

Meeting note

Energy Australia Lithgow CCC

Date	19 August 2019	Time	5:00pm – 7:00pm
Chair	Brendan Blakeley, Elton Consulting	Recorder	Jacinta Spies, Elton Consulting
Attendees	Julie Favell, CCC member Robert Cluff, CCC member Lauren Stevens, CCC member Joe Smith, CCC member Romily Webster, Regroup Michelle Blackley, EnergyAustralia Ben Eastwood, EnergyAustralia Mick Hanly, EnergyAustralia Steve Marshall, EnergyAustralia Greg McIntyre, EnergyAustralia, via phone Frank Klostermann, BetterGrow Brett Hawkins, BetterGrow Neil Schembri, BetterGrow	Apologies	Jim Whitty, CCC member Alex Preema, CCC member Aunty Helen Riley, CCC member Jill Cusack, CCC Member Jamie Giokaris, CCC Member

Item	Discussion Point
1.	Welcome and introductions <ul style="list-style-type: none">» The meeting commenced at 5:10pm.» Brendan Blakeley welcomed all participants, including an acknowledgement of country, and noted apologies.» Brendan noted that the declaration of interests will need to be updated and noted that he is also the independent chair of EnergyAustralia's Tallawarra CLG.» Brendan ran through the agenda and noted that the BetterGrow presentation is confidential and will not be included in the distributed notes.
2.	Review of notes from previous meeting <ul style="list-style-type: none">» Brendan called for comments on previous meeting notes. There were no additional comments.» Brendan noted that the CCC members can put forward questions for each meeting and as chair he will use his discretion as to the number of questions that can be dealt with in any one meeting. He also noted the effectiveness of the group relies on all members participating fully.
3.	Site update from EnergyAustralia <p><u>Ash Repository Solution for Mt Piper Energy Recovery Project:</u></p> <ul style="list-style-type: none">» Romily talked through the slides, available on p. 6 to 10 of the attached presentation.<ul style="list-style-type: none">> Air pollution control residue (APCR) will be treated on site prior to delivery to the ash placement facility as it will contain reactive material (lime).> Treatment will neutralise the reactive material and bind the pollutants so they do not leach from the APCR. <p><i>Julie asked if this would include all pollutants?</i></p>

-
- > Romily clarified that this includes all the pollutants that are classified as waste.
 - > A concept design is being developed to comply with the EPA Landfill Guidelines. All ash will be placed within a fully lined geotechnical stable repository. General solid waste is required to be stored in a single lined repository and restricted solid waste is required to be stored in a double lined repository.

Julie asked what materials will be used for the lining?

- > Romily responded that consultants are currently working on the type of lining that will be required. It is expected to be specially engineered material that will contain a mix of clay and textile to achieve the lining needed.
- > The current assessment was based on information from outputs of similar facilities in Europe and also looking at likely waste streams that will arise from the fuel. A process will be in place to understand the nature and kind of ash once the plant is in operation.
- > Brendan advised that full details will be in the Environmental Impact Statement.

Julie asked when the Environmental Impact Statement will be released?

- > Romily responded that it was likely a draft will be available by October and hopefully placed on exhibition towards the end of the year.
- > **ACTION:** EnergyAustralia to provide a detailed presentation of the Environmental Impact Statement in December.
- » Romily outlined the major types of emissions, including the specific pollutants, their potential risks and monitoring requirements as seen on p. 11 of the attached presentation, noting that each of the heavy metals will be separately assessed.

Response to Questions

- » Michelle clarified the distribution area for the Water Treatment Plant letters as seen on p. 13 of the attached presentation.
- » Ben talked through the slides, available on p. 14 and 15 of the attached presentation in response to the asbestos disposal process.

Julie asked if the disposal process is containerised?

- > Ben clarified the disposal process will depend on the type of material and form that the asbestos is in. For further clarification on the handling of asbestos in its different forms, refer to p. 15 of the presentation.

Julie asked how the immediate community, living next to the mine, are informed about the Exploration License.

- » Ben noted that all information relating to mining leases at Pine Dale Mine are publicly available on the EnergyAustralia website.
- » Brendan noted in a previous meeting EnergyAustralia noted:
 - > They are holding licences but have no plans at this point in time to undertake mining activity in the areas covered by the licences.
 - > They have committed to advising the CCC and the community should there be any changes.
 - > That if mining was to take place it would need to undergo a full EIS process.

Julie asked whether the report into leaching into groundwater has been finalised?

- » Ben responded that ERM Consulting have been engaged to undertake the surface and groundwater assessment on the Mt Piper and Lamberts North Ash Repositories. Ben noted that EnergyAustralia has engaged an engineering firm to provide advice on reasonable and feasible control measures if applicable.

Julie asked if tests were being conducted on Chromium 6?

- » EnergyAustralia will be better placed to provide more information by the end of the year.
-

-
- » **ACTION:** EnergyAustralia to provide more information about the surface and groundwater assessments to the CCC, following the completion of this work in early 2020.

Julie asked whether emissions are being monitored 24/7, as the reports provided demonstrate a set time?

- » Ben clarified that emissions are monitored continuously and captures over 100,000 data points in an hour. The monthly report however, provides statistical analysis including minimum, maximum, median and average values for NOx and SOx emissions captured over the month. This makes sense of the millions of data points recorded in each month.

Julie asked if EnergyAustralia received a letter from Lithgow City Council regarding water flows after SWTP was connected?

- » Michelle confirmed that EnergyAustralia had received this letter.

Julie reiterated the Lithgow Environmental Group's concerns that there needs to be an arrangement in place to ensure an adequate flow of good quality water into the headwaters of the Coxs River until an alternative flow from the Clarence area can be provided?

- » Ben clarified that the interim flow will be discussed in this meeting. Previously, EnergyAustralia said they were happy to be part of the discussion about this matter, but that they were one of many parties involved.

Pinedale Mine Rehabilitation:

- » Ben talked through the rehabilitation process of Pinedale Mine including:
 - > The progressive reshaping and planting of the previously mined area.
 - > The interaction of different land uses such as the combination of an active mine, old mining areas and a biodiversity offset area.
 - > The placing of timber over rehabilitation areas to create micro habitats to support plant growth and small animals and invertebrates.
 - > A typical seed mix, which includes 30-40 different native species endemic to the area such as acacias, shrubs, eucalypts etc. The seeds should be planted as soon as the soil is ripped by the bulldozer so the seed can set.
 - > There are also a number of ways the seed needs to be treated such as using a smoke mix to improve chances of germination for Australian native species.
 - > Planting in larger areas generally requires a helicopter.
 - > Planting native seeds sometimes requires about two years until results are visible. Depending on the time and climate, different species will dominate at different times. Generally, acacias appear first, followed by the eucalypts.
 - > Cover crops such as ryegrass and sterile Japanese millet help to stabilise the soil until the seeds are ready to grow. The advantage of using seeds is that they are hardy and have time to adjust to the local climatic conditions.

Site Safety:

- » Steve noted there have been zero Lost Time Injuries.
- » There was one first aid treatment.
- » The Total Injury Frequency Rate has been good for the last couple of months.
- » The safety performance graph is available on p. 37 of the attached presentation.

Water Management:

- » Ben noted that the dam levels within the immediate locality were holding well however, Oberon Dam has decreased to 36.4% active storage capacity.
- » Total active storage is at 88.5% with:
 - > Lake Lyell at 93.1%

-
- > Lake Wallace at 106.5%
 - > Thompsons Creek Dam at 81.6%
 - » Steven noted that Thompsons Creek Dam storage is lower as recently some water was intentionally released to increase the available storage capacity to facilitate the integration of the water Treatment Plant.

Julie noted that about a month ago water was coming out into Lake Wallace, near the school, for a few days.

- » Ben clarified that a few months ago the release valve was opened from Mt Piper to Lake Wallace. At the moment, water can only be pumped one way up to Thompson Creek Reservoir. In order to provide water security to the station, two pumps have been installed, pumping about 40ML a day from Lyell, any surplus water, approx. 30ML at this time, will overflow into Lake Wallace. This will continue until the water treatment plant is up and running.

Joe commented that coal mining is a great asset to our community in terms of water management and security.

Market Update:

- » Steve talked the group through the rolling demand graph, available on p. 42 of the attached presentation.
 - > The green bars at the bottom of the graph demonstrate Mt Piper's average generation through each of the seasons. It was lower during autumn because we were trying to conserve coal, however in winter it has stepped up due to demand.

Operations (Site) Update – Mt Piper Operations:

- » Steve noted that MP1 is currently in service.
- » MP2 has been in and out of service to conserve fuel.
- » Preparations are being made for a 3-week outage taking place in October.
- » Steve talked the group through the Availability YTD vs Projected graph, available on p. 45 of the attached presentation.

4. **Project updates from EnergyAustralia**

Pinedale Mine Update:

- » Remains in care and maintenance while future resource utilisation options are assessed.
- » Desktop feasibility is ongoing.
- » Maintaining existing mining and explorations leases.
- » Maintaining rehabilitated areas will be a focus for 2019.
- » The EPA has approved a Licence variation to remove a depositional dust gauge from a property in Blackmans Flat at the landowners' request.

Renewables and cleaner energy:

- » EnergyAustralia is active in renewables less through direct investment and more as take out deals to provide a firm market for energy produced by our renewable generator partners. Some projects we are presently involved in are:
 - > Gannawarra Solar and Battery Farm has a combined 60MW of Photovoltaic panels and a 25MW/50MW battery system. Due to wind and clouds affecting the solar panels, battery input can keep providing energy as supply varies. The batteries are of a smaller scale, about one quarter of the size of the Tesla battery, but they are also proving very useful in stabilising the frequency of the grid.
 - > Newport Power Station uses clean natural gas to produce up to 510MW of electrical power.

-
- > EnergyAustralia is investing in the Cultana Pumped Hydro Energy Storage (a water battery) capable of producing 1,800MWh. The idea is it can be filled with water when there are excess renewables and discharged when there is high demand for peak power.

Julie asked if this was salt water being circulated?

- » Steve clarified that it will be circulating salt water from the ocean to an elevated dam.
- » Steve talked the group through the SA – Pool prices and renewable mix graph available on p. 49 of the attached presentation.
 - > The orange line is the renewables curve which is providing up to 160% of the demand of what the state needs.
 - > The blue line shows the pool prices have dropped to -200. Generators will need to pay to stay online. It is this curve that pushes thermal power stations out.

Wallerawang DDR – General Update:

- » The DA for demolition and rehabilitation has been submitted to Lithgow Council.
- » The site is currently being decontaminated of remnant acid from chemical processes.
- » Remaining inventory is being auctioned publicly.
- » Bettergrow is undertaking due diligence in relation to their proposed repurposing of the site, including logistics, recycling and 'growing media' facilities, and an agreement is being negotiated.

Wallerawang DDR – Ash Dams Area Rehabilitation:

- » The Development Application for the Asbestos Repository and Demolition of infrastructure at the Wallerawang Power Station are currently being assessed by Lithgow Council.

Lauren said the application should be sent to the JRPP very soon and they will then make a determination on the proposal.

Rail Unloader:

- » EnergyAustralia has received planning approval for the design modifications of the Pipers Flat rail unloader project and are currently working through the consent conditions.
- » Work on the business case for the project is in progress.
- » EnergyAustralia's preference is to continue to source coal locally, however, are assessing other coal supply options.
- » EnergyAustralia is working with Transport for NSW in relation to the government's feasibility study to reinstate the Kandos-Gulgong line.
 - > Steve noted that the amount of coal Mt Piper could receive will be limited if the line is not open.
 - > He acknowledged that there is currently consent approval being sought for modification of Centennial's Lidsdale Siding to run a coal train a day from Airly to help keep up supply to Mt Piper during this time. (Note, late in the week of the CCC meeting, this was approved).

Lamberts North Ash Placement Project:

- » No ash placement with Lamberts North since February 2019.
- » Steve said with the lower generation the majority of the ash has been sold for re-use and the remaining ash will be utilised for the disposal of brine.
- » No complaints received and no incidents recorded.

Joint EANSW/Centennial Water Treatment Project:

- » Centennial LDP Point 9 is now closed and is no longer receiving water.
 - » Final commissioning of the Aerobelt Ash Conveyor and Salt Reveal and Transfer Facility to commence next week.
 - » Commissioning of the mine water RO's is continuing with all 5 RO's in the commissioning phase.
-

-
- » There will be further updates in December.

Community Engagement Program:

- » Michelle said there is currently \$30,000 available for any project or event coming up in the local community.
 - » Applications are open from 1 August to 30 August and are available on the EnergyAustralia website, <https://www.energyaustralia.com.au/about-us/energy-generation/mt-piper-power-station/mt-piper-and-wallerawang-community>
 - » Outside of the grants, money was given to the Mingingan Aboriginal Corporation and Lithgow.
 - » Michelle provided insight into some of the previous grant recipients:
 - > Science at the Local, was held in late June, where Lithgow locals heard from Dr Eva Cheng from Sydney's University of Technology about her career in engineering and education. Dr Peter Smith also shared stories about using science for international aid.
 - > Mandiyaba Yadhya "Possum Dream" visited Lithgow High School and provided a hands-on experience with 15 young Aboriginal women and girls, enabling them to better understand their own culture.
 - » EnergyAustralia is currently reviewing its apprentice recruitment strategy for 2020.
 - » In the period February 2019 to August 2019 Mt Piper has welcomed 6 new employees, mostly from the local area and in positions relating to maintenance.
 - » Clr Smith and Rob Cluff emphasised the importance of trade apprenticeships to the area.
 - » Rob noted a concern that some trades were disappearing from the region.
-

5. **Projects in focus**

Wallerawang Repurposing (Bettergrow) – **Commercial in Confidence, Presentation will not be included.**

Bettergrow provided high level conceptual thoughts of what potentials existed at the Wallerawang Power Station site, including areas that would likely be either retained or demolished.

- » Frank explained that before Bettergrow has access to the site to be repurposed, there are DDR responsibilities to be discharged: decommissioning, demolition and rehabilitation.
- » Once Bettergrow acquires the site they will have no use for the boilers, precipitators, stacks and conveyors.
- » Infrastructure that will be useful include: RO plant, turbine hall, coal dome, roads and fencing, cooling tower, workshop, water reservoir, community hall and rail lines.
- » Bettergrow has opened up Expressions of Interest for other uses for Wallerawang.
 - > One idea has been to connect industry with academia. Bettergrow is in conversation with UTS and USyd.

Joe highlighted that jobs are desperately needed in the area and an impressive project like this will significantly help Lithgow.

Julie expressed support for the project as it creates jobs, opportunities and innovation that provides benefits for Lithgow while delivering solutions to environmental problems Sydney has such as sustainable food supply and use of a valuable waste resource.

Julie asked when it will all happen?

- » Frank noted that there is a contractor on board so it is moving in the right direction. There are however, a lot of parties to negotiate with.

Rob noted that getting approval and support will be the biggest issue.

The CCC members present agreed that in principle they strongly support this proposal and that on the basis of what they saw tonight the project is off to a very promising start.

6. **General discussion**

Julie asked if EnergyAustralia were doing any renewable energy projects locally.

- » Steve responded that there were a few projects in the pipeline, but nothing that can be disclosed yet.

Joe noted that they were lacking apprenticeships.

- » Brendan suggested that EnergyAustralia and ReGroup provide a detailed presentation of the Environmental Impact Statement for the Energy Recovery Project in December, during its public exhibition period.
- » Michelle noted that an update to Ash Dam leaching study could be provided in February.
- » Brendan noted that the CCC has been running for one year, today marking the first meeting of the second year. He will be in contact with group members before the next meeting to complete a report on the group.
- » All members will need to update their Visitor's Induction pass at the beginning of the next meeting.

-
7. » The next CCC meeting is scheduled for Monday 2 December 2019.
» Meeting was closed at 6.45pm.
-

19 August 2019

EnergyAustralia Lithgow Region Community Consultative Committee

Greg McIntyre
Head of Mt Piper

Agenda

1. Welcome and Introductions
2. Review of Notes From Previous Meeting
3. Site Update from EnergyAustralia
4. Project updates from EnergyAustralia – existing and planned
5. Projects in focus:
 - Wallerawang Repurposing (Bettergrow)
6. General Discussion
7. Meeting close

Welcome and Introductions

Review of Notes from Previous Meeting

Ash Repository Solution for Mt Piper Energy Recovery Project



Aug 2019



Background

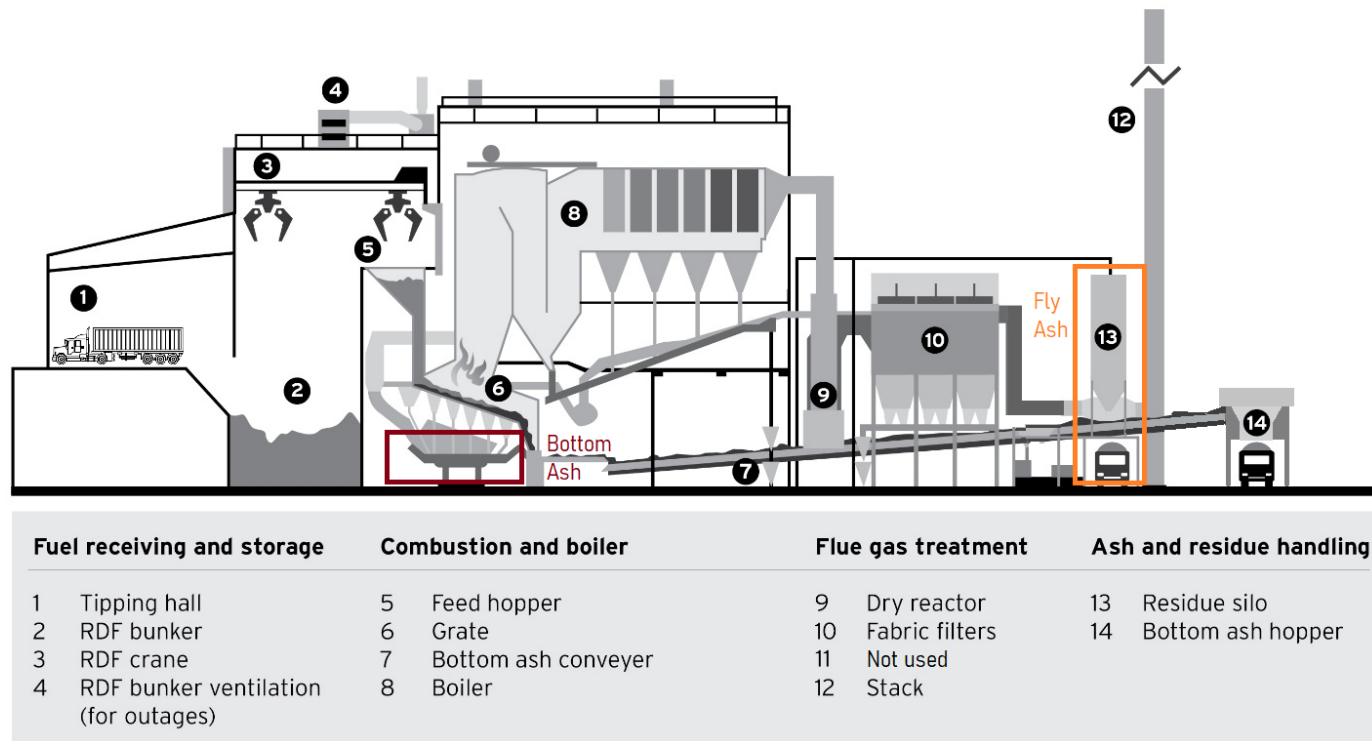
- EnergyAustralia and Re.Group are developing a refuse derived fuel (RDF) energy from waste (EfW) plant to improve environmental outcomes and efficiency of coal usage at Mt Piper Power Station.
- We are currently developing the Environmental Impact Statement (EIS) for the project. The EIS will be a public document with full details of the project.
- EfW is a common technology and has been in service in many locations worldwide including Europe, US and Asia.
- As there is no ash data available in Australia for an operational RDF EfW plant, a study was commissioned with information received from a similar reference plant in Germany.



- The Rudersdorf EfW Plant in Germany uses the same technology, similar fuel and is of similar size to the proposed Mt Piper ERP.

Bottom Ash and APCR

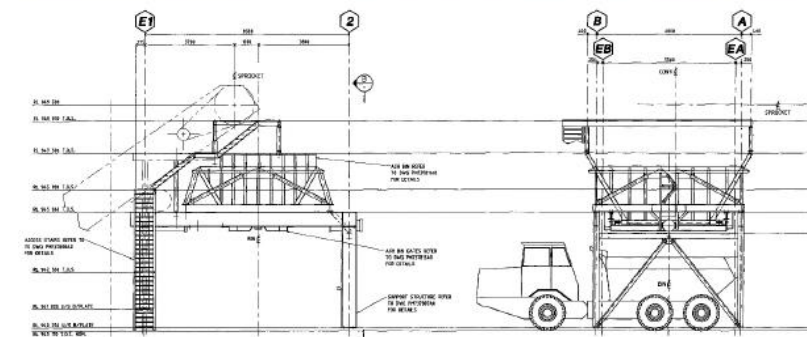
- The characteristics of the ash are dependent on the RDF used. RDF production will be subjected to strict quality control measures to comply with the EPA's EfW Policy.
- Bottom Ash is collected as the RDF is burnt on the grate.
- A small amount of ash that is carried over from the combustion process is captured in the bag filter system together with pollutants captured as Air Pollution Control Residue or APCR.



At design conditions, 200,000 tonnes per year of RDF will produce 21,000 and 7,600 tonnes per year of Bottom Ash and APCR respectively.

Ash Delivery Design

- Both ash types will be transferred to the ash placement facility by trucks via the internal plant roads.
- APCR will be treated on site prior to delivery to the ash placement facility as it will contain reactive material (lime).
- Treatment will neutralise the reactive material and bind the pollutants so they do not leach from the APCR.
- Ash from EfW plants have been used in many countries in Europe in construction. The opportunity to recycle ash from this Project will be considered as an alternative to disposal. This option needs further investigation and would undergo proper approval process before becoming viable.



Ash Repository - Location

- Bottom Ash is found to be compliant to NSW EPA Waste Classification Guidelines as “General Solid Waste”. Air Pollution Control Residue (APCR) is classified as “Restricted Solid Waste”.
- Further tests are required during commissioning when actual ash is produced at this plant to confirm the characteristics identified in the study.
- Based on estimated ash volume, an area is proposed as highlighted. This area is part of a previously approved coal ash repository for Mt Piper Power Station.



All ash placement and ancillary facility for the ERP would fit into the highlighted area

Ash Repository - Design

- Concept design is being developed to comply with the EPA Landfill Guidelines.
- All ash will be placed within a fully lined, geotechnically stable construction. APCR and Bottom ash will be stored separately within this site.
- There will be no discharge out of the ash repository other than clean stormwater. Water that comes into contact with ash will be contained in a leachate pond and used within the site or evaporated as suitable.
- Noise and dust control measures and a water monitoring program will be recommended in the concept design.



Typical ash placement facility under construction – preparation before laying lining material

Question Arising from Previous Meeting - Emissions

Pollutant	Concerns of these emissions if uncontrolled	How it is controlled	Monitoring Requirement (NSW EPA Policy)
Dust/Particulate Matter	Carries other pollutants, potential nuisance	Filter bags	Continuous
Small Particulate Matter (PM2.5)	Respiratory risks	Filter bags	Not separately required (it is assumed all particulates are PM2.5 or smaller)
Sulfur oxides (SOx)	Contributes to acid rain	Lime addition	Continuous
Other acidic gases (e.g. HCl, HF)	Contribute to acid rain HF is toxic to plants	Lime addition	Continuous
Nitrogen oxides (NOx)	Contributes to smog	Urea/ammonia injection	Continuous
Total organic compounds (TOC)	Some are toxic High levels may indicate imbalance in combustion	Control of temperature Activated carbon	Continuous
Dioxins, Furans and Polycyclic aromatic hydrocarbons (PAH)	Toxic to humans and environment	Control of temperature Monitoring TOCs Activated carbon	One measurement every three months for the first 12 months of operation, then two measurements per year thereafter.
Heavy metals	Toxic to humans and environment	Activated carbon, Filter bags	One measurement every three months for the first 12 months of operation, then two measurements per year thereafter.

Response to Questions

Response to Questions

What was the distribution area for Water Treatment Plant letters?

- *Duncan Street, Lidsdale*
- *Ian Holt Drive, Lidsdale*
- *Neubeck Street, Lidsdale*
- *Skelly Road, Lidsdale*
- *Wolgan Road, Lidsdale*
- *Duncan Street, Lidsdale*
- *Brays Lane, Lidsdale*

Response to Questions (cont.)

EnergyAustralia to provide clarity on asbestos disposal process

- The handling and storage of asbestos waste at worksites is regulated by SafeWork NSW (formerly WorkCover) under the provisions of the Work Health & Safety Regulation 2011.
- The storage, disposal and transport of asbestos waste is regulated by the EPA or local council under the Protection of the Environment Operations Act 1997 & the Protection of the Environment Operations (Waste) Regulation 2014

Response to Questions (cont.)

EnergyAustralia to provide clarity on asbestos disposal process (cont.)

- Generally, asbestos is required to be handled in the following manner:
 - **Bonded asbestos** material must be securely packaged
 - **Friable asbestos** material must be kept in a sealed container
 - **Asbestos-contaminated soils** must be wetted down
 - **All asbestos** waste must be transported in a part of the vehicle that is covered and leak-proof
 - **All asbestos** waste must be disposed of at a landfill site that can lawfully receive it



Response to Questions (cont.)

I would like to keep the Exploration licences, Mining Leases Licences etc on the agenda and would like this information to be provided to community, especially immediate community, in the newsletter (JF)

- Information relating to mining leases at Pine Dale Mine are available in the annual reports located on the EnergyAustralia website: <https://www.energyaustralia.com.au/about-us/energy-generation/pine-dale-coal-mine/yarraboldy-stage-1> and discussed at every CCC meeting and is a fixed agenda item.

Response to Questions (cont.)

Report leaching into groundwater? Is this finalised? What has been tested for location of possible leaching. I would like test done on all elements including Chromium 6 (JF)

- ERM Consulting have been engaged to undertake the surface and groundwater assessment on the Mt Piper and Lamberts North Ash Repositories.
- This involves the development of an updated groundwater model and the assessment of mitigation and control measures.
- The assessment and modelling work is anticipated to be largely completed by Q4 2019.
- EnergyAustralia will be better placed to advise on completion of this work in late 2019 and will be happy to provide an update to the CCC following its completion.
- EnergyAustralia has engaged an engineering company to assist in the identification of suitable control measures to ensure any potential impacts to water resources are effectively implemented and managed.

Response to Questions (cont.)

Another item to remain on the agenda is 24/7 report emissions. Has EA put up an easy link, easily accessible for general public to read/view emissions report? (JF)

- This has been communicated at previous CCC meetings.
- Monthly monitoring data is published on the EA website and is available at: <https://www.energyaustralia.com.au/about-us/energy-generation/mt-piper-power-station/mt-piper-epa-reports>

Has EA received a letter from Lithgow City Council asking about the loss of water after SWTP connected? (JF)

- Yes and further information can be provided.

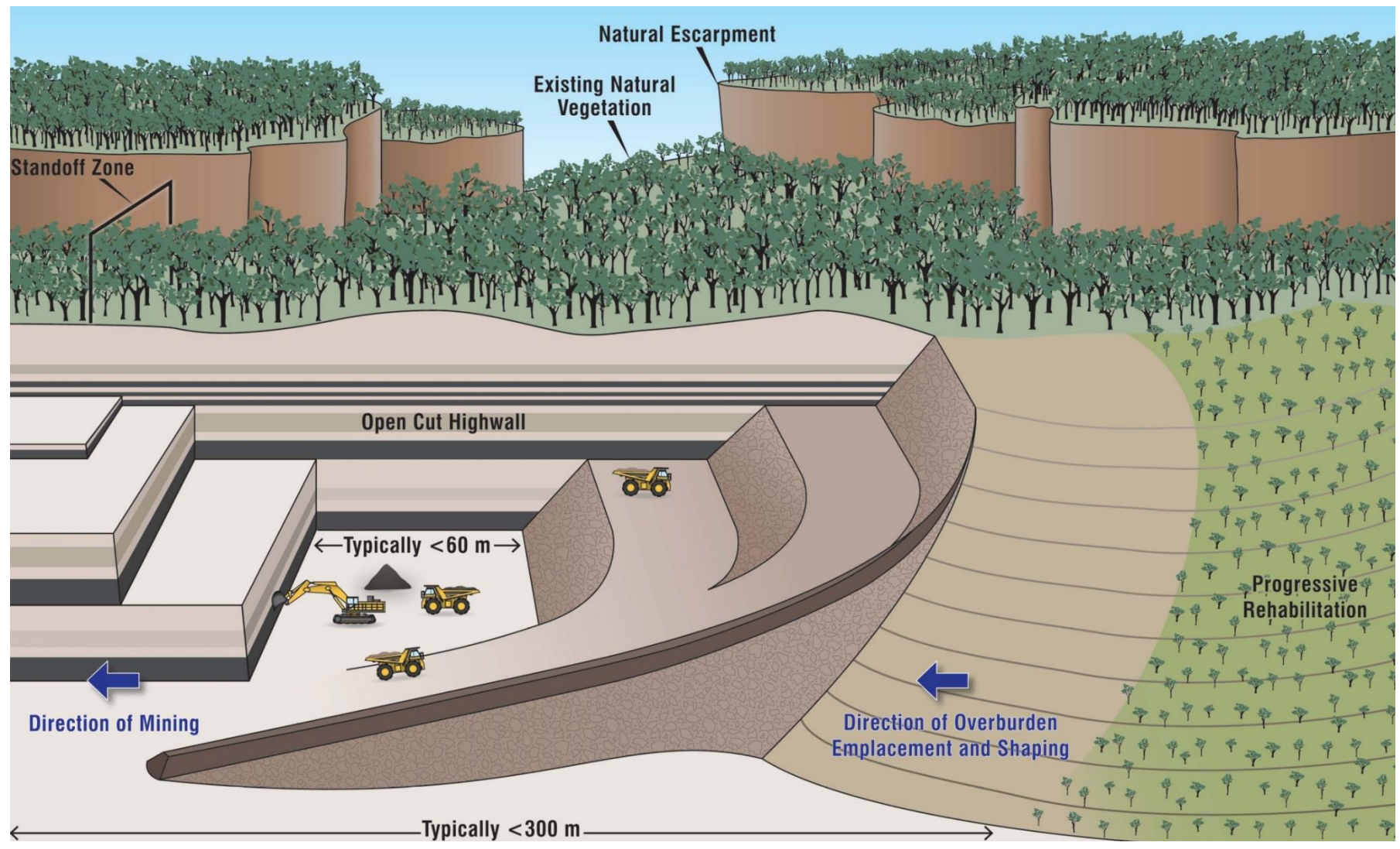
Response to Questions (cont.)

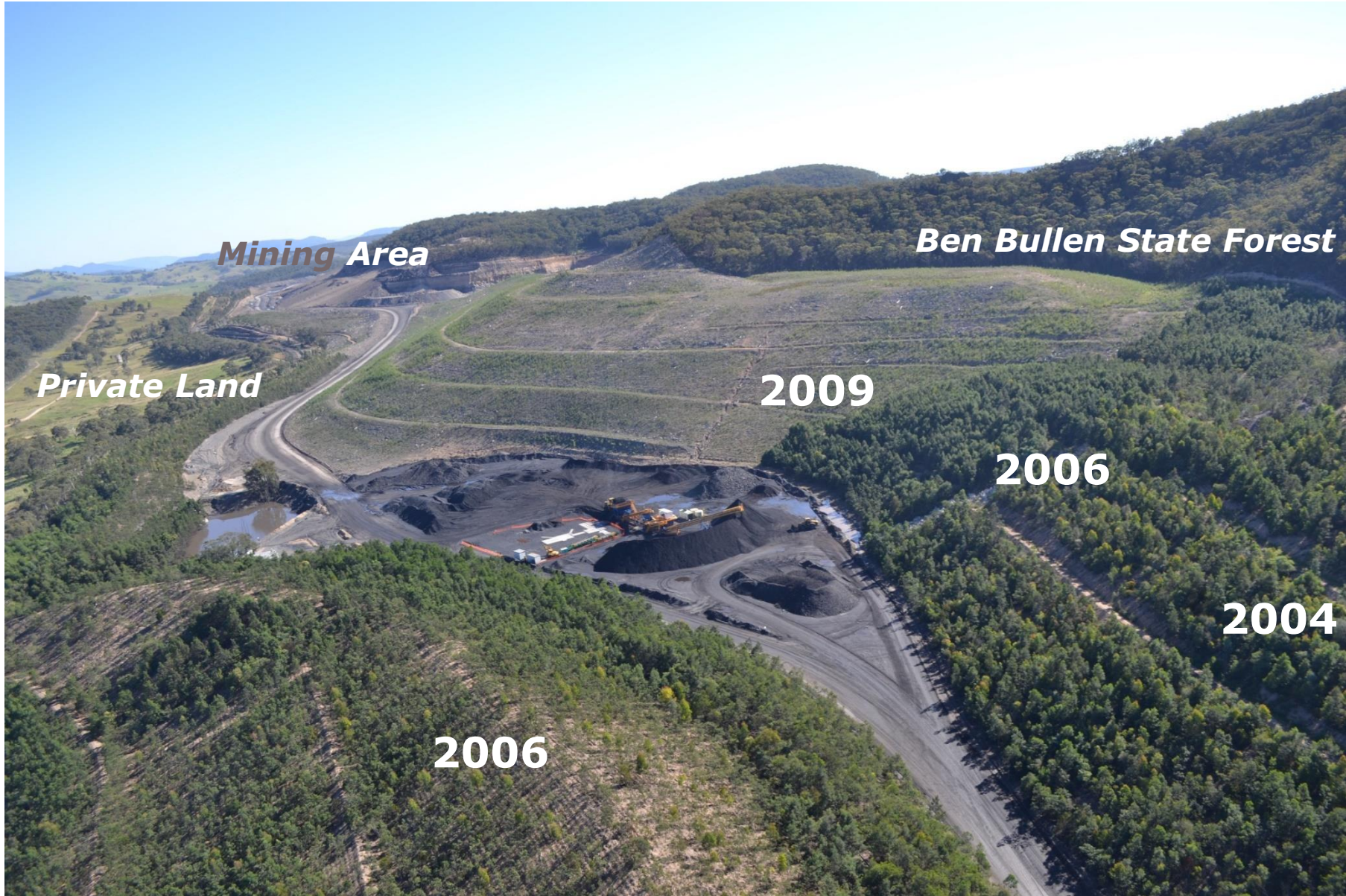
LEG still asking for an interim flow with adequate quantity of flow and quality of water that reaches the same as the headwaters of the Coxs River 30-70 us/cm until such time that the Clarence Mine Water discharge is operational. Could this be an agreement with Centennial (upper Coxs Angus Place & EA (Lake Wallace) with both providing a flow from their sources?(JF)

- EnergyAustralia has not received any correspondence from LEG relating to this matter. Happy to discuss further.

Pine Dale Mine Rehabilitation

Progressive Rehabilitation







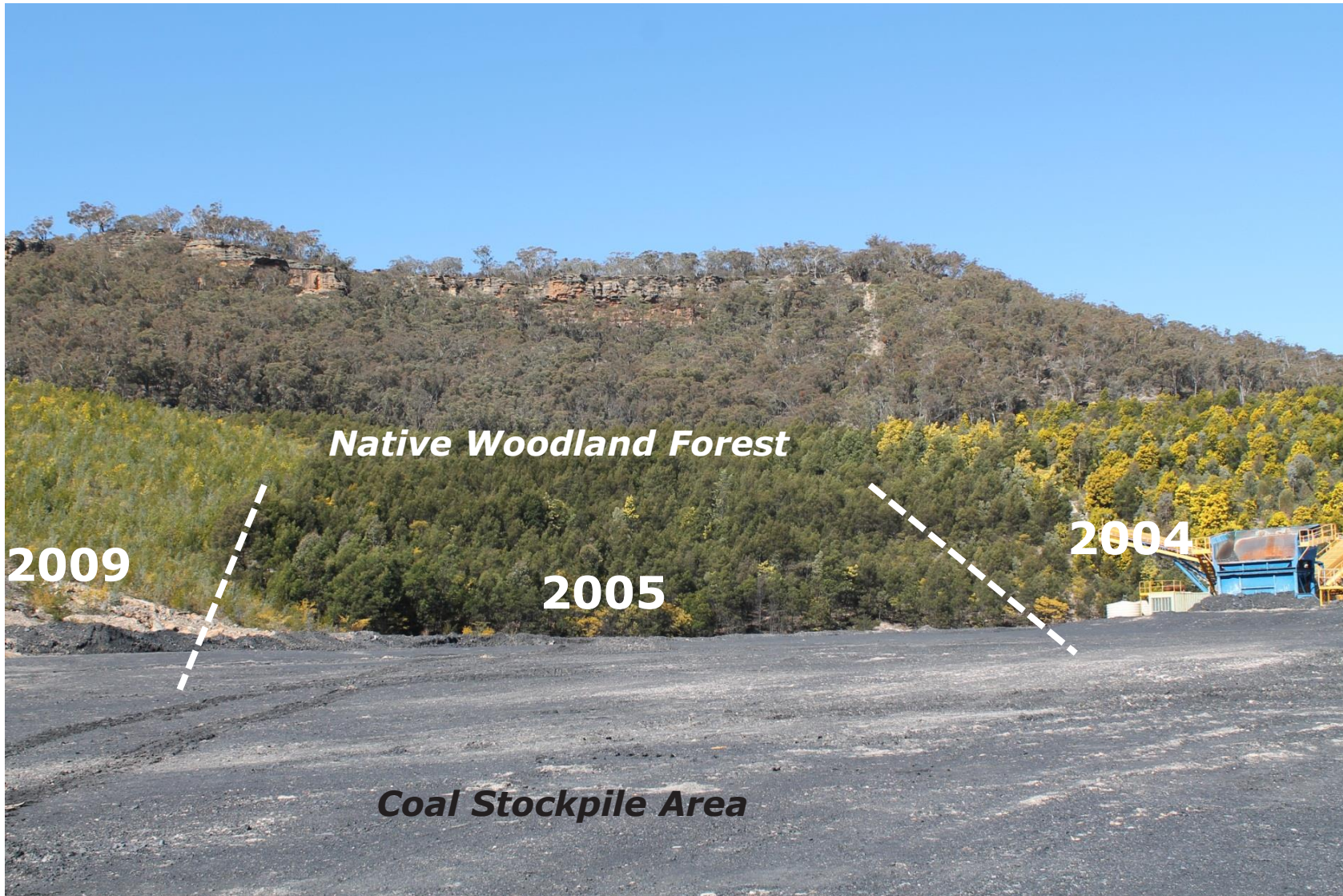
Rehabilitation Methods



Rehabilitation Methods



Succession in Rehabilitation



Visual Bund 2015



Visual Bund 2017



Visual Bund 2019 (January)



Visual Bund 2019 (August)



Visual Bund 2019 (August)



Visual Bund 2019 (August)



Visual Bund 2019 (August)



Soil Profile Establishment and Soil Biota

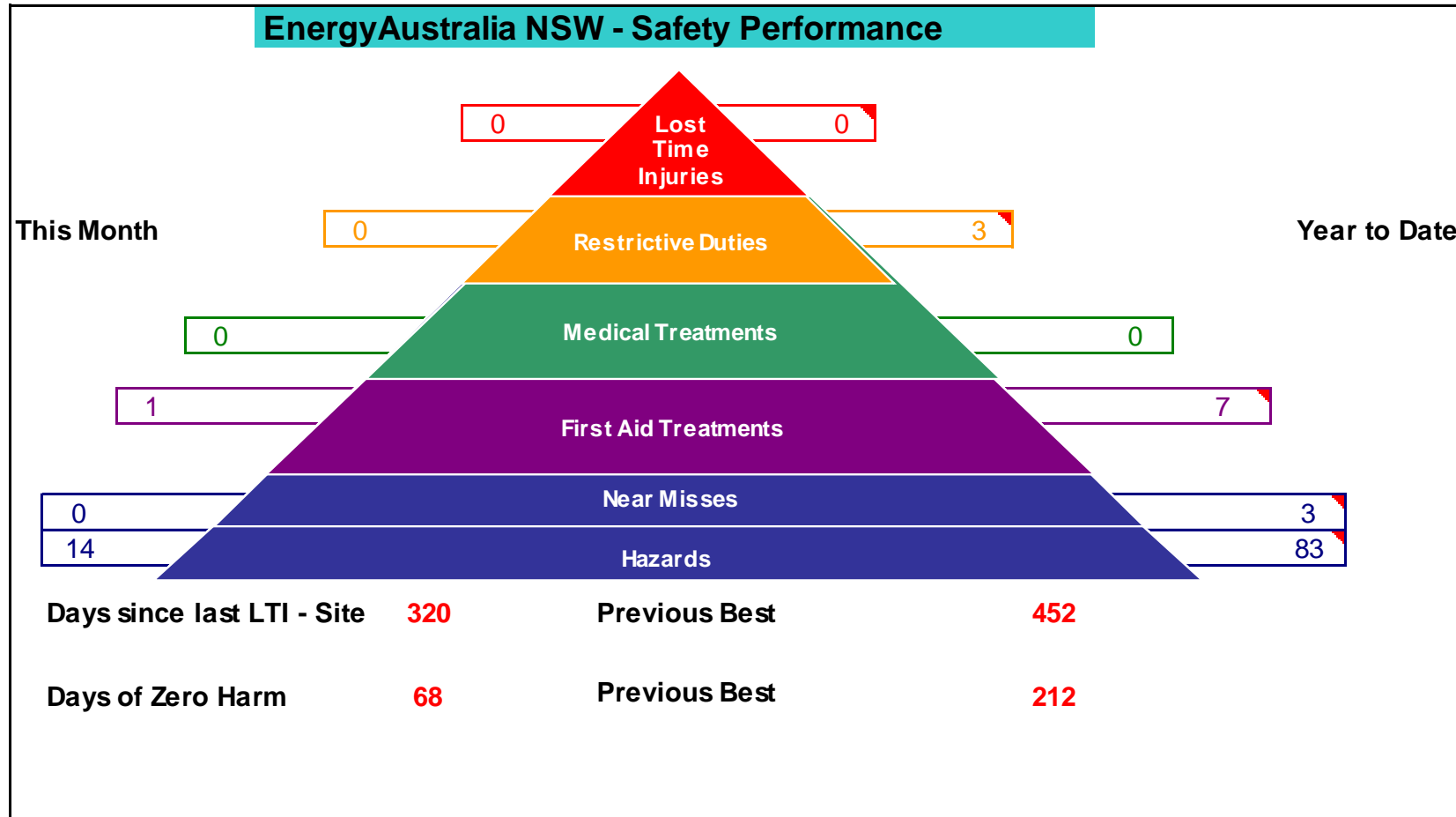


Long Term Stability and Habitat



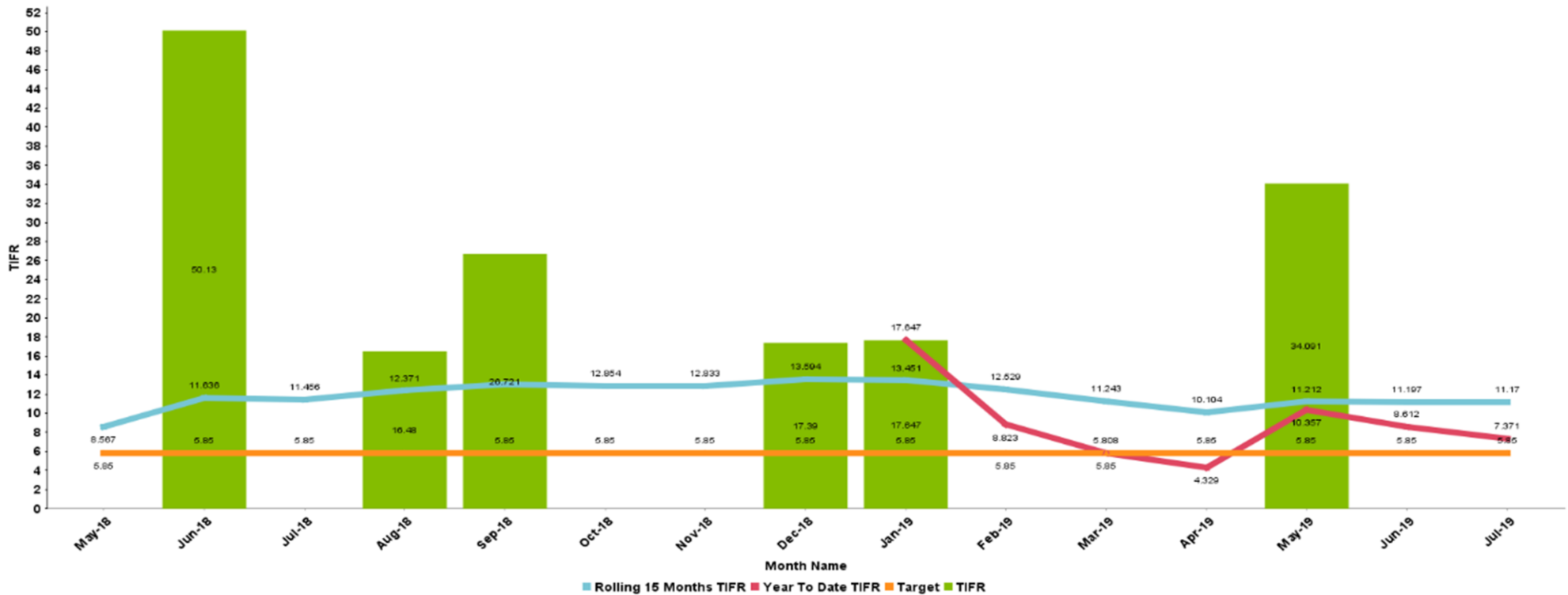
Site Safety

Site Safety – July 2019



Site Safety – July 2019

Total Injury Frequency Rate



Update - Water Management

Update on Water Management

- Oberon Dam level is at 36.4%
- Total Active Storage is at 88.5% with:
 - Lake Lyell at 93.1%
 - Lake Wallace at 106.5%
 - Thompsons Creek Dam at 81.6%
- Lake Wallace continues to spill
- Previous red alert for Blue-Green Algae in Lake Wallace reduced to Green. Amber alert for Blue-green Algae for Lake Lyell.

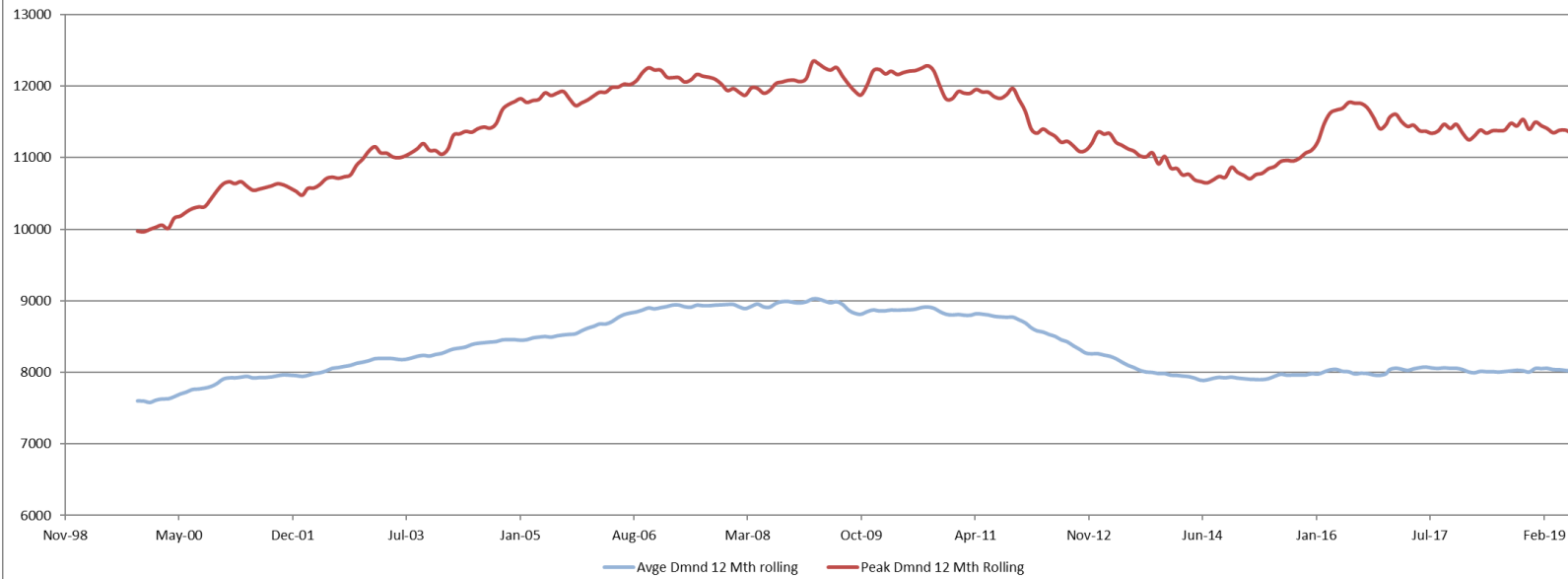


As at August 2019

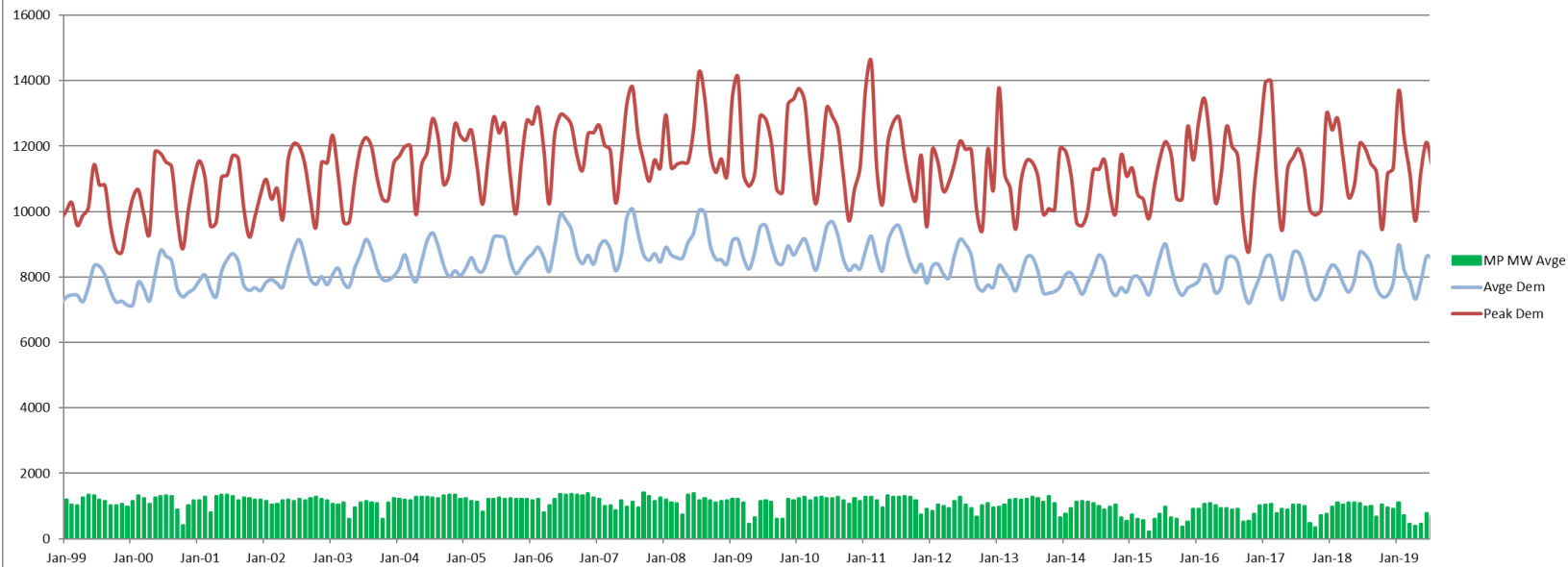
Market Update

Market Update

12 Month Rolling Average Demand



Mount Piper in the NSW Market



Operations (Site) Update

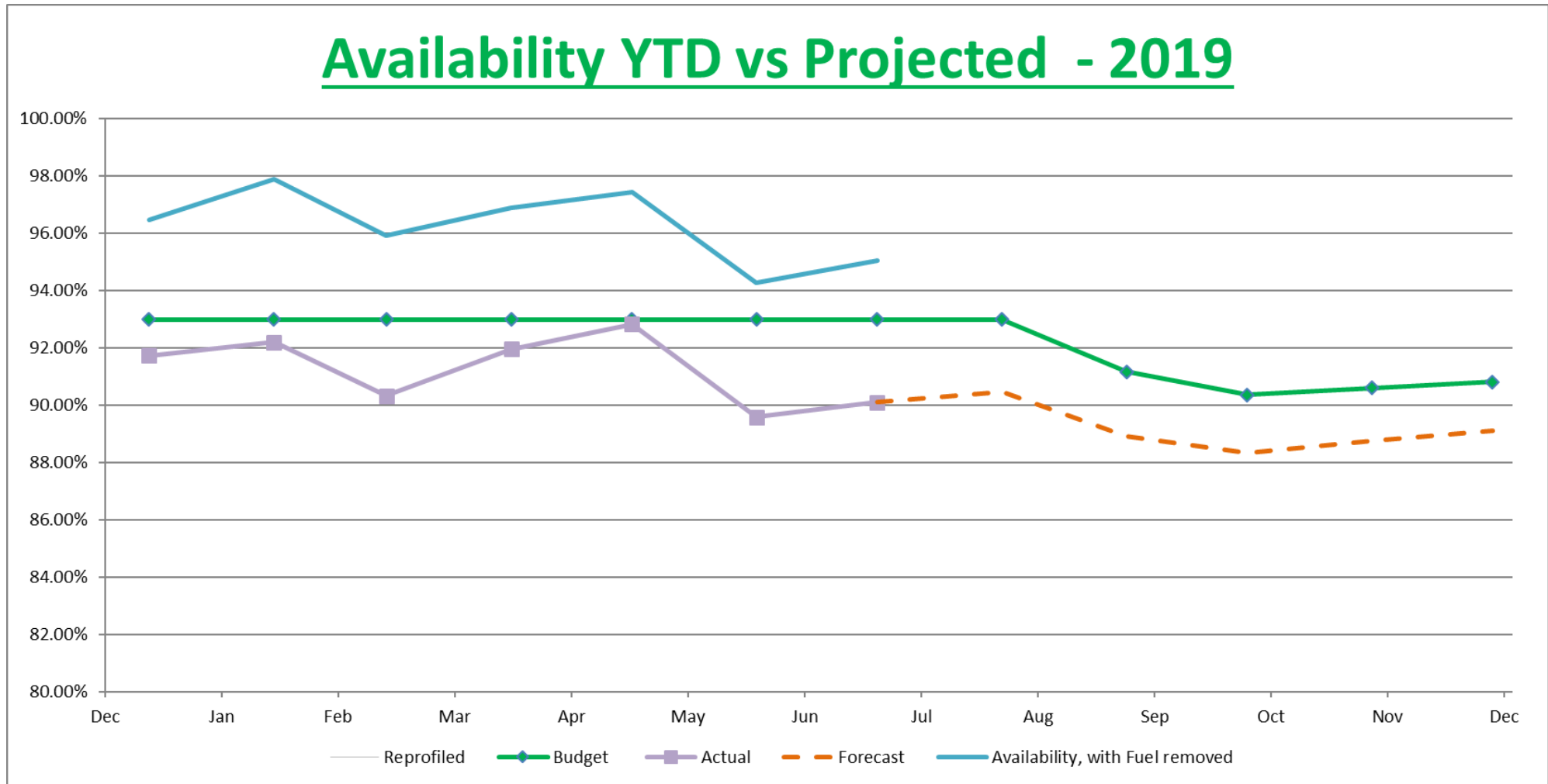
Mt Piper Operations

- MP1 is currently in service.
- MP2 has been in and out of service to conserve fuel.
- Stockpile levels falling with poor supply from Centennial.
- Preparations for MP2 outage later in year taking place.



Mt Piper Operations

Availability YTD vs Projected - 2019



Pinedale Mine Update

- Remains in care and maintenance while future resource utilisation options are assessed
- Desktop feasibility work continuing
- Maintaining existing mining and exploration leases
- Maintaining rehabilitated areas with a focus for 2019 on native rehabilitated areas
- The EPA has approved a Licence variation to remove a depositional dust gauge from a property in Blackmans Flat at the landowners request. The air management plan is being updated accordingly.



EA on Renewables

EA is positioning for a greener future



GANNAWARRA SOLAR & BATTERY

Offtake: EnergyAustralia
COD: March 2019 & Dec 2018
Capacity: 60MW Solar
Capacity: 25MW / 50 MWh Battery



NEWPORT

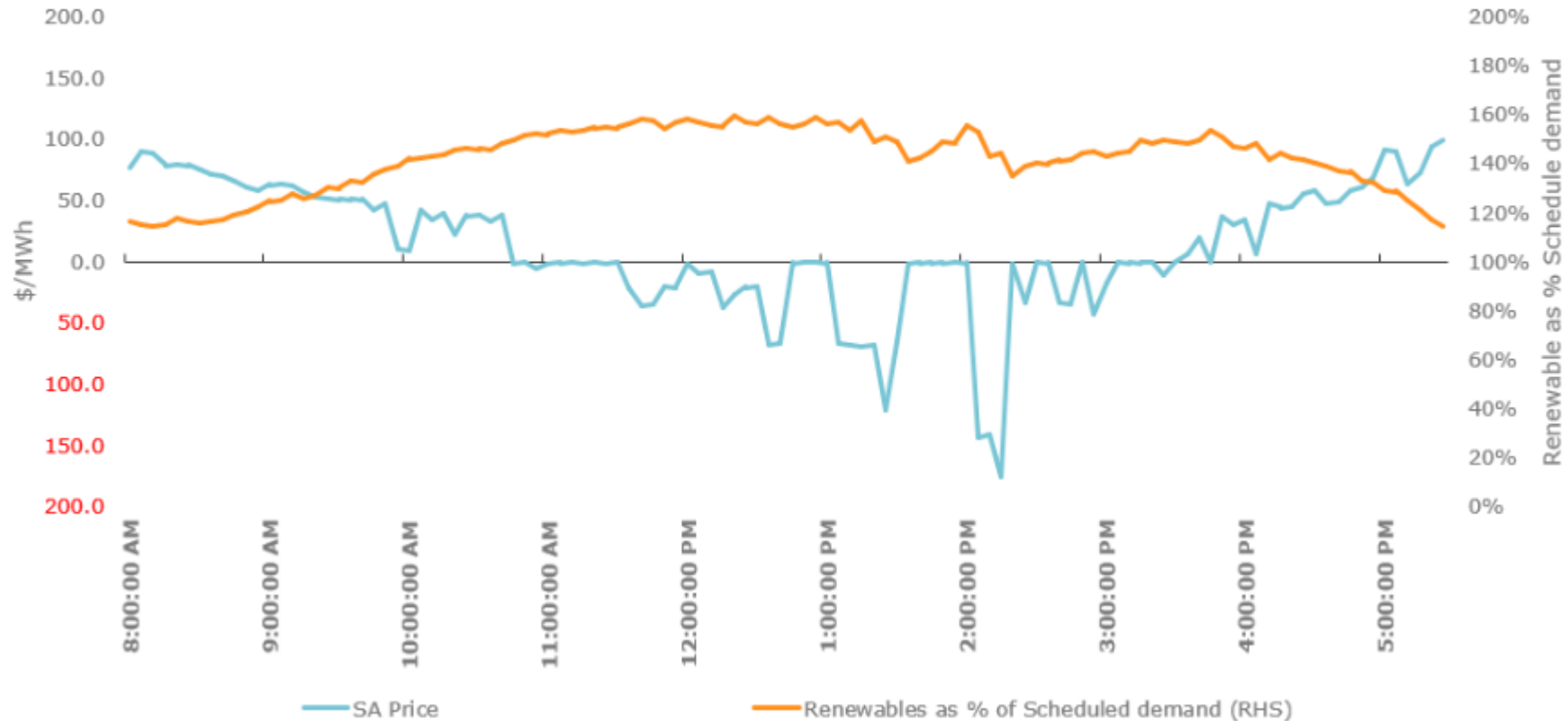
Owner: EnergyAustralia
Acquired: 2018
Capacity: 510MW



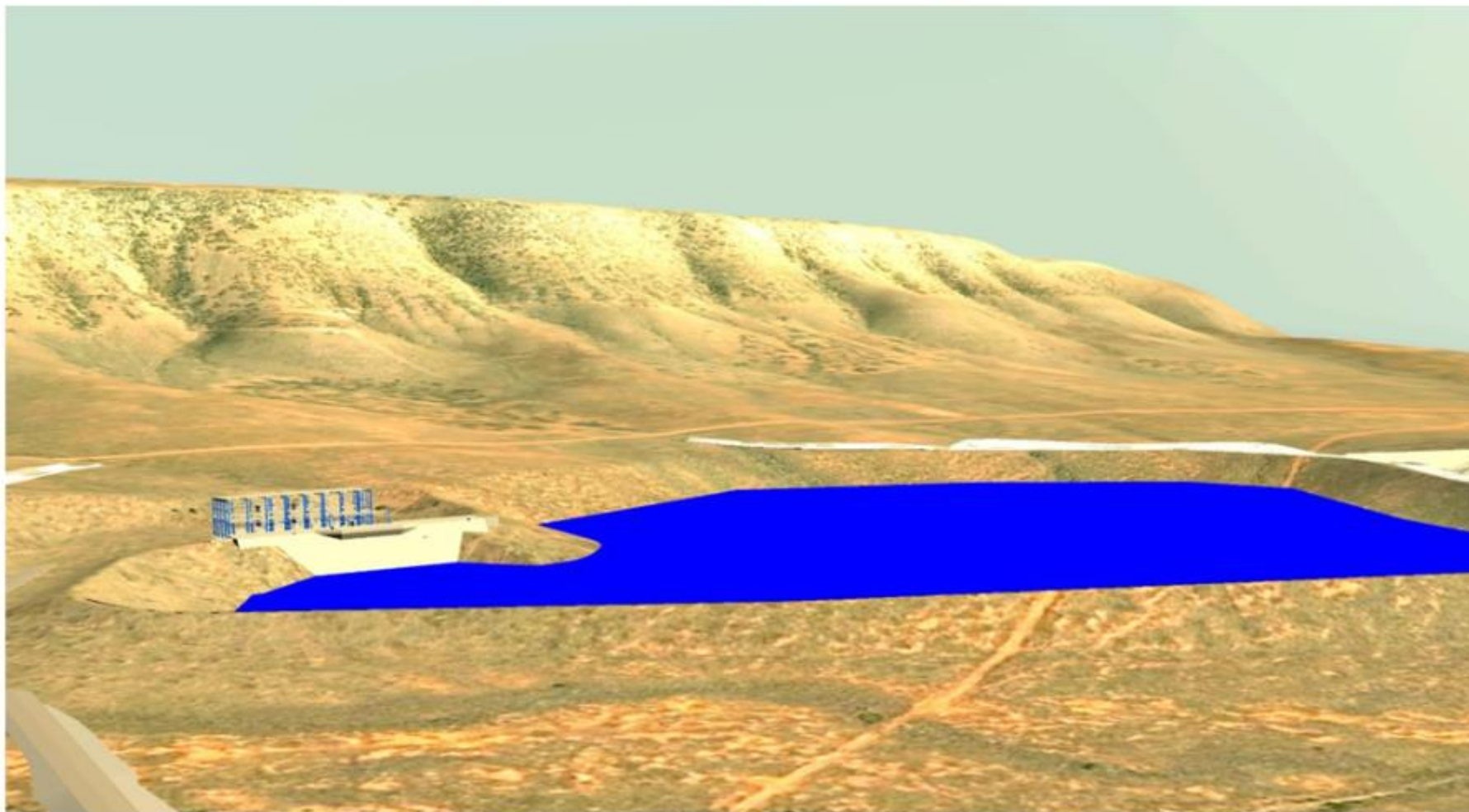
BODANGORA

Offtake: EnergyAustralia
Executed: 2017
Capacity: 113MW

SA - Pool prices & Renewable mix on 20.07.2019



Cultana Pumped Hydro Energy Storage



225MW / 1,800MWh

Wallerawang DDR

General Update

Wallerawang DDR

- DA for Demolition and Rehabilitation submitted to LCC
 - Some of these works are required to allow repurposing, but also give flexibility if rehabilitation is required prior to repurposing.
- Site is currently being decontaminated of remnant acid from chemical processes.
- Remaining inventory is being auctioned publicly
- Repurposing
 - Bettergrow is undertaking due diligence in relation to their proposed repurposing of the site (including logistics, recycling and 'growing media' facilities) and an agreement is being negotiated

Wallerawang DDR

Ash Dams Area Rehabilitation

Wallerawang DDR

- Development Applications for the Asbestos Repository and Demolition of infrastructure at the Wallerawang Power Station are currently being assessed by Lithgow Council, a determination is pending

Update Rail Unloader Project

Rail Unloader - Current Status

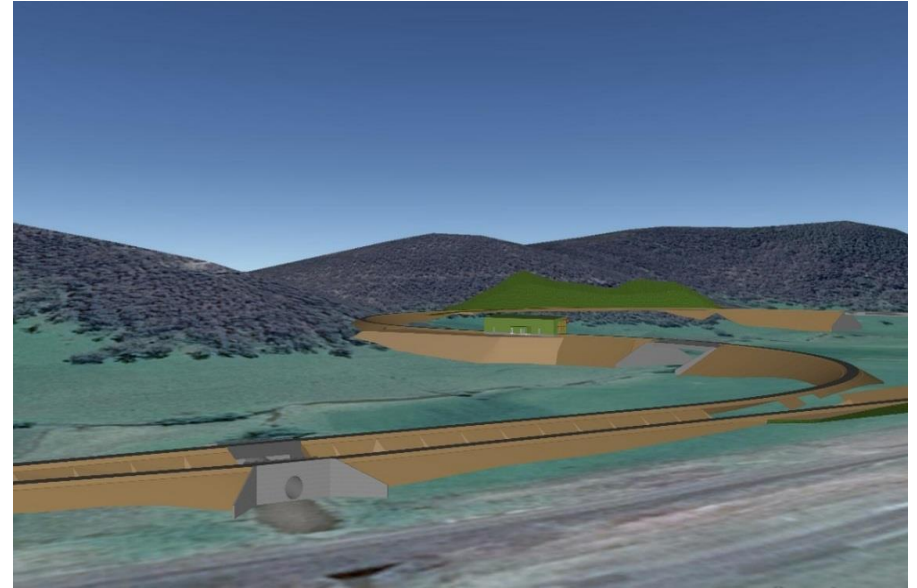
- EnergyAustralia received planning approval for the design modification of the Pipers Flat rail unloader project in January 2019
 - The consent conditions are currently being worked through, including additional ecology and aboriginal heritage studies
- Work on the business case for the project is in progress
- While EnergyAustralia's preference is to continue to source coal locally, we are assessing other coal supply options
- EnergyAustralia is working with Transport for NSW in relation to the government's feasibility study to reinstate the Kandos-Gulgong line (expected to be finished late 2019 or early 2020)

Recap: Modified Rail Unloader Design

Aerial view



Pipers Flat Road view



The proposed modification includes:

- realignment of the rail line to reduce earthworks and reduce the height of the embankment
- relocation of the rail dump hopper to remove an intermediate coal transfer station and conveyor
- the addition of a second connection to the main rail line and a spur line to provide operational flexibility
- an additional conveyor and rill tower near the power station
- removal of trains provisioning buildings



Update – Lamberts North Ash Placement Project

Lamberts North Ash Placement Project Update

- Ash Placement Volume
 - 2019 quarter two volume is 0 tonnes
 - No ash placement within Lamberts North since February 2019.
- No complaints received
- No incidents recorded
- Operational Environmental Management Plan undergoing review following comments from DPE



Update – Water Treatment Project

Joint EANSW/Centennial Water Treatment Project



- Commissioning team is now on site.
 - 30th of June date met for the closing of Centennial LDP Point 9. Valve closed water going to WTF.
 - Final load testing/ commissioning of the Aerobelt Ash Conveyor and Salt Receiving and Transfer Facility to commence next week.
-
- Prefilter Plant now in service and treating ~24MI/d.
 - Commissioning of the mine water RO's is continuing with all 5 RO's in the commissioning phase.
 - Control room and office building is now controlling the plant.

Community Engagement Program

Community Engagement Program 2019

Round 2

- \$30,000 available
- Applications open from 1 August – 30 August
- Advertising has commenced in Lithgow Mercury & Village Voice
- Copy of application has been sent to members

Community Engagement Program

Sponsorship Recipients – May – August 2019

- Minggaan Aboriginal Corporation – Naidoc Week Events
- Lithglow

Spotlight on Some Previous Grant Recipients

- **Science at the Local** – Held in late June, Lithgow locals heard from Dr Eva Cheng from Sydney’s University of Technology, who spoke about highlights of her career in engineering and education, including taking students to southeast Asia to study the impact of engineering in developing countries. Also speaking at the Lithgow event was climate change consultant Dr Peter Smith, who shared stories of “trying (and sometimes failing) to use science for international aid projects”.



Community Engagement Program

Spotlight on Some Previous Grant Recipients

- **Lithgow High School – Mandiyaba Yadhya “Possum Dream”**

Workshop for 15 young Aboriginal women and girls to create traditional Possum skin women’s shoulder cloaks and a new dance & song developed from Wiradjuri creation stories



Employment Opportunities

Apprentice Program

- Energy Australia is currently reviewing it's apprentice recruitment strategy for 2020.

New Employees

- In the period February 2019 to August 2019 Mt Piper has welcomed 6 new employees.
- Most of these employees have been employed from the local area.
- The majority of these positions are related to the Maintenance field.