



## ASX & Media Release

### Rehabilitation Report

10 August 2017

A copy of AGL Energy Limited's Rehabilitation Report, published today, is attached.

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#### About AGL

AGL is committed to helping shape a sustainable energy future for Australia. We operate the country's largest electricity generation portfolio, we're its largest ASX-listed investor in renewable energy, and we have more than 3.6 million customer accounts. Proudly Australian, with more than 180 years of experience, we have a responsibility to provide sustainable, secure and affordable energy for our customers. Our aim is to prosper in a carbon-constrained world and build customer advocacy as our industry transforms. That's why we have committed to exiting our coal-fired generation by 2050 and why we will continue to develop innovative solutions for our customers.

# Rehabilitation

AGL's approach to  
rehabilitation of power  
generation infrastructure



At AGL we understand things need to change. That's why we are helping to build a sustainable energy future for Australia. We're looking to the future and working with our communities on a transition that is inclusive of all.

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## About this Report

1 This report outlines how AGL is approaching the challenges associated with rehabilitating large, long-lived assets and infrastructure. It summarises how we must consider various factors for the rehabilitation of these assets at the end of their operating lives.

12 Further, the report is designed to provide an overview of processes, strategies and timelines that are considered in the development of rehabilitation plans, including the need for periodic review, stakeholder consultation and consideration of community impacts.

Given the timeframes involved and considerations of individual sites and geographies the information contained in this report is general in nature and is not designed to provide a detailed view on all rehabilitation plans and strategies.



# 1. Introduction

Less than one year after 195 nations adopted the Paris Agreement, the Australian Government ratified this accord, which commits signatory countries to work towards limiting global warming to two degrees and set five-yearly targets for cutting emissions. As Australia’s single largest source of scope one emissions, the electricity generation sector will have a key role in this process.

About three quarters of Australia’s current thermal generation fleet is currently beyond its original engineering design life, so there is a concurrent need to modernise and decarbonise Australia’s electricity generation sector. At AGL, we have committed to playing a leading role in this transition, not only charting a path to a decarbonised future, but responsibly and respectfully managing its impact on our employees, local communities and our customers.

Inherent in this transition is a need for greater clarity and understanding of how we will manage our large thermal assets as they approach the end of their operating lives.

In the past five years, 12 coal fired power stations have closed in Australia, and whilst some have been mothballed, and their closure anticipated, none of them were closed with more than one year’s notice. Notably, the speed of closure of the Northern and Hazelwood power stations in South Australia and Victoria has had a detrimental impact on the local and broader community and the industry at large. In turn, this has catalysed intense political debate.

As a responsible provider of an essential service, we understand that many stakeholders want greater levels of understanding, certainty, and consultation. This is why AGL has embarked upon its decarbonisation journey with a long term strategic intent – this is a transition that must be inclusive of all.

Our strategic approach to the transition is anchored in our Board-approved [Greenhouse Gas Policy](#), a public commitment of our role in the transition, including:

- decarbonisation of generation by 2050
- no investment in new coal fired generation in Australia without carbon capture and storage technology
- establishment of end of life closure dates for our three operating coal plants
- innovative renewable investment, and
- constructive engagement on energy and climate policy.

By providing a clear pathway for the retirement of our coal fired assets beginning in 2022, we are hoping to provide our stakeholders with a common and clear basis upon which to engage.

That is the purpose of this report: to provide a transparent account of how we are approaching the eventual closure and rehabilitation of our assets. This report includes our approach, what you can expect from us, what we are planning to do, and a summary of the work we have done to date.

By developing this foundation we can engage with communities, employees, investors and policymakers in a robust and informed manner. It enables the exchange of information and ideas with a view to delivering outcomes that are based upon the best science and community consultation.

As the future is uncertain, we must embrace the need for ongoing discussion, review and a willingness to respond where needed.

This report is structured as follows:

- [Section 2](#) revisits our principles and highlights our organisational approach to rehabilitation
- [Section 3](#) discusses best practice and ongoing rehabilitation practices
- [Section 4](#) provides a detailed account of AGL’s recently completed rehabilitation review
- [Section 5](#) summarises the approach to be taken in planning the future of Liddell Power Station – due to close in 2022
- [Section 6](#) provides a summary of what to expect from AGL in the future and some considerations for stakeholders.

In the context of this report there are a range of terms that are utilised under the broad banner of “rehabilitation” including rehabilitation, remediation, repowering and repurposing.

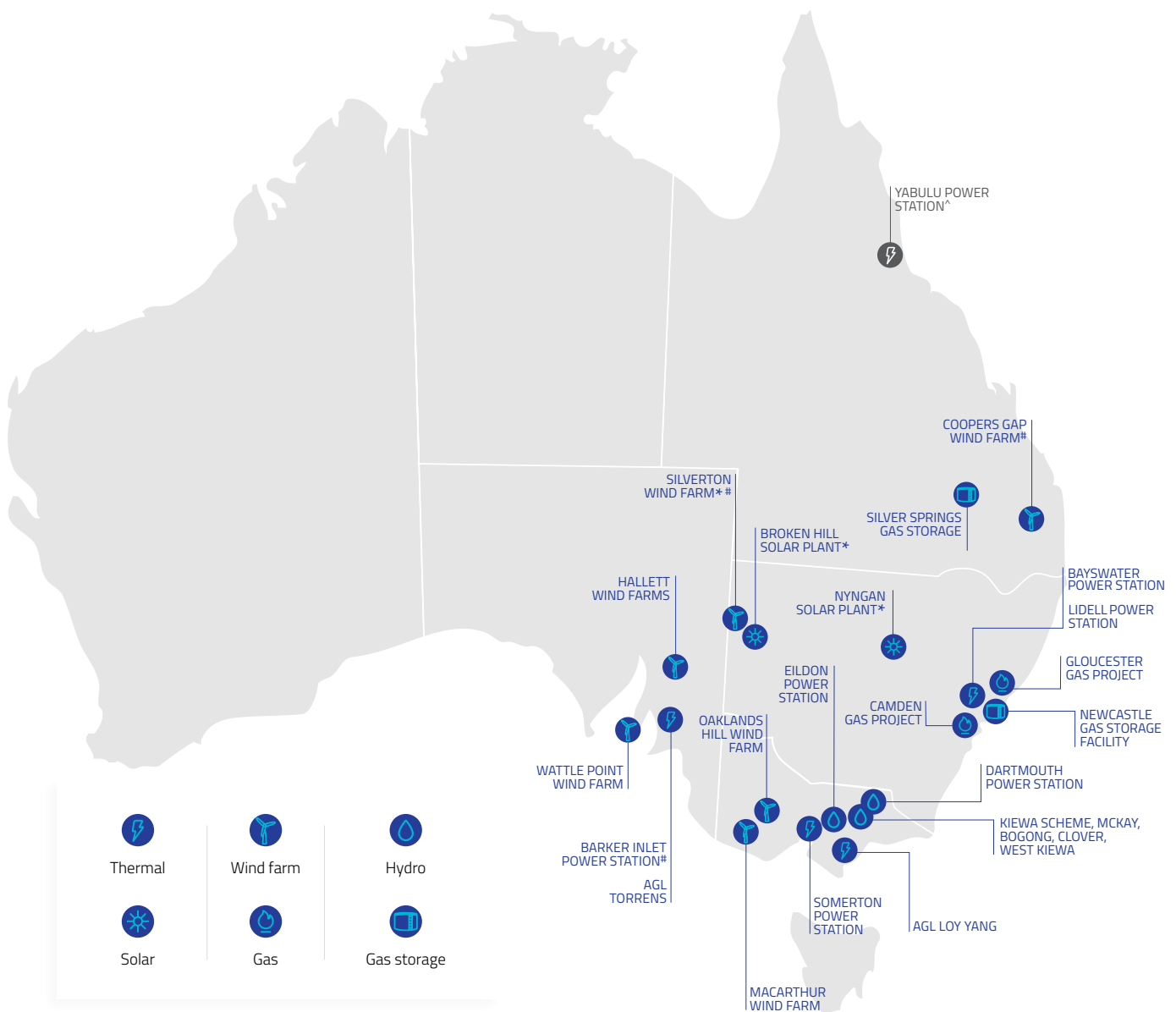
- **Rehabilitation/remediation:** these terms can be used interchangeably to mean the return of disturbed land to a stable and productive condition. In addition to end of life rehabilitation, particularly in the case of mines and earthworks, the process of progressive rehabilitation is critical to the eventual success of the final or end of life rehabilitation.

- **Repowering:** continuing to utilise the site for power generation for a period into the future, although the nature of the power generation may change from current operations (e.g. coal to gas, or coal to renewables).
- **Repurposing:** planned development of a rehabilitated site for an alternative future use (may be related or unrelated to the existing use of the land and infrastructure).



1. Introduction continued

Figure 1: Location of assets



NOTES

The electricity generation assets listed and displayed on the map comprise assets above 50 MW as at 30 June 2017. Owned and operated, operated, and non-operated assets are included.

Gas production and storage assets listed and displayed on the map comprise gas storage assets, AGL’s Camden Gas Project (operational), and the Gloucester Gas Project, where as of 30 June 2017 AGL was in the process of rehabilitating the site in preparation for surrendering the PEL to the NSW Government. Gas assets that have been divested or are in the process of being divested, are not included.

Sites that are not owned by AGL and/or currently under development/ construction were not included in the rehabilitation review.

- NOT OPERATED BY AGL
- OPERATED BY AGL

# PROJECTS BEING DEVELOPED/ CONSTRUCTED

\* PARF ASSET, OPERATED BY AGL

^ AGL HAS A 50% INTEREST IN THE OUTPUT FROM THE POWER STATION

## 2. AGL's approach to rehabilitation

Australia's energy sector is undergoing rapid transformation with the growth of distributed and non-distributed renewable energy sources, implementation of emissions reduction polices and consumers utilising new technology to take more control of their energy usage.

AGL is at the forefront of this change. We are Australia's largest publicly-listed investor, operator and developer of renewable energy. We have launched the Powering Australian Renewables Fund to invest up to \$3 billion towards 1,000 MW of renewable energy generation. We are also Australia's largest emitter of greenhouse gases. Therefore, the steps we take to decarbonise our fleet and change our generation mix are critical to the future sustainability of Australia's energy network.

We are planning for an orderly transition from conventional coal fired generation. Our approach to rehabilitation is guided by the following principles:

- **Transparency:** AGL will provide stakeholders with information to enable better understanding of the issues related to rehabilitation of AGL sites.
- **Engagement:** AGL will undertake ongoing engagement with stakeholders to ensure a diverse range of views are considered in rehabilitation plans and processes.
- **Accountability:** AGL will publish relevant information at least annually to enable external assessment of rehabilitation activities.

Our performance in these areas will be reported each year in our Sustainability Report.

We acknowledge the expectations of surrounding communities that, informed by the best available science, appropriate site rehabilitation must support agreed future land uses.

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**We believe the longer the [planning timeframes](#) and the more comprehensive the engagement with surrounding communities, the better the outcomes for all parties.**

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Carbon-intensive energy generation has traditionally underpinned the regional economies of some communities. These activities have become economic fixtures and the secure income provided by employment by companies such as AGL has facilitated the evolution of direct and indirect supply chains and industries. The transition, absent the implementation of alternative futures, is likely to have concentrated impacts on those communities where coal fired power stations and related mining activities are based.

Working in partnership with local communities, governments and other parts of industry to plan for rehabilitation can act as a catalyst for the broader social, economic and environmental transition of these regions. We are committed to working with stakeholders to connect rehabilitation priorities with emerging technologies and industries, enabling the best pre-conditions for future growth, diversification, and regional prosperity.

International examples of best practice highlight the importance of implementing the right collaborative structures. With these in place, regional economies can successfully transition from a reliance on resources and extractive industries to diversified innovative clusters and industrial bases, producing the advanced goods and services of tomorrow.

Our approach to engaging communities is guided by our Community Engagement Policy and Standard. Our aim is to leave a positive legacy, making a net positive social, economic and environmental contribution to the communities in which we operate. We will approach our task through transparent engagement and accountability.

Our coal fired assets in New South Wales and Victoria are located in regions dependent upon extractive industries. The contemporary economies of the Hunter Valley in New South Wales and the Latrobe region of Victoria were founded and developed on the back of coal fired generation (and, in the case of the Hunter Valley, coal exports).

In recognition of the changes already underway in these regions we have established the [Hunter Energy Transition Alliance](#) and are working constructively with businesses in the Latrobe Valley region to drive innovation in the energy sector and, where possible, support the development of alternative industries to foster economic diversification and resilience. These activities are part of AGL's contribution to the economic leadership required in any successful transition. The Hunter Energy Transition Alliance comprises a consortium of regional stakeholders representing industry, state and federal governments, research and development institutions, and new enterprise. Working collaboratively with a sense of shared responsibility, the goal of the Alliance is to drive regional diversification and ultimately shift AGL's existing economic footprint, workforce, and community reliance on our operations through:

- repurposing existing assets and infrastructure
- activating and intensifying productive and complementing land uses
- innovating and diversifying agribusinesses, and
- harnessing resources (e.g. water, wind, solar) and associated infrastructure to co-locate complementary enterprise.

### 3. Best practice rehabilitation

Best practice rehabilitation is difficult to define. The concept of leading practice is simply the best way of doing things at a given time. Often the steps followed for an average and best practice project are the same; but how those steps are implemented can determine the success of the project.

As new technologies and practices emerge or better solutions are devised for existing issues, it is important that leading practice enables flexibility and innovation in the development of solutions.

Approximately 81% of AGL’s listed real cash flow rehabilitation costs are associated with the AGL Macquarie and AGL Loy Yang coal fired operations. Our approach to the orderly closure and remediation of these sites will incorporate the rehabilitation of built infrastructure such as power stations, and the rehabilitation of mined or excavated earthworks (e.g. mines, lakes and ash dams). As such, we view the rehabilitation standards of mining operations as a comparable activity against which to reference the elements of leading practice.

The Australian Government, in conjunction with a range of other organisations produced *A Guide to Leading Practice Sustainable Development in Mining (2011)*. The Guide is a series of handbooks produced to share Australia’s world-leading experience and expertise in mine management and planning. These handbooks have been widely adopted, including by the International Council on Mining & Metals.

Although widely adopted, the handbook recognises the difficulty in providing a single definition of sustainability, and recognises that rehabilitation “involves the careful balancing of competing demands from regulators, residents and the wider community”. It recognises that community engagement and consultation is critical: “By involving people with a particular interest in closure issues early in the planning processes, operations can incorporate community input into the overall site plans”.

Despite the leading development of toolkits and standards within Australia, there remains limited consistency across states in relation to the legal requirements for rehabilitation. Table 1, below, summarises the standards that apply in New South Wales and Victoria, relevant to the Hunter Valley and Latrobe regions respectively.

**AGL recognises the increasing expectations of governments and surrounding communities of appropriate site rehabilitation that successfully supports future land uses.**

Table 1: Legislative requirements by jurisdiction

State	Standard	AGL’s operations
<b>NSW</b>	Under the <i>Mining Act 1992</i> , title holders must: <ul style="list-style-type: none"> <li>lodge a security bond that covers the full projected cost of rehabilitation</li> <li>prepare a rehabilitation management plan or mining operations plan</li> <li>undertake progressive rehabilitation once project stages are complete, and</li> <li>return land disturbed by mining operations to a condition capable of supporting the nominated post-mining land use(s).</li> </ul>	<ul style="list-style-type: none"> <li>AGL Macquarie’s rehabilitation obligations for the next seven-year period are contained in a mining operations plan (MOP), which was approved by the NSW Division of Resources and Energy in June 2016 and is valid until 2023. Prior to expiry in 2023, an updated MOP for the following seven-year period will be submitted to government for approval in line with the Act.</li> <li>In addition to requirements under the Act, AGL Macquarie has rehabilitation obligations under its planning consent for the Liddell Ash Dam. These obligations are contained within the Liddell Ash Dam Rehabilitation Plan.</li> </ul>
<b>Vic.</b>	<ul style="list-style-type: none"> <li>Under the <i>Mineral Resources (Sustainable Development) Act 1990</i>, license holders must prepare work plans which incorporate a rehabilitation plan.</li> <li>Government is reviewing its general rehabilitation guidelines which are expected to have a greater focus on engagement</li> <li>Government has appointed a new statutory appointee, the Mine Rehabilitation Commissioner.</li> </ul>	<ul style="list-style-type: none"> <li>AGL Loy Yang has in place a Work Plan Variation dated December 2015. A revised version is currently with the Victorian Government for consideration. This Plan extends on the 2015 Plan, providing further detail on completion criteria and progressive rehabilitation.</li> </ul>

### 3. Best practice rehabilitation continued

#### Progressive rehabilitation at Loy Yang Mine

Planning for a mine’s closure starts before mining begins. At AGL Loy Yang, the mine design process is centred around creating the final shape and form that will support the use of the land post-mining. For example, the gradient of slopes (or “batters”) is a key consideration for important factors including slope stability, erosion control and next use suitability. A considerable amount of engineering is put into the design of each final surface to ensure that it is suitable for the next use.

In addition to guiding the design and shape of a mine, progressive rehabilitation takes place during the operational life of the mine, as opposed to final rehabilitation which takes place when the mine closes.

At AGL Loy Yang, progressive rehabilitation plans have been developed which consider future mining development and designated final land uses to maximise the efficient use of resources. AGL Loy Yang’s rehabilitation strategy focuses on creating a safe and stable landform, returning the land to uses that are sympathetic to the pre-mining land use, minimising exposed overburden to mitigate dust, and covering exposed coal. These plans continue to evolve based on learnings from rehabilitation trials, improved understanding of hydrogeological factors and community expectations.

Our field rehabilitation trials are being conducted in conjunction with [Monash](#) and [Federation](#) universities. These controlled trials assist in determining the final rehabilitation design parameters. Aspects of rehabilitation that are tested and trialled include clay and topsoil coverage, vegetation types, drainage, infrastructure layout and testing of maintenance and monitoring requirements.

The development and infrastructure requirements of a mine often govern the timing and nature of rehabilitation that can be undertaken. The location and extent of active production areas such as the areas reserved for coal transport corridors, water pumping stations, infrastructure such as access roads and electricity supply networks all determine which areas are available for rehabilitation at any given point in time.

In 2017, AGL Loy Yang completed a major project centred on progressive rehabilitation with the movement of the TS4 stacker (a piece of equipment used to distribute excess soil and earth) into the mine from its previous external location. This will enable future “backfilling” of the mine.

Image 1: AGL Loy Yang – mine rehabilitation field trials





### 3. Best practice rehabilitation continued

#### Moving monster machinery

Since mining operations began at AGL Loy Yang, earth and other material in between and over the coal, known as “overburden”, has been placed on an overburden site.

AGL Loy Yang has two stackers, known as TS4 and TS5. A stacker is a massive piece of machinery weighing 2,100 tonnes, is 173 metres long, 26 metres wide and 38 metres high, which distributes material over a large area in a coordinated and safe manner. To date, these stackers have operated on the overburden site, distributing material for the past 35 years.

The long term rehabilitation strategy and mine plan include the eventual placement of some of this material within the mine at the appropriate time in the operational life. Long term mine planning identified that such a process aids in the stability of the mined-out area in preparation for closure and progressive rehabilitation.

Moving one of these machines into the mine was a core requirement to facilitate this ongoing rehabilitation activity. Moving such a piece of machinery is not a simple exercise and required more than three years’ planning and \$65 million of investment. The transfer of TS4 to the base of the mine began

on 13 March 2017. TS5 will continue to operate in the overburden site until 2025.

The sheer size of the stacker (it would not fit on the Melbourne Cricket Ground playing surface) meant the only available route to travel the four kilometres (point to point) required a circuitous 19 kilometre journey. This trip was completed at a top speed of eight metres per minute, taking about three weeks to complete. In the course of its journey, TS4 safely crossed the 500 kV Basslink transmission lines, the Hyland Highway, gas lines, farmland and a creek.

For such a journey timing is critical; the stacker cannot cross the 500 kV lines at any period during summer months and travel during wetter months represents risk, thus the window for completion of the journey was relatively small.

Placing overburden into the mine is part of long term planning to stabilise the mined out area for closure and progressive rehabilitation of disused areas of the mine. The relocation of TS4 will reduce noise and dust from the overburden site, reduce fire risk in the base of the mine, and assist with progressive rehabilitation.

Image 2: Stacker distributing material on overburden site



### 3. Best practice rehabilitation continued

The AGL Loy Yang mining operations have disturbed some 2,070 hectares of land. Of this, around 630 hectares is available for rehabilitation today, of which 90% (570 hectares) has been successfully rehabilitated.

As highlighted earlier, effective rehabilitation requires planning over many decades. This drives many facets of the operations – progressive rehabilitation, design and maintenance considerations and workforce planning to name a few. However, periodic review of plans is essential to ensure they are taking account of changes that may occur throughout the life of the operation.

The timetable for a planned, orderly closure schedule means end-of-life rehabilitation will occur in five years (Liddell Power Station), 17 years (Bayswater Power Station) and 31 years (AGL Loy Yang). Understanding these timeframes highlights the degree of uncertainty as to the exact circumstances under which the land and buildings may be rehabilitated.

Consider the declining cost of renewable energy, the extent of computing power and its development over the last 31 years, or even societal attitudes towards environmental considerations. For example, in 1986 the cost of a crystalline silicon photovoltaic solar cell was around \$12.60 per watt (compared to \$0.26 in 2016<sup>1</sup>), IBM had just launched the world’s first laptop weighing around 5.5 kg, and Australia had introduced unleaded petrol only one year earlier. It is conceivable that things could be very different in 2035 and 2048.

While we have a reasonable idea of what the energy system will look like in five years, we are less certain about how far technology will have developed by 2035 or 2048. This, alongside changing expectations of society, may render what seems innovative now obsolete or inappropriate. Whole new ways of approaching rehabilitation may have evolved.

Balancing the need for planning now and uncertainty as to the technologies and attitudes of the future requires an openness to periodic review and assessment by all stakeholders.

In line with our principles, we will provide transparent accounts of our current processes, plans and considerations – including those things yet to be finalised, to ensure the best opportunity for community and stakeholder engagement in the planning process.

We will continue to engage the community on these plans over time, periodically assessing and reviewing the plans considering the societal, community and technological developments.

For example, our current plans for AGL Loy Yang include partially flooding the final open cut void to form a lake, returning the remaining disturbed land to agricultural use, and developing native flora/fauna vegetation corridors that connect to the remaining bush reserves adjacent to the site. More information on the vision and planning for AGL Loy Yang is available to the local community and general public on the [AGL website](#).

Image 3: Post-closure planned vision for AGL Loy Yang



1 Bloomberg New Energy Finance

## 4. AGL site rehabilitation review

In 2016, we commenced a strategic review of rehabilitation across our major generation assets. The review was pre-empted by the need for a clear conversation with communities and recognition of investors’ interest in the potential costs of rehabilitation.

There are several factors in determining a rehabilitation program, including the technical end of life of the asset, the potential for life extension, the ability to repurpose the site, regulatory requirements, anticipated site conditions at end of life and community expectations for end use.

The review incorporated a phased approach highlighted below.

<b>Phase 1</b> <b>Independent review and assessment of rehabilitation costs</b>	<b>Phase 2</b> <b>Internal review by AGL Chief Engineer</b>	<b>Phase 3</b> <b>Development of alternative use costing models for consideration</b>	<b>Phase 4</b> <b>Executive review and assessment</b>
<p>GHD Pty Ltd (GHD) was engaged to provide AGL with assistance in estimating rehabilitation costs. This involved estimation of both the rehabilitation and demolition work required, including financial estimates for completing this work.</p> <p>GHD estimations were based upon returning sites to as near to pre-development condition as practicable.</p>	<p>AGL’s Office of the Chief Engineer reviewed the report provided by GHD across three primary criteria: an engineering review of the estimated work; a financial review of costing assumptions; and a review of alignment with industry trends and AGL strategic direction.</p> <p>For example, the GHD review provided an assessment of work required for the rehabilitation of AGL’s hydro assets in north-east Victoria. The Chief Engineer reviewed this and considered the AGL strategy, global practice, relevant environmental considerations and physical constraints. The result was that it was acknowledged that rehabilitation of these assets was not an appropriate treatment. Life extension of hydro resources is considered to be the best first option. As such the technical costing performed by GHD was not considered further.</p>	<p>As an extension to phase 2, scenario analysis was performed for each site. A range of scenarios including, but not limited to, repowering or repurposing were considered as possible options. This was an important analysis given the need to balance the potential impacts of closure of these long term assets on the immediate and broader communities.</p>	<p>All the information developed and considered in Phases 1 through 3 was collated for consideration by the AGL Executive Team and Board to assess the recommendations provided and determine the approach to be undertaken.</p>

## 4. AGL site rehabilitation review continued

### Summary of outcomes

Based on the process outlined above, AGL has recorded and recognised provisions of \$307 million for the estimated costs of rehabilitation, based upon returning sites to as near to pre-development condition as practicable.

Table 2, below, provides a more granular breakdown of the costs, identifying the estimated cost of rehabilitation for each major generation site (where applicable). For completeness, the cost

of rehabilitating upstream gas assets is also included as “Other”. As noted for Phase 2, a range of alternative end use scenarios were modelled enabling visibility and assessment on the potential range of costs that may be considered. A pre-tax discount rate of 10% has been applied to the cash flows.

Table 2: Estimated rehabilitation costs

Asset <sup>2</sup>	Planned closure date	Provision amount (AUD \$m)	Rehabilitation costs (nominal FY17) (AUD \$m)	Rehabilitation costs (real FY17) (AUD \$m)	End state basis for provision
<b>AGL Macquarie (Liddell &amp; Bayswater)</b>	2022 - 2035	141	898	510	Return of site to as near to pre-development condition as practicable.
<b>AGL Torrens</b>	2035	12	105	59	This means the removal of appropriate buildings and infrastructure (e.g. generation infrastructure), remediation of disturbed land but may leave in place appropriately remediated voids and land formations (mounds) as well as leaving in place roads, electricity and water infrastructure and similar type public service infrastructure.
<b>AGL Loy Yang (power station and mine)</b>	2048	54	562	261	Formation of lake, return of disturbed land to agricultural use, and develop native flora/fauna vegetation corridors <sup>3</sup> .
<b>Other</b>	Various	100	189	127	As per AGL Macquarie and AGL Torrens.
		307	1,754	957	

<sup>2</sup> AGL’s solar and wind sites have no ongoing rehabilitation liability as they are not owned by AGL; for Gas Operations assets (formerly Upstream Gas), GHD provisions have been utilised as the assets are planned to be divested and/or the operations will cease production at end of asset life (i.e. Camden)

<sup>3</sup> More information on the Loy Yang rehabilitation is contained within the AGL Loy Yang Mine Sustainability Report available at [https://www.agl.com.au/-/media/AGL/About-AGL/Documents/How-We-Source-Energy/Thermal-Energy-Environment/AGL-Loy-Yang/Sustainability-Report-15-16\\_AGL-Report-format.pdf?la=en](https://www.agl.com.au/-/media/AGL/About-AGL/Documents/How-We-Source-Energy/Thermal-Energy-Environment/AGL-Loy-Yang/Sustainability-Report-15-16_AGL-Report-format.pdf?la=en)

#### 4. AGL site rehabilitation review continued

During the analysis performed as part of Phase 2, no single scenario produced the lowest cost outcome across all assets. On balance, given the heightened community interest in rehabilitation assurances, industry transition and inherent uncertainty of activity five to 30 years into the future, AGL has elected to utilise the more conservative (higher) cost figure as the basis for its provisions.

This in-depth review process has resulted in changes to the rehabilitation provisions. The changes brought about following the review included updated contractor and activity costs, improved identification and inclusion of progressive rehabilitation costs and a reflection of heightened community expectations on the consultation and development process.

Of relevance to many stakeholders is the expectation of organisational responsibility following the completion of rehabilitation activity. Figure 2 below demonstrates that rehabilitation is not only important but ongoing over a long period based on asset life and rehabilitation assessments.

From this basis AGL can commence an informed consultation process with impacted communities and stakeholders that considers alternative uses and repowering. Undertaking these discussions in an environment of transparency and cooperation, we aim to work with communities to arrive at mutually beneficial outcomes.

Figure 2: Rehabilitation annual net cash flows

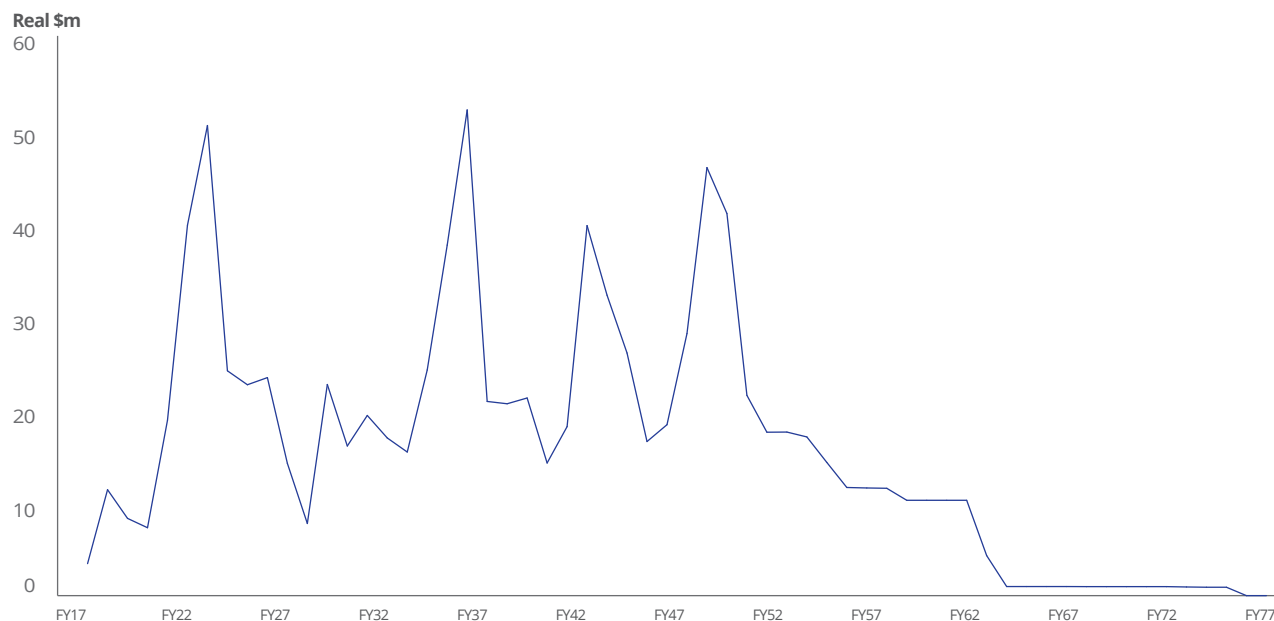


Figure 3: Closure timeframes





## 5. The AGL Transition Project

The AGL Greenhouse Gas Policy provides for the retirement of coal fired assets at the end of their technical operating lives. In practical terms, in the near-term this translates to the closure of the Liddell Power Station in 2022.

AGL acquired Liddell Power Station in 2014 when it purchased Macquarie Generation from the New South Wales Government. Liddell Power Station has a capacity of 2,000 MW of black coal fired sub-critical capacity.

Liddell Power Station occupies a strategically significant place in the New South Wales energy system, representing 12.3% of total capacity and providing an important source of energy for the Tomago aluminium smelter<sup>4</sup>. The power station provides effective grid management and balancing services alongside Bayswater Power Station and other sites. However, the power station is approaching 50 years of operation.

The cessation of coal fired generation from Liddell Power Station will tighten the supply demand balance within New South Wales, but we anticipate some of the 5,000 MW of proposed energy projects for the state<sup>5</sup> will be further developed with the provision of greater policy certainty through the Commonwealth Government’s 2017 Climate Change Policy Review and response to the Finkel Review.

As part of our commitment to helping shape a sustainable energy future for Australia, we are embarking on a process to identify and develop a vision for the future of Liddell Power Station alongside the local community. The AGL Transition Project will be an outcome-orientated process designed to determine the best and most innovative use of the site, existing infrastructure and technologies from 2022.

Research has shown that the best value for money in terms of cooperation and innovation is delivered when proponents set the outcomes they are seeking and allow the market to determine how these outcomes can be achieved. By applying this concept we are seeking to bring innovation from across the supply chain including technology, finance, logistics and science to identify options for the “post coal” utilisation of Liddell’s assets.

Over the 18 months to early 2019, AGL will run an open program, similar to a public tender process, designed to elicit proposals from across the world as to options for the site that are consistent with our commitment to a decarbonised generation fleet and sustainable energy future. Our aim is to provide a focal point for the development of consortiums and partnerships that can provide proposals that address a range of criteria that we will develop in consultation with the New South Wales Government and local community representatives.

Through this process, we are looking to stimulate global interest in the challenges of transition, tapping global innovation, and putting forward a model that, if successful, can provide a benchmark for future transition activities.

Such a program would entail a phased approach, underpinned by community and stakeholder engagement.

Phase 1	Phase 2	Phase 3	Phase 4
<p>AGL commences the process to identify and evaluate innovative investment options at Liddell Power Station. Technology suppliers and consortiums are encouraged to provide proposals that will deliver against announced criteria (examples only):</p> <ul style="list-style-type: none"> <li>• Return on investment</li> <li>• Scalability of technology or process</li> <li>• Skills alignment to existing workforce</li> <li>• Structural change to existing plant</li> <li>• Quantity / reliability / dispatchability of energy produced</li> <li>• Expected contribution to local community</li> </ul>	<p>AGL will conduct a series of information delivery processes and sessions, culminating in an open day for potential proponents, government, and community organisations in a single location.</p> <p>At this event AGL will facilitate a range of activities including:</p> <ul style="list-style-type: none"> <li>• Answer registered questions and provide as much information as possible</li> <li>• Provide a forum for meeting of potential proponents and parts of the supply chain to meet and formulate consortiums and potential partners</li> <li>• Provide broad access to relevant Federal and State government agencies and departments</li> <li>• Enable potential proponents to meet representatives of the local community</li> </ul>	<p>AGL will convene a review committee to assess proposals put forward against the publicly listed criteria. The review committee will formally engage with representatives of the local community to ensure a transparent assessment process.</p> <p>This committee will develop a short list of proposals and request more detail where required that specifically addresses the criteria.</p>	<p>AGL will perform a detailed assessment of shortlisted options and define the preferred approach for the rehabilitation of Liddell Power Station.</p> <p>This approach will form the basis of AGL planning, development and engagement regarding Liddell Power Station.</p>

<sup>4</sup> <https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Planning-and-forecasting/Generation-information>  
<sup>5</sup> <https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Planning-and-forecasting/Generation-information>

## 6. Summary and conclusions

The electricity industry is in transition. Under the Paris Agreement, there is an expectation that countries will announce emissions plans for 2050 by 2020 at the latest. As the largest single source of greenhouse gas emissions, the electricity industry will play a significant role in meeting the expectations of this plan.

As one of Australia's largest electricity retailers, the biggest electricity generator in the National Electricity Market and the owner of regionally- and nationally-critical generation infrastructure, we face both risks and opportunities, and believe that adapting to prosper in a carbon-constrained future is a key strategic imperative. We have provided a comprehensive framework for consideration of climate change related issues through our Greenhouse Gas Policy. The policy rules out further investments in conventional coal fired power stations in Australia, and provides a pathway for decommissioning existing assets at the end of their operational lives.

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**Engagement with stakeholders is a critical component of our approach to rehabilitation, and this report represents an important step on this journey.**

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The transition will take decades, but we are committed to working long term with our people and broader impacted communities with a view to developing new industries and opportunities.

Throughout this transition, we will continue to consult, report and engage with communities, customers, employees, policymakers and investors. Exactly how this is done will vary, depending on the audience and outcome being sought, and will evolve over time. Underpinning these processes are our commitments to:

- establish and maintain formal community engagement forums for each major generation site until closure of the existing generation infrastructure
- report no less than annually on rehabilitation and transition activities through the AGL Sustainability Report, and
- formally review our approach to rehabilitation, including intended use, no less than every three years including operational, financial and community engagement components.

We are positioning our business to manage this transition in a responsible and responsive manner. By signalling our intent, initiating regional transition alliances and providing the opportunity for an alternative future, we seek to play our part in building a sustainable energy future.