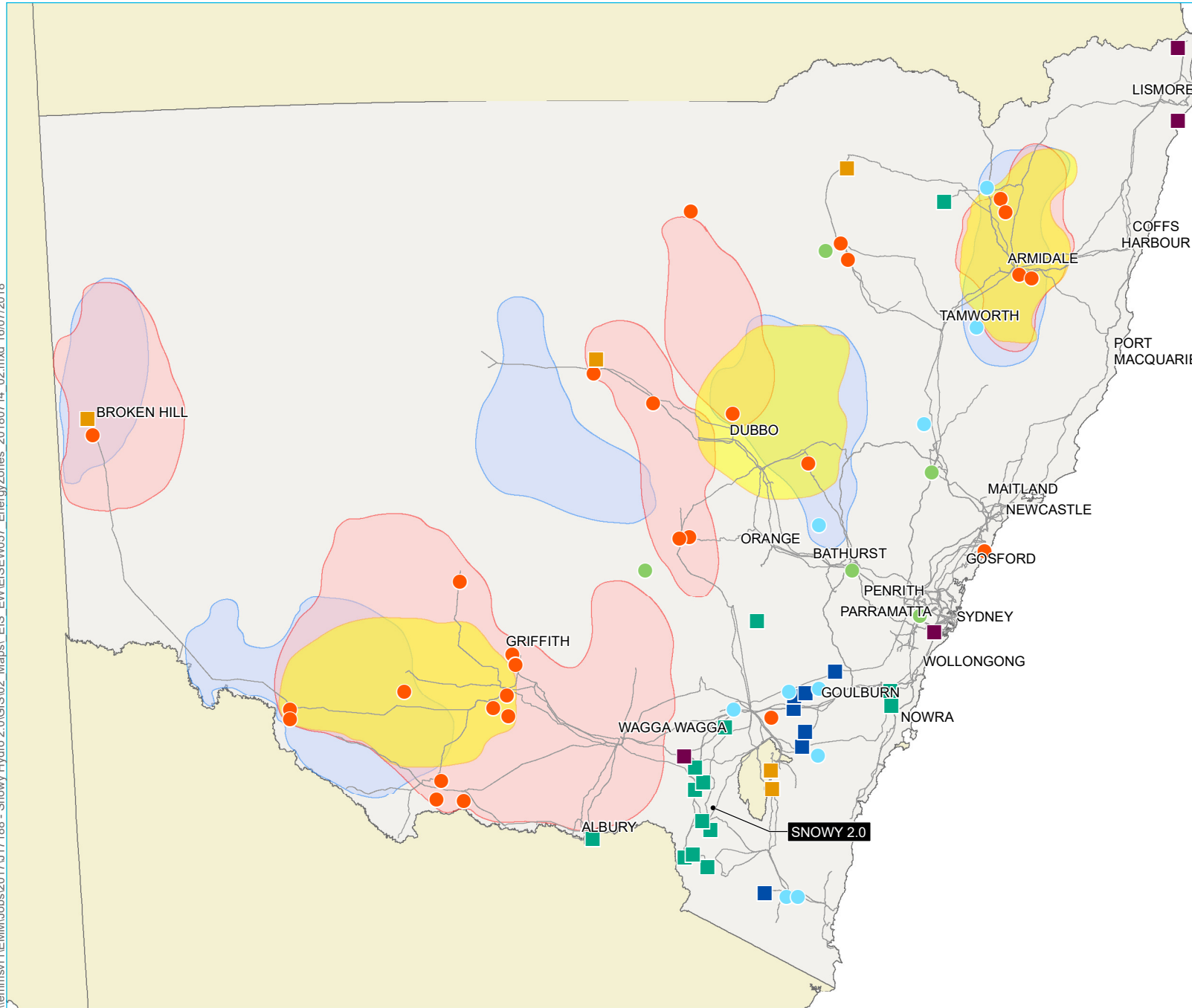
- Electricity transmission substation
- National Electricity Market transmission network
- Australian Capital Territory
- New South Wales

- Queensland
- South Australia
- Tasmania
- Victoria

Australia's National Electricity Market

Snowy 2.0
Environmental Impact Statement
Exploratory Works
Figure 3.1

\\lemmsvr1\EMM\Jobs\2017\J17188 - Snowy Hydro 2.0\GIS\02 Maps\ EIS EW\EISEW057 EnergyZones_20180714_02.mxd 16/07/2018



- KEY**
- Electricity transmission lines
 - Energy project pipeline
 - Solar farm
 - Wind farm
 - Other electricity generation
 - Operational renewable energy projects (>10MW)
 - Hydro project
 - Wind farm
 - Biomass project
 - Solar farm
 - Energy Zone
 - Priority energy zone
 - Solar energy zone
 - Wind energy zone

NSW Energy Zones

Snowy 2.0
Environmental Impact Statement
Exploratory Works
Figure 3.2



NSW has a significant pipeline of private-sector proposals for new renewable generation projects that are either in the planning system or already approved. If built, some of these projects face network connection challenges because of limitations within the existing transmission network. Further, many of the new renewable energy opportunities are remote from the existing transmission network or are in areas where the transmission network is already over-subscribed. This is limiting the private sector's ability to deliver generation to replace retiring base-load generators.

The development of Energy Zones is intended to help ensure ongoing energy security and reliability in NSW by delivering large-scale generation capacity to replace future withdrawals of existing coal-fired capacity, with improved resource diversity across the NEM. However, current connection enquiries from planned generation projects throughout these Energy Zones far outweigh the available existing network capacity (TransGrid 2018), therefore requiring additional connecting transmission infrastructure to realise their energy generating potential. The lack of transmission capacity to suitable locations represents a significant challenge to the development of these Energy Zones.

Further, it is likely that these Energy Zones will be dominated by the intermittency of variable renewable energy generation (ie solar and wind). Therefore, without large-scale and longer term energy storage the effectiveness of these Energy Zones is likely to be greatly diminished, thereby compromising energy affordability, emissions, and security and reliability objectives. The development of Snowy 2.0 with significant storage of 350,00 MWh (or about 175 hours) will greatly contribute to the NEM's reliability and security in the longer term and assist with improving the effectiveness in any future development of Energy Zones within NSW.

v [Need for pumped hydro electric storage](#)

As with many electricity markets around the world, NSW and indeed, the NEM, is undergoing a paradigm transformation that has been brought about through by significant shifts in energy efficiency, rapidly decreasing costs of wind and solar generation (known as variable renewable energy or VRE), coal power station retirements, and Australia's participation in global commitments to reduce carbon emissions.

The economics of large and small-scale power generation has been transformed due to the low and reducing costs of variable renewable energy generation compared to coal and gas generation. Wind generation is now being offered lower than \$55 per MWh and solar generation lower than \$50 per MWh, and these costs are projected to continue to decrease in the future. This compares favourably to the cost of coal generation estimated at \$65 per MWh and the cost of gas generators at over \$90 per MWh. High gas costs are now meaning that gas generation will be most suited to short duration operation when needed.

The future viability for coal generation within the NEM, which currently provides about 75% of electricity generated, is characterised by two key factors:

- about a third of these coal power stations will close over the next 15 years; and
- the likelihood of any new market-driven private sector coal power stations being developed is low due to comparative costs and the risk associated with carbon emissions.

The amount of variable renewable energy generation operating to date has been such that in all states including NSW but excluding South Australia, the flexibility of the current energy generation fleet has been able to 'absorb' the increasing level and uncertain variations in variable renewable energy output. However, this will change as variable renewable energy becomes a larger proportion of the total generation, by virtue of the new-build renewables, and retirement of aging coal-fired and sub-economic gas-fired power stations.

As the amount of variable renewable energy increases, supporting energy generation will be required when these energy sources are not operating (due to low wind or low sunlight). Such generation is known as a 'firming' generation. With the closure of coal generation, energy storage and peaking gas generation will increasingly be needed to provide this 'firming' service. While peaking gas generation is and will play an important role in supplementing power when variable renewable energy is not available, it does not address periods of excess variable renewable energy generation in the way that energy storage can. In addition, gas generation will increasingly become non-competitive with energy storage.

The cost and zero emission advantages of variable renewable energy will only be realised if a sufficient amount of the energy from these intermittent renewable energy sources can be stored for later use when required. If this is not economically or physically possible, then there will be a limit on both the economic and low emission advantages offered by variable renewable energy.

The increase in variable renewable energy is also being driven by electricity suppliers business imperative to be cost competitive and desire to reflect community (environmental) values, which is resulting in development strategies increasingly based on energy production from variable renewable energy with energy storage and gas peaking generation to firm energy supply.

The development of Snowy 2.0 would provide the NEM with significant energy storage (350,000 MWh or 175 hours) capable of delivering generation within minutes in times when variable renewable energy is not operating. It is considered that Snowy 2.0 will provide a significant contribution to the NEM's reliability and stability to ensure an orderly transition as the economy decarbonises away from traditional energy sources (through the retirement of coal-fired power stations) and towards renewable energy.

vi Drivers of the demand for energy storage

The amount of firming capacity will depend on the rate at which variable renewable energy is developed, future electricity demand, and the retirement of coal-fired power stations. In this regard the current outlook for the NEM is as follows:

- continuing installation of rooftop photovoltaic (PV) in households and commercial buildings, coupled with an increasing percentage with battery storage;
- uncertain growth in electricity demand supplied by the main electricity grid due to factors that include an increasing amount supplied by rooftop PV (with batteries), increasing energy efficiency, potential closures of aluminium smelters (high electricity consumers), and increasing supply to electric vehicles;
- reducing costs of solar and wind generation, and battery storage;
- coal-fired power stations closing (reducing the energy and capacity from this sector):
 - this will start with the closing of 2,000 MW in 2022 (Liddell Power Station);
 - by 2032 a further 5,000 MW of coal plant is likely to be retired (Vales Point, Yallourn, Eraring);
 - by 2037 (five years later) a further 10,000 MW of coal plant is anticipated to be retired;
- as the majority of the coal plant already confirmed to be retired will occur in NSW pre-mid 2030's, NSW is likely to have the greatest requirement for energy replacement and capacity; and

- greater participation of the demand side through demand response measures at times of high energy prices.

As the amount of the variable renewable energy increases in response to economics and retiring coal-fired power stations, energy storage will play a vital role in ensuring the continued provision of reliable and cost efficient energy generation whilst accommodating the variability and intermittency of variable renewable energy generation and having energy generation capacity available when needed.

As a centralised opportunity to provide a large-scale storage solution for the NEM, Snowy 2.0 can rely on existing business synergies within the Snowy Hydro portfolio to deliver NSW consumers a highly cost-efficient storage and dispatchable electricity solution.

Equally, Snowy 2.0 would do a number of things:

- substantially increase the value of variable renewable energy generation by storing any energy surplus that would not be used and then use it when it is needed most;
- on account of the improved economics, new-entrants will be encouraged to build more variable renewable energy which in turn requires even more energy storage;
- reduce generation variation that would previously have been provided by existing coal- and gas-fired power stations. By doing this, storage would reduce the 'wear and tear' on coal plant thereby reducing operating costs and increasing their reliability;
- have generation capacity ready to operate when needed, such as during periods of very high demand and/or during periods when existing major generators are out of service (either due to planned outages or due to unforeseen breakdowns); and
- provide generation through periods of drought when conventional hydro-generation is lower than under normal conditions and the daily opportunities to pump are reduced.

The ability for energy storage to provide these services relates to the amount of capacity and the storage size (ie hours of operation when the storage is full). For a given level of capacity (measured in MW) the value of an energy storage facility increases as the size of the storage (expressed in hours of operation) increases due to the ability to operate longer without needing to pump, and a reduced the risk of being caught with the storage empty when needed.

3.2.2 Snowy 2.0 and meeting future challenges facing the NEM

As demonstrated in the previous sections, the pumped hydro energy storage and generation project that is Snowy 2.0 will positively advance Australia's current and future energy supply needs and address challenges with the current energy mix (Marsden Jacobs Associates 2018).

i Key economic and market conclusions that support the development of Snowy 2.0

The economics of main grid electricity supply has shifted to energy being supplied by variable renewable energy with this supported by firming generation. That said, the low cost and zero emission advantages of variable renewable energy will only be realised if a sufficient amount of the energy from variable renewable energy can be stored for later use when required.

Pumped storage will be required to be assessable in all states across the NEM. NSW will have the largest requirement due to the extent of the coal-fired power station closures projected to occur in that State.

The level of power system security and reliability required by the regulatory bodies may require additional storage than that commensurate with participant risk management.

Optimum development of the NEM accounting for the aging generation, economics, environmental commitments, and reliability and security, will entail significant quantities of both batteries and pumped hydro, with batteries playing a different role than pumped storage, as batteries are a significantly more expensive alternative to manage the storage volumes that will be required in the NEM.

There will be insufficient economic storage in the NEM without implementing major projects as provided by Snowy 2.0 and others such as the Tasmania based pumped storage.

Snowy 2.0 will be an important part of the storage mix. It will provide significant and strategic value through its location, cost competitiveness, and large energy storage capability.

Establishing a new power station, providing not only an additional 2,000 MW generating capacity but approximately 350 GWh (or 175 hours) of storage to the NEM at any one time will advance the National Electricity Objective and address the findings of the Finkel review (2017). This will be achieved by providing increased levels of intermittent generation, enhancing competition in the electricity value chain and increasing the use of renewable energy sources, thereby reducing total CO² emissions (Marsden Jacobs Associates 2018).

The conclusion of the Snowy 2.0 Feasibility Study stated that the project:

- is technically feasible - that is, it can be physically built;
- is financially feasible - generating returns that meet Snowy Hydro's stringent investment hurdles;
- can be funded internally by Snowy Hydro;
- will not impact downstream water users nor change the water release obligations under Snowy Hydro's water licence; and
- will go through well established and robust planning and environmental approval processes.

Snowy 2.0 will make renewable energy more reliable and more affordable for operators and users within the NEM and will significantly contribute to the orderly transition from coal to renewables thereby helping Australia meet its global climate change targets.

ii [Snowy 2.0 benefits to the NEM](#)

Snowy 2.0 will serve the market and consumers by addressing some key aspects of supply-side volatility and intermittency issues including:

- scale of Snowy 2.0;
 - By expanding the Snowy Scheme's renewable energy capacity by almost 50%, the NEM will be served with an additional 2,000 MW generating capacity.

- system security;
 - Snowy Hydro has a unique opportunity to provide a solution to the NEM's requirements for large generation reserve required to respond to demand and supply events in the future with the retirement of traditional baseload power generation and increased proportions of the variable and intermittent nature of renewable energy generation. Snowy 2.0 will provide a solution that is reliable, cost-effective, and responsive on an unmatched scale in terms of volume and duration.
- energy reliability;
 - The dispatchable generation supply provided by Snowy 2.0 will be provided precisely when the market requires it and only relies upon a market price signal to undertake this essential role. The recent and ongoing rush to renewable wind and solar generation has been driven by cost curves that are lower than efficient gas generation per unit of energy generation. However these intermittent generation sources require the firming capacity that Snowy 2.0 will supply in order to provide the same energy reliability of dispatchable generation.
 - Snowy 2.0 will have the capability to run for over seven days continuously or 15 days during the peak period before it needs to be 'recharged' by pumping water to Tantangara Reservoir. By comparison, small- and large-scale batteries have limited storage (typically one to four hours) and their already uncompetitive high prices increase significantly when used for more than one charge/discharge cycle per day. This is a constraint that Snowy 2.0 does not face.
- low emissions future;
 - Snowy 2.0 will provide system stability that enables deeper penetration of currently poorly integrated variable renewable generation, specifically as it increases to meet the Commonwealth Government's Paris Agreement commitments and beyond. The low emissions future targeted by the current, multifaceted regulatory framework can only be delivered reasonably by a multifaceted approach. This is likely to include a combination of commercially viable mechanisms including delivery of Snowy 2.0, retiring base-load thermal generation, greater penetration of large-scale renewables, steadily growing demand-side management and a return to a stable market for gas as a reliable fuel source for electricity generation.
 - Snowy 2.0 not only enables the decarbonising of the future energy market which is increasingly desired by modern society, but it does so in an orderly manner, and therefore protects electricity consumers from further price shocks.
- consumer costs and electricity affordability;
 - Snowy 2.0 provides the advantages of lower cost, optionality to increase, and the storage needed to supply the continuous periods that may be associated with low wind conditions and/or high demands and/or outages of coal plant. Electricity retail prices reflect the wholesale cost of energy borne by retailers. To serve customers, retailers face wholesale electricity procurement risk, the key price driver of which is the ability to source reliable and long-term energy management products at a competitive and affordable price. As base-load generation exits the NEM to be replaced by intermittent renewable generation, the need to augment the Snowy Scheme with Snowy 2.0 increases.

The scale and centralised location of Snowy 2.0 in the NEM enables the system stability, energy reliability and firming capability benefits to be enjoyed by all energy system as summarised in Table 3.1 below.

Table 3.1 Benefits of Snowy 2.0 by market segment

Market segment	Benefit summary
Wholesale energy supply	<ul style="list-style-type: none"> • maintaining economics of base-load generation; • lower costs of generation operation; • longer term reliability; • provision of a firming service for wholesale electricity supply; • increased sharing of generation between SA/VIC and NSW/QLD; and • increased generation inertia and greater system stability.
Customers	<ul style="list-style-type: none"> • improved security and reliability; and • lower retail prices.
Retail	<ul style="list-style-type: none"> • lower cost and availability in firming intermittent generation; • lower energy procurement costs; and • increased retail competition.
Snowy Hydro	<ul style="list-style-type: none"> • price arbitrage in the spot market; • sales of hedging contracts; and • growth platform to grow and augment the product suite.

3.2.3 Snowy 2.0 and Kosciuszko National Park

i KNP Plan of Management

While the statutory provisions relating to KNP and the Snowy Scheme are detailed at Section 3.3, of note is the recognition of the Snowy Scheme in the KNP PoMs (NPWS 2006).

Various references are made to the Snowy Scheme in the PoM including within the Park Zoning provisions. The Park Zoning covers the whole of the KNP and is intended to:

- protect the values of the park, as set out in the PoM under the headings of Natural Values, Cultural Values and Recreational Values;
- optimise opportunities for a wide range of recreational activities and visitor experiences; and
- minimise conflict between participants in different recreational activities, and between visitors, management operations and other authorised uses.

KNP has five management zones:

- **Wilderness Zone** - Wilderness areas declared under the NSW *Wilderness Act 1987*;
- **Back Country Zone** - Those parts of the KNP without public road access and not within declared wilderness areas;
- **Minor Road Corridors** - Corridors along minor public roads and associated visitor developments;

- **Major Road Corridors** - Corridors along major sealed and unsealed public roads and associated visitor developments; and
- **Visitor Services Zone** - Alpine resorts, development nodes and operational centres.

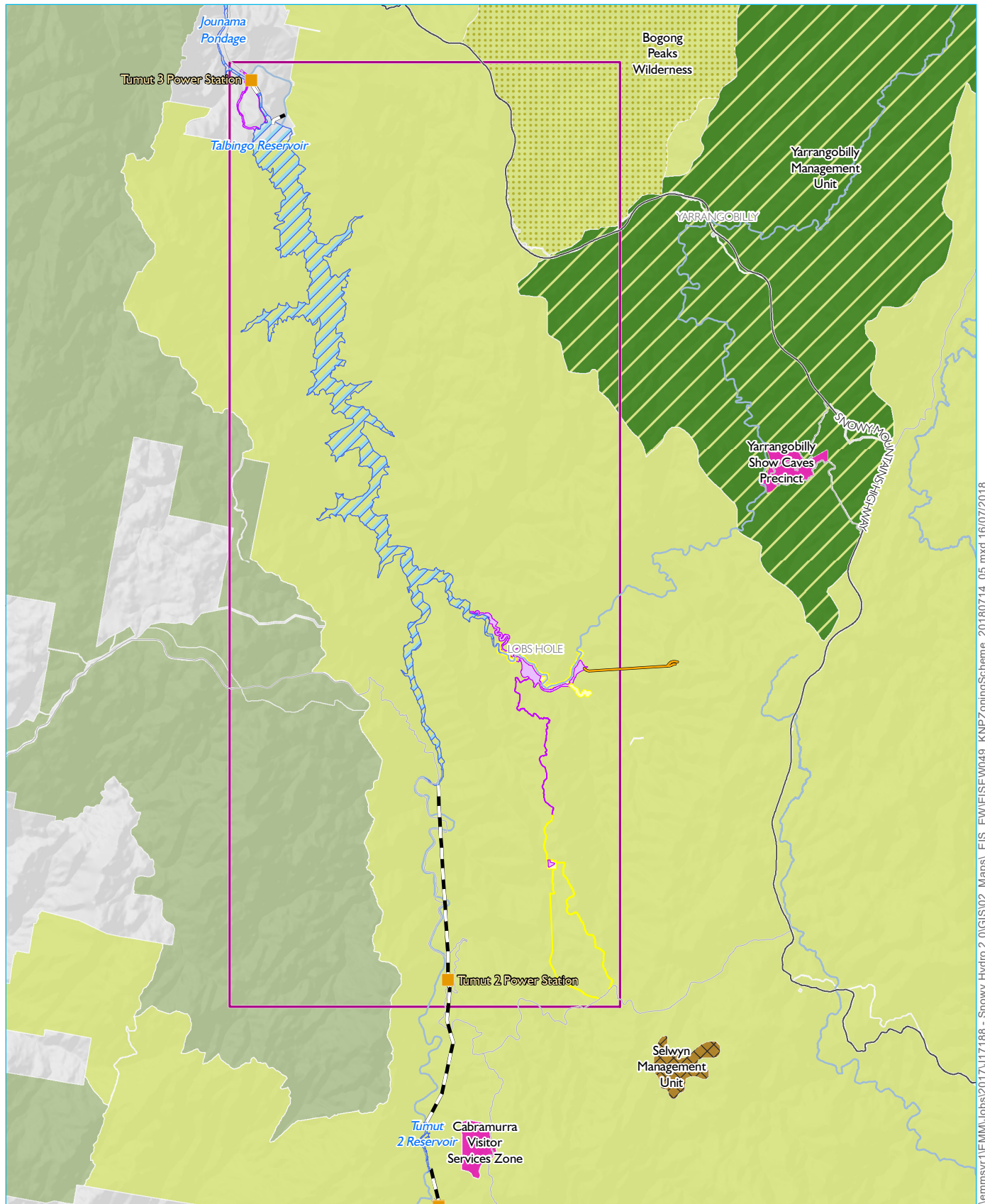
An extract of the zoning scheme map relevant to Exploratory Works for Snowy 2.0 is shown at Figure 3.3. Most of the infrastructure associated with the Snowy Scheme is in the Back Country Zone that covers approximately half of the total area of KNP and (with the exception of land within the Wilderness Zone) contains those parts of KNP that are relatively remote and display high degrees of naturalness. The intent for these areas is that they are to be retained in a relatively unmodified state.

The management focus for land in this zone is to retain these parts of KNP free from further development and, where appropriate, restore their ecological integrity. Recreation management in this zone differs from that within the Wilderness Zone in that horse riding, motorised boating and various commercial recreational activities and special events are allowed in certain areas, cycling is permitted on most management trails, and the variety, standard and capacity of recreational facilities provided is greater.

Some of the roads that provide access into and across the Back Country Zone are included in the Minor Road Corridors Zone. These roads include Lobs Hole Ravine Road, Spillway Road and some other minor roads within the Exploratory Works project area; predominantly unsealed minor roads that are open for public vehicular use. Many of these roads are suitable for conventional vehicles with only a few offering recreational driving opportunities in which a four wheel drive is required. These roads are to be managed in a manner that provides a range of day and overnight recreational opportunities in which people can enjoy and appreciate the values of KNP while still experiencing a sense of isolation.

Further to the intent and management strategies set out in the Park Zoning, the rights of Snowy Hydro to occupy and operate the existing Snowy Scheme within KNP are guaranteed through the:

- SHC Act;
- Snowy Park Lease;
- Snowy Water Licence;
- Roads Maintenance Agreement;
- Schedule of Existing Developments;
- Snowy Management Plan; and
- *NSW National Parks and Wildlife Regulation 2009* (NPW Regulation) which also includes provisions specific to the Snowy Scheme and the activities of Snowy Hydro; including an obligation on Snowy Hydro under clause 46 of the NPW Regulation to comply with the provisions of the Snowy Management Plan.



Source: EMM (2018); Snowy Hydro (2018); DFSI (2017); LPMA (2011)

KEY

- Exploratory Works project area
- Scheme storage
- Existing power station
- Existing pipeline tunnel
- Main road
- Local road or track
- Watercourse
- Exploratory tunnel
- Disturbance footprint
- Avoidance footprint
- State forest
- Kosciuszko National Park zoning scheme
- Wilderness zone
- Visitor services zone

- Back country zone
- Areas of recreational significance (management area)
- Areas of exceptional natural and cultural significance (management unit)

Kosciuszko National Park: zoning scheme

Snowy 2.0
Environmental Impact Statement
Exploratory Works
Figure 3.3

ii Regional and local strategic plans

In NSW, the requirements for land use planning and plan-making are set out in the EP&A Act. Recent amendments to the EP&A Act reduced planning-making from three to two levels, by repealing the requirements for regional planning. Conversely, the amended legislation strengthened the requirements for strategic plans at the local government level. These provisions came into effect in March 2018. Under the new provisions, each council is now required to prepare a local strategic plan statement which will set out a 20 year vision for land use in the local area, the spatial character and values that are to be preserved and how change is to be managed.

While 2018 is too early for local strategic plans (which have yet to be drafted), the proposed location for Snowy 2.0 and Exploratory Works is at the eastern extremity of the Riverina Murray Regional Plan 2036 and close to the border of the South East and Tableland Regional Plan 2036; both of which provide a level of support for the Snowy Scheme.

a. Riverina Murray Regional Plan 2036

The Riverina Murray Regional Plan 2036 emphasises the importance of the premium agricultural areas associated with Australia's major inland river systems, the transport connections to the major cities and ports located along Australia's eastern seaboard and the economic opportunities that provides for the regional centres of Griffith and Wagga Wagga. The Snowy Scheme and KNP are recognised at the sub-regional level where both are identified as key employers for communities within Snowy Valleys LGA.

b. South East and Tableland Regional Plan 2036

The South East and Tablelands Regional Plan 2036 recognises the Snowy Scheme as a major generator of renewable energy for the NEM and as a key local employer.

This plan also recognises the importance of tourism generally, and the importance of KNP specifically for its resorts and recreation resources. The plan states that tourism contributes \$500 million to the regional economy each year and accounts for 27% of the region's total economic contribution. In 2016, the Snowy Mountains welcomed more than 1.3 million overnight international, domestic and day-trip visitors.

Under this plan the natural advantages in wind, hydro and solar energy generation are also recognised as an existing and potential economic driver. The plan encourages further investment in renewable energy and the further development of the area as a renewable energy hub.

These objectives align well with the proposed development of Snowy 2.0.

3.2.4 Summary

In summary, it is evident that the future NEM will need large-scale storage and there is considerable support for Snowy 2.0 and Exploratory Works at the Commonwealth, State and local level and through the forecasted demand and needs of the NEM, as evidenced by:

- the Commonwealth's commitment to fostering increased investment in renewable energy sources for electricity generation as supported by the REE Act and being a signatory to the Paris Agreement;
- the support for the project by the NSW government through the provisions of the Renewable Energy Action Plan and consideration of Energy Zones, which will likely require large-scale and longer term energy storage;

- the goals of improving energy security and reliability as the NEM transitions away from coal-fired, dispatchable, baseload power to variable renewable energy (ie wind and solar) characterised by intermittency;
- the economics of main grid electricity supply has shifted to energy being supplied by variable renewable energy sources (ie wind and solar), however the advantages of these sources can only be realised with energy stored for later use when required;
- the provisions of the KNP PoM, including the current working arrangement for the Snowy Scheme and the location of Exploratory Works within the Back Country Zoning, rather than a protected Wilderness Zone; and
- the support for Snowy 2.0 through the relevant regional and local plans.

3.3 Statutory context

3.3.1 Introduction

Snowy Hydro is a company incorporated under the Commonwealth *Corporations Act 2001*, with an independent board of directors and shareholders. Snowy Hydro is fully owned by the Commonwealth Government.

The existing Snowy Scheme has a unique approval mechanism where it is able to operate within land that is reserved as a national park under NSW legislation. The components of the existing Snowy Scheme within the KNP operate under the Snowy Park Lease from the NSW Minister for the Environment. Snowy Hydro also operates the Snowy Scheme under a stringent water licence administered by DoI Water that allows for water collection, storage, diversion and release in order to generate electricity.

On 26 October 2017, Snowy Hydro requested that the NSW Minister for Planning declare Snowy 2.0 to be CSSI to which Part 5, Division 5.2 of the EP&A Act applies. On 7 March 2018 the NSW Minister for Planning declared Snowy 2.0 to be CSSI with the declaration coming into effect on 9 March 2018. Exploratory Works, as a component of Snowy 2.0, may be carried out without development consent under Part 4 of the EP&A Act and is declared to be CSSI for the purposes of the EP&A Act.

On 28 May 2018, Snowy Hydro submitted a referral for a proposed action under the Commonwealth EPBC Act for Exploratory Works. This referral considered impacts to matters of national environmental significance (MNES) and the environment generally. On 10 July 2018, the Assistant Minister for the Environment confirmed that Exploratory Works was not a controlled action and therefore, do not require any further assessment or approval under the EPBC Act. On the same day, the Assistant Minister also declared that Exploratory Works is a class of action to which Section 28 of the EPBC Act (ie activities of Commonwealth agencies) does not apply.

3.3.2 Kosciuszko National Park

The KNP is reserved as a national park under Part 4, Division 3 of the NPW Act. NSW national parks are the responsibility of the NPWS which is a part of the OEH.

KNP contains unique sub-alpine values and declared Wilderness Areas and is listed on the Australian National Heritage List. All activities on reserved land must be consistent with the objects and purpose of the NPW Act. Consideration of Exploratory Works against the objects and purpose of the NPW Act is provided in Appendix C.

All activities within KNP must be consistent with the PoM in accordance with Part 5 of the NPW Act. The KNP PoM incorporates the Snowy Management Plan, which is set out in Schedule 2 of the Snowy Management Plan Procedures Agreement dated 3 June 2002. Snowy Hydro is required, under Part 4 of the NPW Regulation, to comply with the environmental management obligations imposed on the company under the Snowy Management Plan. Should approval be granted for Exploratory Works, the Snowy Management Plan Procedures Agreement will be reviewed and updated as required.

3.3.3 Snowy Hydro

The SHC Act came into force on 28 June 2002. It enabled the corporatisation of the former Commonwealth Snowy Mountains Hydro-electric Authority to Snowy Hydro Limited, and entitled Snowy Hydro to a number of key operating instruments to enable the continued operation of the existing Snowy Scheme. Concurrent corporatisation legislation was also passed in each of the Commonwealth and Victorian parliaments.

Part 6, Section 37(2) of the SHC Act entitles Snowy Hydro to the grant of a lease, licence, easement or right of way over KNP, for the purposes of the existing Snowy Scheme development. The Snowy Park Lease was granted to Snowy Hydro by the NSW Minister for Environment in 2002 and has a term of 75 years. The lease covers land where surface infrastructure associated with Snowy Hydro has been constructed. Section 41(5) of the SHC Act provides that development that is for a purpose for which a lease has been granted under Part 6 of the Act, is taken to be authorised under the NPW Act.

New surface infrastructure works within KNP associated with Exploratory Works are not covered by the existing Snowy Park Lease. Therefore, minor amendments will be required to the SHC Act to enable extension of the Snowy Park Lease to include the areas that will be accessed and occupied by Snowy Hydro during Exploratory Works.

Section 38(1) of the SHC Act, provides that a plan of management may deal with the activities of Snowy Hydro within the KNP and impose obligations on the company to comply with the plan of management. This compliance obligation is supported by Part 4 of the NPW Regulation.

The Snowy Water Licence is a statutory instrument issued under Part 5 of the SHC Act. It embodies the operating and accounting principles of the Snowy Scheme. The Snowy Water Licence confers a number of rights and obligations on Snowy Hydro for the collection of all water from the rivers, streams and lakes within the Snowy Water Catchment. Snowy Hydro has the right to divert, store and use that water to generate electricity and for purposes that are incidental or related to the generation of electricity, and the obligation to release that water from storage.

No amendments to the Snowy Water Licence are anticipated to be required for Exploratory Works.

3.3.4 Commonwealth EPBC Act

An approval under the EPBC Act is required for Exploratory Works if:

- it will have or is likely to have a significant impact on MNES; or
- it will have or is likely to have a significant impact on the environment inside or outside the Australian jurisdiction.

If an activity or action requires approval under the EPBC Act, it is deemed to be a 'controlled action' and requires approval from the Commonwealth Minister for the Environment or the Minister's delegate. To determine whether a proposed action will or is likely to be a controlled action, a Referral of Proposed Action is submitted to DoEE for assessment.

A Referral of the Proposed Action was submitted to DoEE on 28 May 2018 (Ref 2018/H217) and publicly notified from 2 June 2018 to 20 June 2018. A decision on the referral was made by the Assistant Minister for the Environment on 10 July 2018 which stated that Exploratory Works is not a controlled action, meaning that it does not require further assessment and approval under the EPBC Act before it can proceed. The Assistant Minister also declared under Section 28(4) of the EPBC Act that Exploratory Works are a class of actions to which Section 28 of the EPBC Act (a prohibition against Commonwealth Agencies taking actions that significantly impact the environment) will not apply. This is because the Minister declared that, in taking the action, Snowy Hydro will have to comply with NSW legislation (ie EP&A Act) that provides for comprehensive assessment and management of Exploratory Works impacts, and which has the object of protecting the environment.

3.3.5 Approval processes

i Permissibility

The EP&A Act and EP&A Regulation form the statutory framework for planning approval and environmental assessment in NSW. Implementation of the EP&A Act is the responsibility of the Minister for Planning, statutory authorities and local councils. It contains two parts that impose requirements for planning approval:

- Part 4, which provides for control of development that requires development consent from the relevant consent authority.
- Part 5, which provides for control of development that does not require development consent under Part 4. Part 5 'activities' are determined under Division 5.2 for SSI and CSSI or Division 5.1 for all other types of development.

The identification of approval pathways and assessment requirements are set out in environmental planning instruments (EPIs) that may be made under Division 3.3 (State environmental planning policies) or Division 3.4 (local environmental plans) of the EP&A Act. Part 5, Division 5.2 of the EP&A Act establishes the assessment and approval regime for SSI and CSSI. Sections 5.12 and 5.13 of Part 5 of the EP&A Act provide for the declaration of SSI and CSSI, respectively.

A State environmental planning policy (SEPP) may declare development to be SSI (Section 5.12(2)) provided the development is permitted by a SEPP to be carried out without development consent under Part 4 and is either infrastructure or other development for which the proponent is also the determining authority and would require an EIS under Division 5.1 (Section 5.12(3)). Despite this, specified development on specified land may be specifically declared to be SSI by a SEPP or by an order of the Minister for Planning to amend a SEPP (Section 5.12(4)).

Part 7 of the SHC Act approved the Snowy Scheme as at the date of corporatisation (28 June 2002) under former Parts 4 and 5 of the EP&A Act. Exploratory Works is an augmentation to the Snowy Scheme, beyond the scope of Snowy Hydro operations currently authorised by the SHC Act. Assessment and approval under the EP&A Act is, therefore, required prior to commencing the Exploratory Works.

Section 5.13 enables the Minister for Planning to declare SSI to be CSSI if 'it is of a category that, in the opinion of the Minister, is essential for the State for economic, environmental or social reasons'. On 26 October 2017 Snowy Hydro requested that the NSW Minister for Planning declare Snowy 2.0 to be CSSI. On 7 March 2018 the NSW Minister for Planning declared Snowy 2.0 to be CSSI. This declaration came into effect on 9 March 2018 and is included in clause 9 of Schedule 5 of the *State Environmental Planning Policy (State and Regional Development) 2011* (SRD SEPP).

The Minister for Planning (or delegate) is the determining authority for CSSI. Whilst Section 2.4 of the EP&A Act allows the Minister to delegate his or her function of determining an application for approval under Part 4 or Part 5 of the Act, section 2.4(3)(b) prevents this for the determination of an approval for CSSI.

ii Environmental Planning and Assessment Act 1979

The provisions and objectives of the EP&A Act relevant to the Exploratory Works are summarised below.

- Section 1.3– specifies the objects of the EP&A Act. The objects of the EP&A Act are reproduced in Appendix C, with a consideration of the consistency of the project with these objects.
- Sections 5.14 – 5.19 of the EP&A Act sets out the environmental assessment and approval process for SSI. The approval process steps are shown in Figure 3.4.
- Section 5.22(2) – EPIs do not apply to, or in respect of, SSI except that they apply to the declaration of infrastructure as SSI or CSSI and in so far as they relate to section 3.16 of the Act. Irrespective of this, consideration has been given in this EIS to the instruments that would have applied if not for this section (see Table 3.3).
- Section 5.23(1) – identifies a number of authorisations that are not required for approved SSI.
- Section 5.23(2 and (3) – identifies directions, orders or notices which cannot be made or given so as to prevent or interfere with the carrying out of approved CSSI.
- Section 5.24 – identifies a number of authorisations that cannot be refused if they are necessary for carrying out approved SSI and are to be substantially consistent with an approval under Division 5.2.
- Part 6 – any works or activities related to building work and the occupation or use of a building requires a certificate under this part.

iii Environmental Planning and Assessment Regulation 2000

An EIS for SSI is to be prepared in accordance with Part 3 of Schedule 2 of the EP&A Regulation (as per Section 5.16 of the EP&A Act). The requirements for preparation of an EIS are set out in Clause 6 and 7 of Schedule 2 of the EP&A Regulation. A summary of these requirements and where they are addressed in the EIS are provided in Table 3.2.

Table 3.2 **Schedule 2 requirements for an EIS**

Requirement	Where contained in the EIS
Clause 6 Form of environmental impact statement	
the name, address and professional qualifications of the person(s) by whom the statement is prepared,	Certification page at the front of this EIS
the name and address of the responsible person (the applicant),	Certification page at the front of this EIS
the address of the land: <ul style="list-style-type: none"> • in respect of which the development application is to be made, or • on which the activity or infrastructure to which the statement relates is to be carried out, 	Certification page at the front of this EIS
a description of the development, activity or infrastructure to which the statement relates,	Chapter 2
an assessment by the person by whom the statement is prepared of the environmental impact of the development, activity or infrastructure to which the statement relates, dealing with the matters referred to in this Schedule,	Chapter 5 and supporting technical assessments in Appendix F to Appendix V
a declaration by the person by whom the statement is prepared to the effect that: <ul style="list-style-type: none"> • the statement has been prepared in accordance with this Schedule, and • the statement contains all available information that is relevant to the environmental assessment of the development, activity or infrastructure to which the statement relates, and • that the information contained in the statement is neither false nor misleading. 	Certification page at the front of this EIS
Clause 7 Content of environmental impact statement	
a summary of the EIS,	Executive summary
a statement of the objectives of the development, activity or infrastructure,	Section 1.5, Chapter 3
an analysis of feasible alternatives to the carrying out the development, activity or infrastructure, having regard to its objectives, including the consequences of not carrying out the development, activity or infrastructure,	Chapter 1 and Chapter 3
an analysis of the development, activity or infrastructure, including: <ul style="list-style-type: none"> • A full description of the development, activity or infrastructure, and • A general description of the environment likely to be affected by the development, activity or infrastructure, and • The likely impact on the environment of the development, activity or infrastructure, and • A full description of the measures proposed to mitigate any adverse effects of the development, activity or infrastructure, and • A list of any approvals that must be obtained under any other Act or law before the development, activity or infrastructure may lawfully be carried out, 	Chapter 2 Chapter 5 Chapter 5
a compilation (in a single section of the EIS) of the measures referred to in item (d)(iv),	Chapter 5
the reasons justifying the carrying out of the development, activity or infrastructure in the manner proposed, having regard to biophysical, economic and social considerations, including the principles of ecologically sustainable development.	Section 3.2.5.v, Table 3.3 and Appendix C Chapter 6 Chapter 7

Landowners consent is not required for a CSSI application under clause 193(1) of the EP&A Regulation. However, under clause 193(4), the proponent is required to give notice of the application or request:

- (a) by written notice to the owner of the land before, or no later than 14 days after, the application or request is made, or
- (b) by advertisement published in a newspaper circulating in the area in which the infrastructure is to be carried out:
 - (i) in the case of an infrastructure application—at least 14 days before the environmental impact statement that relates to the infrastructure is placed on public exhibition, ...

Notification was made to NPWS in accordance with clause 193(4)(a) of the EP&A Regulation by letter on 13 July 2018.

iv Other regulatory requirements

Consideration of Exploratory Works against all other regulatory requirements is given below in Table 3.3. Although EPIs do not apply to SSI or CSSI by virtue of Section 5.22(2) of the EP&A Act, consideration of the instruments that would have applied to the Exploratory Works project area is also given.

It is noted that, whilst the *State Environmental Planning Policy (Infrastructure) 2007* is listed as a potentially relevant EPI in the SEARs, the provisions of the instrument are not relevant to the Exploratory Works. It is also worth noting that, whilst in close proximity to the Mount Selwyn Alpine Resort, the Exploratory Works are outside of the application area for the *State Environmental Planning Policy (Kosciuszko National Park – Alpine Resorts) 2007*.

Table 3.3 Consideration of other regulatory requirements

Regulatory requirements	Considerations	Where contained in the EIS
<i>National Parks and Wildlife Act 1974</i>	Aboriginal objects may be present	Section 5.5 Appendix O (Aboriginal cultural heritage assessment)
<i>Biodiversity Conservation Act 2016</i>	Impacts to threatened flora and fauna species and ecological communities	Section 5.1 Appendix F (Biodiversity development assessment)
<i>Protection of the Environment Operations Act 1997</i>	Works are a premises based scheduled activity	Appendix C (Regulatory framework)
<i>Roads Act 1993</i>	Use of local roads and road upgrade works proposed.	Section 5.6 Appendix Q (Traffic and transport assessment)
<i>Water Act 1912</i>	Proposed construction and operation of groundwater monitoring bores	Section 5.4 Appendix N (Groundwater assessment)
<i>Water Management Act 2000</i>	Interaction with water sources to which Water Sharing Plans apply	Section 5.4 Appendix M (Surface water assessment) Appendix N (Groundwater assessment)

Table 3.3 **Consideration of other regulatory requirements**

Regulatory requirements	Considerations	Where contained in the EIS
<i>Rural Fires Act 1997</i>	Bushfire prone land	Section 5.8 Appendix V (Bushfire risk and hazard assessment)
<i>Heritage Act 1977</i>	Impacts to locally significant listed heritage items and National heritage places	Section 5.5 Appendix P (Historic cultural heritage assessment)
<i>Fisheries Management Act 1994</i>	Impacts to threatened aquatic species and ecological communities	Section 5.1 Appendix G (Aquatic ecology assessment)
<i>Wilderness Act 1987</i>	Wilderness areas are contained within KNP	Appendix C (Regulatory framework)
<i>Local Government Act 1993</i>	Proposed sewage management system	Appendix C (Regulatory framework)
<i>Work Health and Safety Act 2011</i>	Health and safety of workers	Appendix C (Regulatory framework)
<i>State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007</i>	Compatibility of dredging works with surrounding land uses and management of impacts to natural resources and the environment.	Appendix C (Regulatory framework)
<i>State Environmental Planning Policy No. 33 – Hazardous and Offensive Development</i>	Potential hazards and offensive discharges	Appendix C (Regulatory framework)
<i>State Environmental Planning Policy No. 44 – Koala Habitat Protection</i>	Land has the potential to be koala habitat	Section 5.1 Appendix F (Biodiversity development assessment)
<i>State Environmental Planning Policy No 55 – Remediation of Land</i>	Potential for historic contamination of land	Section 5.3 Appendix H (Soils and land assessment)
<i>Tumut Local Environmental Plan 2012</i>	Land zoned E1 National Parks and Nature Reserves and RU1 Primary Production	Section 5.3 Appendix H (Soils and land assessment)

v Summary of approvals required for the project

A summary of the licences, approvals and permits that are likely to be required for the project is provided in Table 3.4.

Table 3.4 Required licences, approvals and permits summary

Legislation	Authorisation	Consent of approval authority
<i>Environmental Planning and Assessment Act 1979</i>	SSI and CSSI approval for Exploratory Works Construction certificate required for construction of relevant structures in the surface infrastructure area Occupation certificate required prior to use of certain buildings in the surface infrastructure area	Minister for Planning Snowy Valleys Council or private certifier Snowy Valleys Council or private certifier
<i>Snowy Hydro Corporation Act 1997</i>	Amendments to Snowy Park Lease	Minister for Environment
<i>Protection of the Environment Operations Act 1997</i>	EPL for the following premises based scheduled activities: <ul style="list-style-type: none"> • Chemical storage; and • Extractive industry. 	EPA
<i>Roads Act 1993</i>	Section 138 permits for works involving a public road	NPWS and Snowy Valleys Council
<i>Water Management Act 2000</i>	Water access licences	DoI – Water
<i>Water Act 1912</i>	Licensing of monitoring bores	DoI – Water
<i>Local Government Act 1993</i>	Approval for carrying out sewerage work	Snowy Valleys Council
<i>Work Health and Safety Act 2011</i>	Licensing of dangerous goods	NSW WorkCover Authority

