AGRIWASTE ENERGY PTY LTD AND AGRIWASTE PTY LTD AND AUSTRALIAN BIOWASTE ENERGY PTY LTD

THE MACANZAC PROJECT

APPLICATION FOR SEARS—SSD8893

PRELIMINARY ENVIRONMENTAL ASSESSMENT

Booth Associates

Agribusiness and
Environmental Solutions

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APPLICATION FOR SEARS – SSD8893
PRELIMINARY ENVIRONMENTAL ASSESSMENT

Submitted to:

AgriWaste Energy
Farm 558
30 Lloyd Road
COLEAMBALLY NSW 2707

Attention: Mr Brannan Tempest

Ph: 0478 037 933
Em: brannan.tempest@gmail.com

Submitted by:

Booth Associates Pty Ltd
Agribusiness & Environmental Consultants
PO Box 1458
Level 1
84 Yambil Street
GRIFFITH NSW 2680

Ph: 02 6964 9911
Fx: 02 6964 5440
Em: admin@boothassociates.com.au
Web: www.boothassociates.com.au
ABN: 79 095 414 065

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1.0 INTRODUCTION

The proposal is to build an agricultural biomass-powered 100MW bioenergy plant at Coleambally in the Riverina of NSW. There are no comparable bioenergy plants in Australia. The proposed technology for the boilers and turbines is similar to recently built plants in the United Kingdom at Sleaford, Snetterton and Brigg and nearly completed plants at Crampton and Widnes. These UK sites are all single boiler sites. The proposed Coleambally development is for two boilers each of a similar size to those in the UK. The technology for the boilers is European. Countries such as Denmark have been pioneering the bioenergy sector since the early 1980's. In 2013, 11.5% of Denmark's electricity was generated from biomass.

Some of the bioenergy plants in the UK use straw as the only substrate, however this exposes them to a volatile substrate market. The proposed development will supplement straw with non-straw substrates as a secondary source of substrate. Ratio of straw to other substrates will be about 70% - 80% straw to 20% - 30% secondary substrates.

1.1 Overview

The proposal is classified as a State Significant Development (SSD) under *State Environmental Planning Policy (State and Regional Development) 2011* and is subject to assessment and determination by the NSW Minister for Planning and Environment (Minister). SSD projects comprise developments that are deemed to have State significance due to their size, economic value or potential impacts. Applications for SSD must be accompanied by an Environmental Impact Statement (EIS) which is prepared in accordance with Secretary's Environmental Assessment Requirements (SEARs) issued by the NSW Department of Planning and Environment (DP&E).

1.2 Purpose of this Report

This assessment has been prepared to support a request to DP&E for the SEARs in relation to the proposal. The EIS must address the SEARs.

This assessment will assist DP&E's development of the SEARs through providing:

- An overview of the proposal, including justification and alternatives considered;
- An outline of the planning and statutory framework;
- A description of the stakeholder and community consultation undertaken to date;
- Characterisation of the existing environment and site constraints;
- A preliminary assessment of key environmental risks; and
- Identification of further assessments likely required during the EIS.

1.3 The Applicant

The Applicant is AgriWaste Energy Pty Ltd, AgriWaste Pty Ltd and Australian BioWaste Energy Pty Ltd. Brannan Tempest is the Project Initiator, a Director and Shareholder of all three companies and the delegated applicant. Brannan has a Diploma in Electrical Engineering from Kitson College of Technology in Leeds, UK.

Brannan is based in Coleambally and has sourced the best possible site for the project, having regard for the required elements to ensure project success.

Brannan has a long history of entrepreneurial success – with Fibrecity, Pharmacy2u, OblinArk and TSA – in part due to his rare mix of experience in business development in IT services and Electronic Engineering. He provides a solid foundation to move the business through its development and launch programme. Other previous clients include Crossrail London, Vickers Defence and NASA.

Brannan is a designer of renewable energy technology's and holds the patent for the hydropower generating devices OblinEngine and OblinArk. More details can be found at:

- https://www.google.com/patents/WO2013064845A1?cl=en;
- https://www.youtube.com/results?search_query=OblinArk; and
- https://www.youtube.com/watch?v=auSaFtFqWVE.

There are no such biomass power generating plants in Australia, although there is a 15MW straw powered bioenergy plant proposed for the Yorke Peninsula, South Australia. In September and October 2017 Brannan toured plants in the UK and Denmark with the plants' engineering, procurement and construction contractor, who is also the technology owner.

1.4 Report Authors

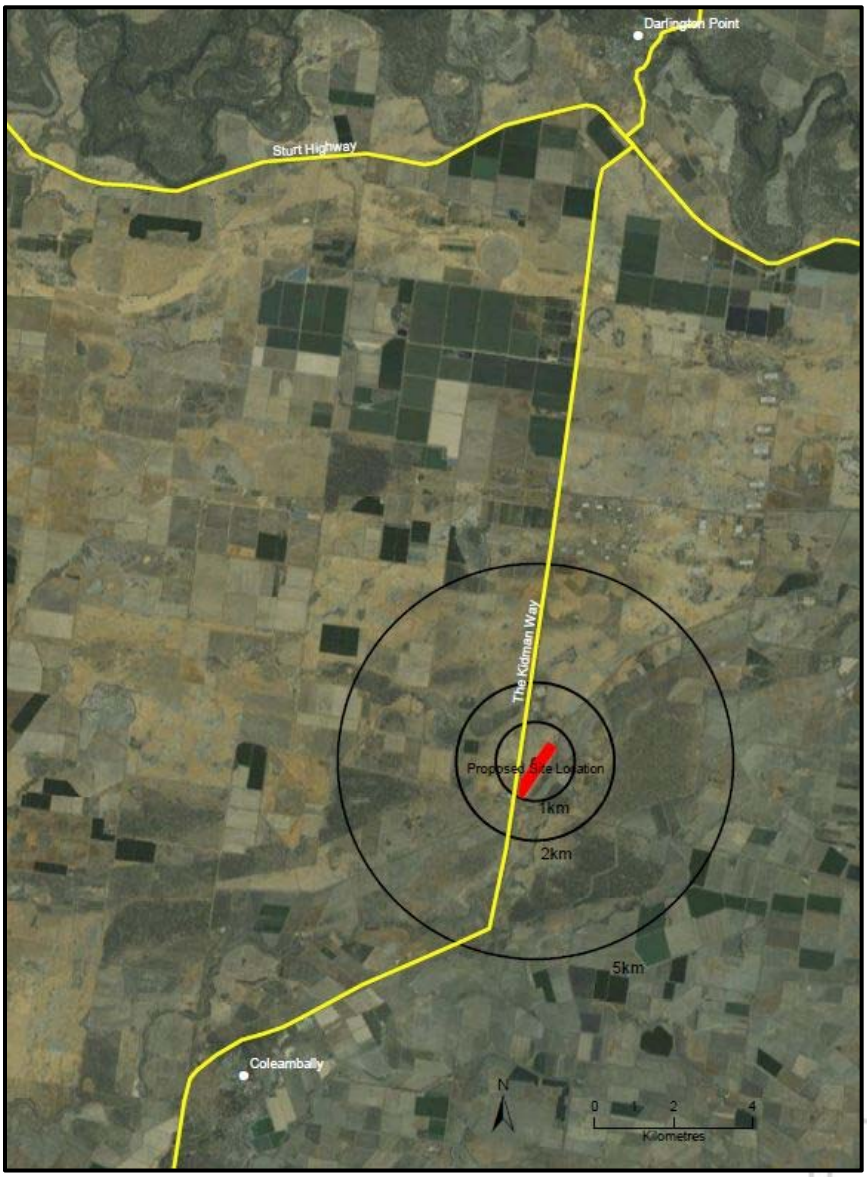
This report has been prepared by Michael Ryan B.Sc.Agr, Principal Consultant, Booth Associates and Daris Olsauskas B.URP, Dip.Ag.Management, Associate Town Planner, in conjunction with Brannan Tempest.

1.5 The Proposal

1.5.1 Locality

The proposed site is depicted in Figure 1 and is located between Coleambally and Darlington Point in the Riverina region of NSW within the Murrumbidgee Council Local Government Area. Coleambally is approximately 11km south of the site. The site is located on the Kidman Way which forms a north/south link between Jerilderie and Griffith. The site is approximately 16km south of the Sturt Highway. The immediate area within a 10km radius from the site has been developed for a diverse range of agriculture including a mix of grazing, annual cropping, irrigated annual crops such as rice, cotton, wheat, canola and corn, permanent crops such as prunes, almonds and wine grapes and poultry sheds.

Figure 1: Site Location



1.5.2 Site Description

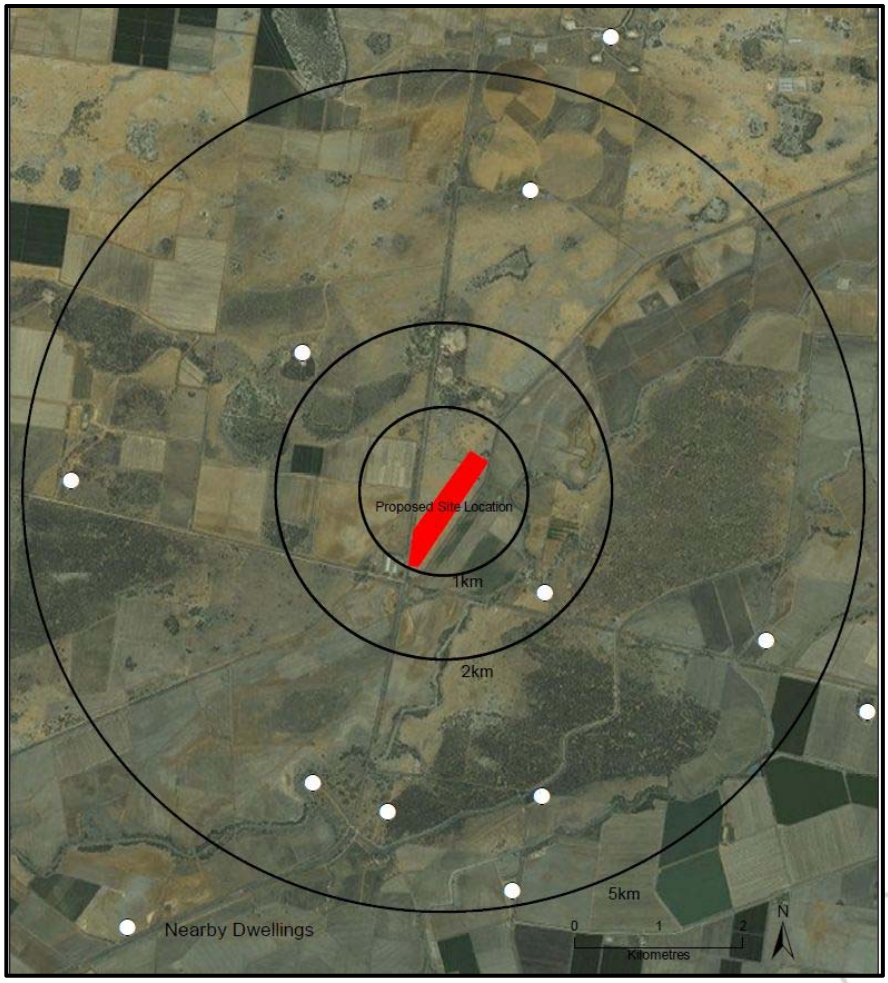
The proposed development site is known as Lot 4 DP46629 Kidman Way, Coleambally. A copy of the deposited plan for Lot 4 is provided in Annexure 1.

Lot 4 has an area of 103ha and is generally triangular in shape. Lot 4 has an 80m wide easement for the power lines which traverse the lot as shown in Annexure 1. The site footprint has been set out to avoid this easement as shown in Figure 4. The site is traversed by two major power lines within the easement. These powerlines are connected to the Coleambally sub-station about 0.5km west of the site.

The site is bounded by the Kidman Way to the west and Coleambally Irrigation Co-operative Limited channels to the east and north. The site adjoins existing agricultural lands to the south and an area of remnant vegetation to the north of the site.

The site has a long history of grazing. About two-thirds of the site has been previously cleared and used for cropping. The site is relatively remote, however there are approximately nine (9) rural dwellings within a 5km radius of the site and these dwellings are associated with existing farming operations as shown in Figure 2. The nearest dwelling is approximately 1.5km from the boundaries of the site.

Figure 2: Nearby Dwellings



Landowner consent for this application is attached as Annexure 2.

Photos of the proposed site are included in Annexure 3.

1.5.3 Project Design Construction and Operation

The project is to be built by a company with global experience with the proposed technology under an Engineering, Procurement and Construction (EPC) contract. The EPC contractor will also most likely operate the plant under an Operation and Maintenance (O&M) contract. Potential EPC and O&M contractors include:

- **Babcock & Wilcox USA** https://www.babcock.com/en/service/operations-maintenance-services;
- **BWSC Denmark** http://www.bwsc.com/Operation-and-Maintenance.aspx?ID=1385;
- **Elecnor Spain** https://www.elecnor.com/en/business/infrastructures/energy-maintenance-and-efficiency/#9; and
- **Pacific Heat & Power Australia** https://www.pacificheatandpower.com;

1.5.4 Project Staging

The project is based on two boilers two allow for the development to be staged and for redundancy should operational issues arise. The staging of the project will be based on available funds for construction and is yet to be determined.

2.0 PROPOSED DEVELOPMENT

2.1 Description of the Proposed Development

The proposed development includes a 100 megawatt (MW) agricultural biomass (waste) energy generating plant, comprising:

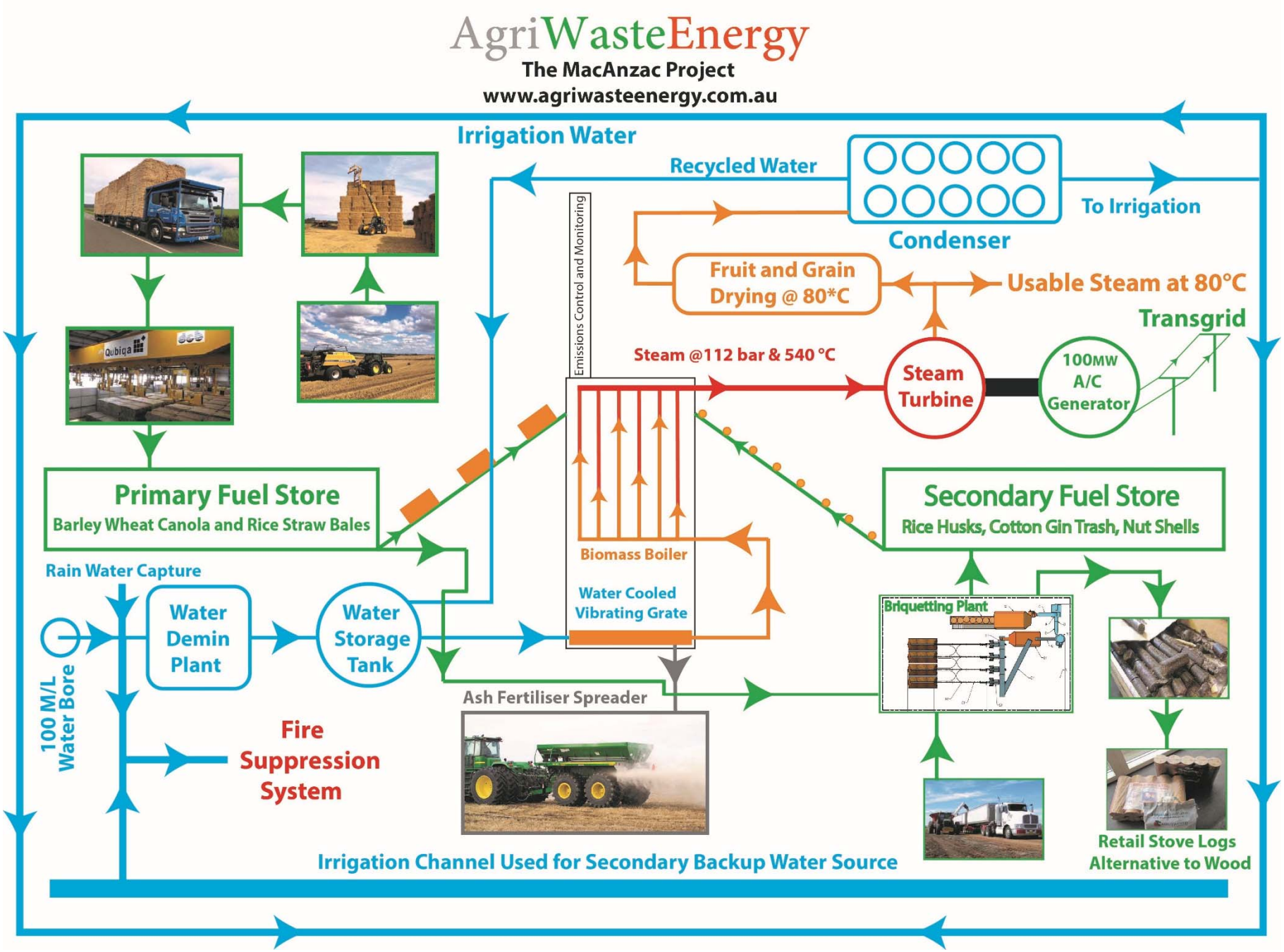
- Two by 130 MW boilers, each generating 50MW of electricity and 30MW – 80MW of useable steam heat. Each boiler will consume up to 350,000 tonnes of agricultural waste per annum, and will have a single stack for emissions about 32 metres tall;
- 30 briquette machines capable of producing 300,000 tonnes of briquettes per annum. A briquette is a compressed form of biomass used as fuel;
- Two by 150,000 tonne straw storage sheds;
- Two by 50,000 tonne briquette storage sheds;
- Solar panels on shed rooftops of 5MW - 10MW in total;
- 75,000 tonne (wet) per annum fruit drying plant;
- 200,000 tonne (wet) per annum grain drying plant;
- Up to 110 permanent staff will be employed during operation, as well as 350 staff for 2 years during construction;
- On site staff accommodation, 100 units;
- Ancillary workshop and equipment shed, administration office, fuel and water storage, staff amenities, and carpark. A flow chart depicting the integration of the various plant components is provided as Figure 3; and
- Orchard and/or market garden (up to 10ha).

Photos of the Snetterton plant are provided in Annexure 3. Examples and diagrams of the type of boilers can be found at:

- http://www.bwsc.com/Biomass-power-plants.aspx?ID=1346; and
- https://www.babcock.com/en/industry/renewable-biomass-biofuels.

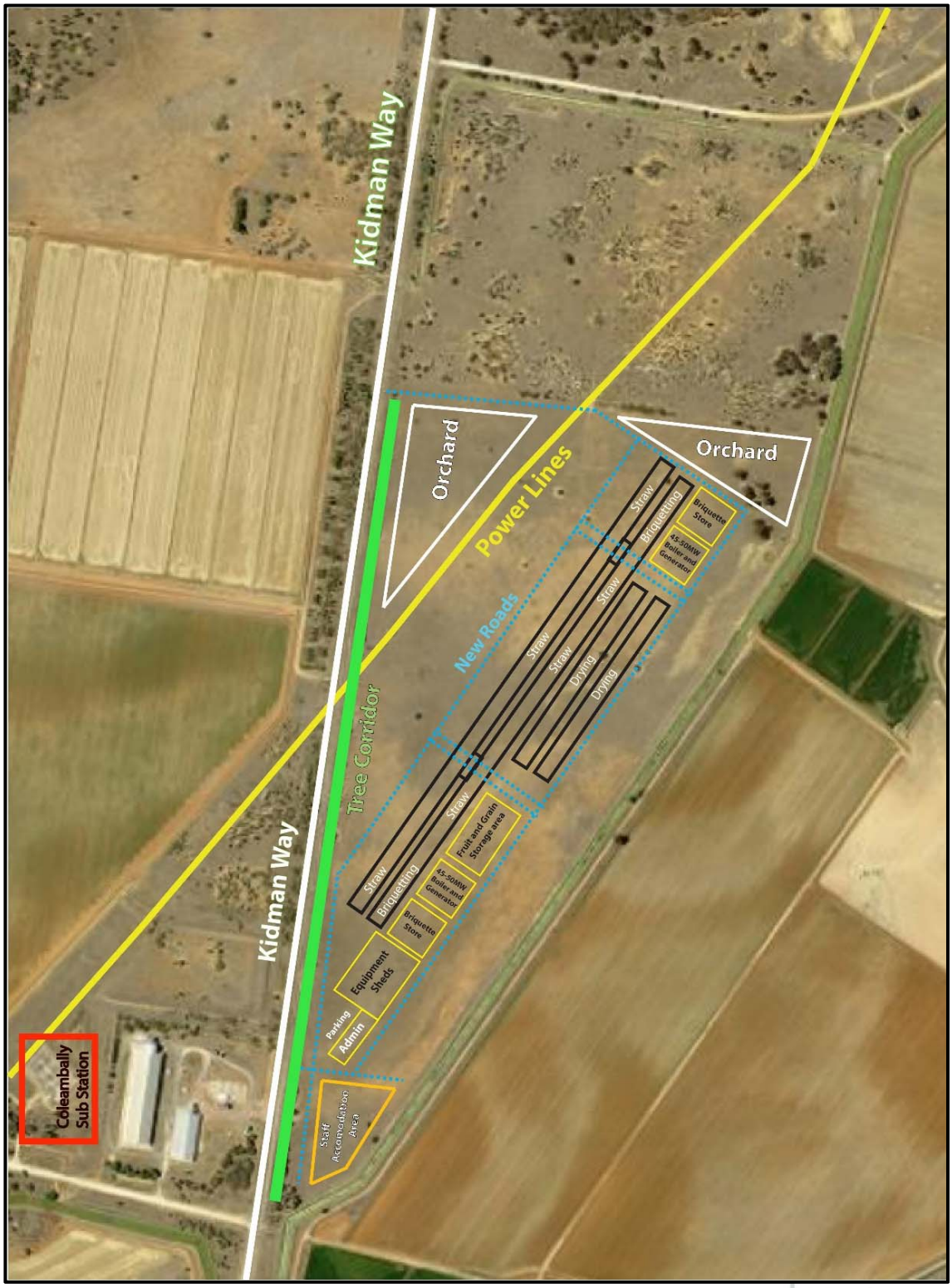
A flow chart showing the movement of substrate and other materials through the plant is provided as Figure 3.

Figure 3: Project Flow Chart



The general preliminary layout of the proposed development is identified on the aerial overlay in Figure 4.

Figure 4: Site Layout



The proposed development will cover about 50ha. The development physical footprint is approximately 1,500m long by 300m. The arrangement reflects the indicative requirements for storage and the movement of goods to and within the site.

The proposed access to the site is from the Kidman Way in two locations at the northern and southern ends of the development footprint. An alternative access would be from McGrath Road to the immediate north of the site, although this access would necessitate a crossing or crossings over a Coleambally Irrigation Co-operative Limited channel.

TransGrid have been engaged to provide advice about the best method to connect to the electricity network. The site is located 0.5km east of the Coleambally sub-station and traversed by 132kV and 330kV power lines. Connection options are direct to the substation and on-site into the 132kV line. TransGrid have indicated their support for the proposal which will provide base load power generation to offset the daily daylight cycle of power generation anticipated from numerous proposed solar farms in the Riverina.

The primary sources of substrate for the development will be stubble from irrigated rice, wheat, barley, canola, corn and Miscanthus, a high energy, high yielding plant. The straw substrate will be delivered as large hay bales (600kg – 900kg). The straw will be 10% to 15% moisture which vaporises during combustion. Straw dry matter is normally about 50% carbon, 40% oxygen and 6% hydrogen as well as traces of nitrogen, sulphur and chloride.

Secondary sources for the substrate will be made into briquettes as they cannot be baled. Secondary substrates include cotton gin trash, cotton stalks, rice husks and nut hulls (walnuts, almonds and hazelnuts). Surplus boiler heat output will be used to dry straw and briquette substrate as required and for the fruit and grain dryers. The briquettes will be about 60mm – 100mm in diameter and 100mm – 300mm long and are a log burner equivalent to wood. Local cotton gins have expressed interest in supplying their gin trash, as alternative methods of disposal of this product and fire hazard management continue to be a challenge for the cotton gin operators.

Examples of briquetting plants can be found at the following websites:

- https://www.youtube.com/watch?v=28l0LvcJLys;
- https://www.youtube.com/watch?v=K_9Hnw1kQcA; and
- https://cfnielsen.com/cases/100-000-tonsper-year-consumer-briquettes-logs/.

A related entity (AgriWaste Pty Ltd) will be responsible for the baling, transport and delivery of the straw to the site. AgriWaste will engage local farmers and transport operators to assist in the transport and delivery of the straw. To manage straw supply, cost, seasonality of production and quality, significant on-site straw storage is proposed.

The on-selling of the briquettes commercially is yet to be fully explored. If suitable markets and commercial returns exist, sale of briquettes may be pursued however this is not the primary purpose of the proposed briquette production unit.

Water will be required for the operation of the boilers, up to 100ML per annum. Water will be sourced from a proposed bore and/or the Coleambally Irrigation Co-operative Limited system. The water will be cleaned (if required) and demineralised and stored on-site in tanks. Additional water will be kept for fire-fighting purposes. The water will be collected in condensers and can either be reused or used to irrigate proposed tree lots and an

orchard on-site. The proposed orchard (and/or market garden) will use any surplus water from the plant and can be supplemented with water from the bore or Coleambally Irrigation Co-operative Limited system.

Aside from water, the key by-product from the plant will be ash, generated at about 2.5% of the substrate, which equates to about 18,000 tonnes per annum. The ash has an agricultural value as it contains minerals, including potassium and trace elements which will be spread on the land the substrate is sourced from.

The combustion process is controlled with flow meters and control dampers ensuring complete combustion and low CO emission. Oxygen meters and the control system ensure combustion always occurs with sufficient oxygen.

Air emissions from the boiler stacks will be managed with scrubbers, including selective non-catalytic reduction for nitrogen oxides (NO_x) control, and dry sorbent injection (hydrated lime) for sulphur oxide (SO_x) and hydrogen chloride (HCl) control. This type of emissions control technology is being used in the UK at Sleaford and Snetterton.

On-site accommodation is required for construction and operations staff. Coleambally has a population of 650 and little accommodation is available as the town is experiencing significant growth in agriculture including large-scale tree nut projects and construction of the Coleambally Solar Farm. Indications are the Solar Farm is experiencing significant issues with staff accommodation.

The purpose of the on-site accommodation is to firstly accommodate the construction staff for the 2 - 3 years construction phase then once commissioned for AgriWaste operations staff. Accommodation will be 1-bedroom self-contained units built in a motel style configuration. Self-contained units with separate shared laundry block will allow staff staying on-site to cater for themselves. On-site catering may be required for the construction staff as leaving site on an *adhoc* basis will present site safety and security issue as well as create traffic issues.

The full scope of the complete project will be determined once relevant investigations are completed and through the environmental assessment process informing the EIS.

2.2 Capital Investment

The Capital Investment value estimate is $390M as addressed in the report by Cupel Solutions attached as Annexure 4.

2.3 Project Funding

Australian Biowaste Energy has a letter of support from Foresight Group who have indicated an interest to fund The MacAnzac Project through a special purpose vehicle.

> *"Foresight Group is a leading independent infrastructure and private equity investment manager with £2.8 billion of assets under management, raised from institutional investors, family offices, private and high net-worth individuals.*

Foresight's broad and growing fund management activities now encompass investing in the private equity and infrastructure sectors in the UK, US, Southern Europe and Australia through specialist teams.

Foresight has offices in the UK, USA, Italy and Australia."

Source; http://www.foresightgroup.eu/

The MacAnzac Project has indicative support from the Australian Clean Energy Finance Corporation (*CEFC*) and *Australian* Renewable Energy Agency (*ARENA*).

2.4 Proposal Justification

2.4.1 Why the MacAnzac Project?

The proposed project provides the following benefits and opportunities:

- Increase farm income and reduced operating costs for local producers;
- Make use of an under utilised energy resource;
- Reduce greenhouse gas;
- Reduce bush fires;
- Reduce emissions;
- Reduce crop fires;
- Significant job creation;
- Improve air quality;
- Reduce black outs and power cuts caused by lack of local base load power;
- Reduce the current practice of burning off stubble every year;
- The MacAnzac Project also intends to setup and manage a community fund for local community projects;
- With many grain crops, over half the above-ground biomass is not harvested;
- Straw is considered nutritionally void; and
- In irrigated systems heavy stubble can clog up machinery, and harbour pests such as mice, slugs and weed seeds.

2.4.2 Regional Development, Employment and Industry

The site is located within the Murrumbidgee Council LGA and is represented regionally by the Riverina and Murray Regional Organisation of Councils (RAMROC). The Murrumbidgee Council area is located in the Riverina Region of south-western New South Wales, about 640km west of the Sydney CBD, and 420 kilometres north of the Melbourne CBD. The 2016 ABS population for the Council area is 3,933 persons.

The Economic Profile of Murray Murrumbidgee prepared for the Economic Development Strategy for Regional NSW February 2015 highlights that agriculture is a major economic driver in the region, generating 34% of the gross value of all the crops in NSW and employing up to 36% of residents (in communities of up to 5,000 people). The profile highlights that the region will need to innovate and adapt to the challenge of increasing water tradability and the emerging impacts of climate change. The profile identifies that continued economic diversification will benefit the region.

2.4.3 Bioenergy

Bioenergy is an emerging form of renewable energy in Europe. According to Bioenergy International:

> *"Bioenergy is Europe's leading renewable energy source. According to Eurostat data and calculations by the European Biomass Association (AEBIOM), bioenergy will account for 11% of the final energy consumption in the EU-28 this year. Other renewable energy sources, like hydropower, wind, solar and geothermal, stand for another 7%."*
>
> *Source:https://bioenergyinternational.com/opinion-commentary/finlands-bioenergy-day-bioenergy-accounts-one-third-nations-final-energy-consumption*

As reported in BE Sustainable Magazine:

> *"In Denmark, renewable energy constitutes 23% of the Danish energy production and 28.6% of the Danish energy consumption, according to the Energy Agency's Energy Statistics 2015. Bioenergy is by far the largest contributor of renewable energy,* ***with 60% of the production and 69% of the consumption.*** *The large share of bioenergy is mainly caused of conversion of CHP plants from formerly coal to now biomass, particularly imported wood pellets."*
>
> *Source: http://www.besustainablemagazine.com/cms2/bioenergy-is-the-largest-contributor-of-renewable-energy-in-denmark/*

According to the Danish Energy Agency:

> *"Bioenergy represents more than two thirds of the overall consumption of renewable energy in Denmark. We use more and more bioenergy, and many power plants are switching from fossil fuels to wood pellets, wood chips or straw. The production of biogas is increasing rapidly, and it is expected to triple from 2012 to 2020.*

Types of bioenergy

Bioenergy is energy that is stored in organic material or biomass. The biomass can be combusted directly, or it can be processed into various types of fuel, e.g. wood pellets, biogas or bioethanol. The most common types of bioenergy used in Denmark are:

Combustion: Combined heat and power (CHP) plants use solid biomass to produce electricity and heat.

Biogas: Biogas is produced by anaerobic digestion of organic material such as manure, sewage sludge and organic waste. It consists primarily of methane and it can replace natural gas.

Gasification: Thermal gasification is the heating of biomass with limited oxygen available. The biomass is turned into inflammable gases that can be combusted or upgraded.

Liquid biofuels: Biomass crops and crop residuals can be used to produce liquid biofuels. Bioethanol is produced by fermentation and distillation of biomass, and biodiesel is produced by processing plant-based oils.

Bioenergy plays an important part in the green transition

"Most sources of renewable energy are fluctuating and production from solar panels or wind turbines are depending on weather conditions. So far it is not possible to store electricity in large amounts. In contrast, however, it is possible to store bioenergy and use it in periods with high energy demand. Therefore, bioenergy is likely to play a critical role in terms of ensuring the security of supply in a future energy system with a large proportion of renewable energy."

Source: https://ens.dk/en/our-responsibilities/bioenergy/facts-about-bioenergy-denmark

More information with regard to Denmark's bioenergy industry can be found at:

- http://www.inbiom.dk/en/publications/straw-to-energy; and
- https://stateofgreen.com/en/infocus/publications/from-sustainable-biomass-to-competitive-bioenergy.

2.4.4 Global Bioenergy Production

Most of the biomass power plants globally are less than 100 MW in size. Total global biomass electricity capacity is about 50 GW which is 1% of the world's total electricity capacity. Biomass electricity capacity has a global growth rate of around 4-5% per year. There is currently significant growth in biomass electricity in the UK with the building and commissioning of a number of large power plants with a capacit6ies of up to 350 MW. These will require millions of tonnes of feedstock annually. The USA accounts for more than 20% of the worlds' biomass energy capacity. India has around 1 GW of biomass energy capacity. Romania and Bulgaria are currently building large biomass electricity plants.

Current global biomass electricity plants include:

- Port Talbots UK 350 MW – This will be the biggest biomass energy plant when built and will use imported fuel from Canada and USA. It will meet the entire Welsh Renewable Energy Target, http://www.volund.dk/Biomass_energy/References/Margam;
- Teesdies UK 295 MW– MGT Power, http://www.volund.dk/Biomass_energy/References/Teesside;
- Alholmens, Finland 240 MW, http://www.alholmenskraft.com/en/company/bio-fuelled_power_plan;
- Port of Bristol UK 150 MW, http://www.heliusenergy.com/;
- Wisapower, Finland 125 MW, https://www.upmbiofore.com/pulp/did-you-know-that-pulp-mills-produce-lots-of-bioenergy/;
- KuaVo, Finland 125 MW;
- Lieth, Scotland 100 MW – The plant is being developed by Scottish Energy and Forth Energy;
- Simmering, Vienna 66 MW, https://www.wienenergie.at/eportal3/ep/channelView.do/pageTypeId/67860/channelId/-51556;
- Pecs, Hungary 65 MW, http://www.veolia.hu/en/node/296;
- Texas 100 MW Plant Southern Company;
- Okeelanta (cogen) Florida 74 MW, https://www.swa.org/Facilities/Facility/Details/Renewable-Energy-Facility-2-11;
- Berlin, New Hampshire 70 MW – Laidlaw Energy Group a small US listed IPP is developing this plant;
- Sleaford UK38.5MW, http://www.bwsc.com/Sleaford.aspx?ID=1242;
- Brigg UK 40MW, https://www.briggbiomass.com/;
- Snetterton 44MW, and https://www.snettertonbiomass.com/; and
- Williams Lake British Columbia 60 MW – This biomass plant is now owned by BC Hydro.

2.5 National Energy and Climate Change Objectives

2.5.1 National Electricity Supply

In Australia, energy security is defined as "the adequate, reliable and competitive supply of energy to support the functioning of the economy and social development" (DRET, 2011). A National Energy Security Assessment (NESA) carried out in 2011 found that Australia's energy security was deemed 'moderate'. In addition, significant amounts of new capacity will be needed over the medium to long term to compensate for the retirement of emissions intensive coal plants and to help achieve emissions reduction targets.

Significant increases in energy prices have highlighted the vulnerability of households and industry to energy supply costs. Renewable energy projects are seen as a key mechanism for putting downward pressure on energy prices currently impacting households and industries.

2.5.2 NSW Renewable Energy Action Plan

The NSW Government's Renewable Energy Action Plan was released in 2013 (NSW Government, 2013) in support of the Australian Government's Renewable Energy Target (RET) and to guide renewable energy development in NSW to achieve maximum benefits for the State. The Renewable Energy Action Plan comprises 24 actions to achieve the goals of:

- Attract renewable energy investment and projects;
- Build community support for renewable energy; and
- Attract and grow expertise in renewables.

2.5.3 NSW EPA Energy from Waste Policy

The NSW Environment Protection Authority's (EPA) Energy from Waste Policy Statement (EFW) January 2015 identifies that facilities proposing to use eligible waste fuels must meet the following criteria:

- Ability to demonstrate to the EPA that the proposed waste consistently meets the definition of an EPA-approved eligible waste fuel;
- Confirm there are no practical, higher order reuse opportunities for the waste;
- Fully characterise the waste and/or undertake proof of performance; and
- Meet the relevant emission standards as set out in the Protection of the Environment Operations (*Clean Air) Regulation 2010.*

This policy framework provides technical, thermal efficiency and resource recovery criteria that will need to be met. The framework refers to the EPA's *Eligible Waste Fuel Guidelines* in respect of resource recovery order and exemption for the use of an eligible waste fuel and definitions for each of the listed eligible waste fuels.

Under these guidelines the **Definitions of eligible waste fuels** in Section 3 of the *NSW Energy from Waste Policy Statement* lists the wastes categorised by the EPA as eligible waste fuels. This includes Biomass from agriculture.

Biomass from agriculture is defined as including:

> *"Weeds, plant or crop residues that are free of any physical contaminants, produced directly from agricultural practices; for example, non-putrescible natural organic fibrous materials and organic residues from harvest activities. These residues may include fibres, roots, stalks, stubble, leaves, seed pods, nut shells and some waste from agricultural processing such as cotton and cane trash."*

This definition excludes:

- Waste material from processing dairy products or beverages;
- Waste from the production of food; and
- Dead animals, animal parts, pelts, manure and animal bedding, e.g. cage and barn poultry litter.

The EPA specifically notes that biomass from agricultural material may contain pesticide or herbicide residues. The risks presented by these residues will be assessed as part of the resource recovery order and exemption application.

Under Part 4 of the Eligible Waste Fuel Guidelines it will be necessary to apply for a resource recovery order or exemption for the proposed development. Applications to use agricultural biomass must include information regarding sprays and fertilisers applied to the crops or material, and any potential impacts of spray drift. Engagement with NSW EPA has commenced on preparing an application of a resource recovery order and exemption for the proposed development.

2.5.4 NSW Climate Change Policy Framework

The NSW Government has developed the *NSW Climate Change Policy Framework* in support of Australia's COP21 commitments and to demonstrate action on climate change. The Framework outlines the Government's long-term objectives to achieve net-zero emissions by 2050 and to make NSW more resilient to a changing climate.

The Framework highlights the new opportunities in 'advanced energy' sectors which will help the world adapt to climate change. The NSW Government will seek and support opportunities to grow these emerging industries in NSW.

2.5.5 Australian Renewable Energy Target

The large-scale RET is a Federal Government policy which commenced in 2001 to ensure that at least 20% of Australia's electricity consumption comes from renewable sources by 2020. Following review, the RET was confirmed in early 2015 as 33,000 gigawatt hours (GWh) by 2020. To meet the RET, significant new renewable energy capacity is needed.

2.5.6 COP21

At the COP21 climate talks in Paris in December 2015, the Federal Government committed to an emissions target of a 26% – 28% reduction by 2030 compared to 2005 levels. The Federal Government announced at the end of 2016 that the Australian climate and energy policies will be reviewed in 2017 to ensure the 2030 targets are met.

3.0 PERMISSIBILITY AND STRATEGIC PLANNING

The proposed development will be impacted by a range of Commonwealth and State legislation and local planning controls. The following is a summary of the relevant legislation and planning controls.

3.1 Commonwealth Legislation

3.1.1 Environment Protection and Biodiversity Conservation Act 1999

The *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is administered by the Commonwealth Department of the Environment (DoE).

The EPBC Act requires approval from the Environment Minister for actions likely to have a significant impact on a Matter of National Environmental Significance (MNES).

The EPBC Act identifies the following nine MNES:

- World Heritage properties;
- National heritage places;
- Wetlands of international significance (Ramsar wetlands);
- Nationally threatened species and ecological communities;
- Migratory species;
- Commonwealth marine areas;
- The Great Barrier Reef Marine Park; and
- Nuclear actions (including uranium mining).

Any proposed action likely to have a significant impact on the following must be referred to the DoE to determine whether the action is a 'controlled action':

- Actions that have a significant impact on MNES;
- Actions that (indirectly or directly) have a significant environmental impact on Commonwealth land; and
- Actions carried out by the Commonwealth Government.

The assessment of the significance of the impact is based on the criteria listed in the DoE's *Significant Impact Guidelines 1.1* (DoE 2003). Should the Environment Minister decide the action will be taken in a manner that will ensure it will be likely to not have an adverse impact on the MNES, approval will be granted.

An assessment of whether the proposed development may have a significant impact on any matters of National Environmental Significance will be undertaken during the EIS investigations. Once the assessment is complete, a decision on whether referral to the Commonwealth Minister is required will be made using the Biodiversity Assessment Method.

3.1.2 Native Title Act 1993

The *Native Title Act 1993* provides a national framework for the recognition and protection of native title i.e. the rights and interests, recognised by common law, possessed under traditional laws and customs of Aboriginal and Torres Strait Islander people.

The Act recognises the ownership (or set of rights and interest) of land or waters by Aboriginal and Torres Strait Island groups prior to European Settlement, and provides a mechanism for determining where native title exists, who holds it, and identifies compensation for actions affecting it. The Act establishes ways in which future dealings affecting native title may proceed and sets standards for those dealings.

A search of the Native Title Tribunal register indicated that no Native Title Determination Applications, Determinations of Native Title, or Indigenous Land Use Agreements exist over the project site and Native Title will not be further considered during the EIS process.

3.1.3 Commonwealth Aboriginal and Torres Strait Islander Heritage Protection Act 1984

The *Aboriginal and Torres Strait Islander Heritage Protection Act 1984* enables the Australian Government to respond to requests to protect areas and objects of particular significance to Aboriginal people, if it appears that state or territory laws have not provided effective protection.

The Australian Government can make a declaration to protect an area, object or class of objects from a threat of injury or desecration. However, the government cannot make a declaration unless an Aboriginal person or group of persons has requested it. A declaration is only made if the relevant processes of the state or territory have been exhausted.

This report considers the potential presence of Aboriginal heritage and this will be further assessed during the EIS process.

3.2 NSW Legislation

3.2.1 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* (EP&A Act), *Environmental Planning and Assessment Regulation 2000* and associated environmental planning instruments (including State Environmental Planning Policies and Local Environmental Plans) (EPIs) provide the framework for the assessment of environmental impacts and approval of development in NSW.

The proposal supports a number of objects of the EP&A Act by promoting and encouraging social, economic and environmental well-being through use of land for power generation using renewable sources.

Specifically, the project supports the following objects of the EP&A Act (and is also consistent with the remaining objects of the Act):

> *"(a) to encourage:*
>
> *(i) the proper management, development and conservation of natural and artificial resources, including agricultural land, natural areas, forests, minerals, water, cities, towns and villages for the purpose of promoting the social and economic welfare of the community and a better environment,*
>
> *(ii) the promotion and co-ordination of the orderly and economic use and development of land,*
>
> *(iii) the protection, provision and co-ordination of communication and utility services,*
>
> *(vi) the protection of the environment, including the protection and conservation of native animals and plants, including threatened species, populations and ecological communities, and their habitats, and*
>
> *(vii) ecologically sustainable development*
>
> *(b) to promote the sharing of the responsibility for environmental planning between the different levels of government in the State, and*
>
> *(c) to provide increased opportunity for public involvement and participation in environmental planning and assessment."*

Relevant to this proposal, Section 89C of the EP&A Act provides for a process where development can be declared as SSD either by a SEPP or Ministerial order published in the Gazette. Section 89D of the EP&A Act provides that the Minister is the consent authority for SSD. Part 4 Division 4.1 of the EP&A Act sets out the provisions which apply to the assessment and determination of SSD**.** The proposal is affected by Section 89E (1) - (5) Consent for State significant development.

In Schedule 3 of the *Environmental Planning and Assessment Regulation 2000*, 'Electricity generating stations' are listed as Designated Developments. Specifically, electricity generating stations, including associated water storage, ash or waste management facilities, that supply or are capable of supplying electrical power where more than 30 megawatts of electrical power from other energy sources is generated (including coal, gas, wind, bio-material or solar powered generators, hydroelectric stations on existing dams or co-generation).

3.2.2 State Environmental Planning Policies

State Environmental Planning Policies (SEPPs) are Environmental Planning Instruments (EPIs) prepared by the Minister to address issues significant to NSW.

The following SEPPs are identified as relevant considerations for the proposed development:

- SEPP (State and Regional Development) 2011;
- SEPP (Infrastructure) 2007;
- SEPP 33 – Hazardous and Offensive development;
- SEPP 55 – Remediation of Land;
- SEPP 52—Farm Dams and Other Works in Land and Water Management Plan Areas; and
- SEPP 64 – Advertising and Signage.

State Environmental Planning Policy (State and Regional Development 2011 (SRD SEPP)

State Environmental Planning Policy (State and Regional Development) 2011 identifies development that is classified as State Significant Development (SSD). Clause 20 of Schedule 1 of the SRD SEPP states that the following is SSD for the purposes of s89D of the EP&A Act:

> *"Development for the purpose of electricity generating works or heat or their co-generation (using any energy source, including gas, coal, biofuel, distillate, waste, hydro, wave, solar or wind power) that:*
>
> *(a) has a capital investment value of more than $30 million, or*
>
> *(b) has a capital investment value of more than $10 million and is located in an environmentally sensitive area of State significance."*

As the development will have an estimated capital investment cost greater than $30 million, the Project is classified as SSD and is subject to assessment and determination under Part 4 of the EP&A Act. The Minister or his delegate is the consent authority for SSD.

State Environmental Planning Policy (Infrastructure) 2007

The State Environmental Planning Policy (Infrastructure) 2007 (ISEPP) aims to facilitate the effective delivery of infrastructure projects across the state. Division 4 of the SEPP outlines provision for electricity generating works being:

> *"a building or place used for the purpose of making or generating electricity"*

This is the same definition as contained in the Standard Instrument LEP. If there is an inconsistency between the ISEPP and any other environmental planning instrument, the ISEPP prevails to the extent of the inconsistency.

Clause 34 of the ISEPP facilitates development for the purpose of electricity generating works carried out by any person with consent on any land in a prescribed rural zone.

The proposal is to be carried out with frontage and access to a classified road being the Kidman Way. Subdivision 2 Development in or adjacent to road corridors and road reservations requires the concurrence of the NSW RMS for the development under Clause 100 and 101. Some of the key issues to be addressed in relation to access are:

- Ensuring that the development does not compromise the effective and ongoing operation and function of the Kidman Way; and
- The safety, efficiency and ongoing operation of the Kidman Way will not be adversely affected by the development.

Clause 104 identifies traffic generating development that requires referral to the NSW RMS. While Schedule 3 of the ISEPP does not specifically identify electricity generating works it specifies that access to any road of 200 or more vehicles will require referral to NSW RMS.

State Environmental Planning Policy No. 33 – Hazardous and Offensive Development

State Environmental Planning Policy No.33 – Hazardous and Offensive Development (SEPP 33) requires specific matters to be considered for proposals that are 'potentially hazardous' or 'potentially offensive' as defined in the policy.

The proposed development could be classified as 'potentially hazardous industry' which is defined as:

> *"A development for the purposes of any industry which, if the development were to operate without employing any measures (including, for example, isolation from existing or likely future development on other land) to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would pose a significant risk in relation to the locality:*
>
> *(a) to human health, life or property, or*
>
> *(b) to the biophysical environment, and includes a hazardous industry and a hazardous storage establishment."*

The proposal would be defined as *potentially hazardous industry* under the above definition if it operates without employing any measures to reduce or minimise its impact in the locality, and there is potential for the operation to raise a risk in relation to the locality in terms of human health. As detailed in this preliminary assessment mitigation measures are proposed to ensure the proposal will be free of significant health risks to all working or residing in the immediate locality and will be implemented.

Clause 12 of the SEPP requires a preliminary hazard analysis for a potentially hazardous industry. The analysis is to be prepared in accordance with the current guidelines. An analysis will be prepared to address the requirements of the SEPP and will form part of the EIS.

State Environmental Planning Policy No. 55 – Remediation of Land

SEPP 55 Introduces state-wide planning controls for the remediation of contaminated land. The policy states that land must not be developed if it is unsuitable for a proposed use because it is contaminated. If the land is unsuitable, remediation must take place before the land is developed. The policy makes remediation permissible across the State, defines when consent is required, requires all remediation to comply with standards, ensures land is investigated if contamination is suspected, and requires councils to be notified of all remediation proposals.

The land has not been identified as being contaminated and a search of the NSW EPA Contaminated Land Public Record and List of NSW Contaminated Sites Notified to the EPA was undertaken and indicates that no notification of this site has been provided.

State Environmental Planning Policy No. 52 – Farm Dams and Other Works in Land and Water Management Plan Areas

SEPP 52 provides the thresholds to determine when consent is, or is not required for farm dams. The SEPP considers significant dams as designated development. The policy also enables irrigation corporations to carry out maintenance and emergency works without development consent.

The site is located within the Coleambally Irrigation Area identified under Schedule 1 of the SEPP. The Coleambally Irrigation Area is located in the Riverina, south of Griffith and between Darlington Point and Jerilderie. The district encompasses 491 irrigation farms which are typically 200ha in size. These farms employ very sophisticated layouts and recycling systems to ensure a high level of water efficiency. The major crops produced are rice, wheat, corn, cotton, barley, soybeans and canola. A variety of fruit and vegetables are also grown.

Under Clause 6 of the SEPP consent is required for certain artificial waterbodies. No water storage dams are proposed.

Water will be sourced from the Coleambally Irrigation Co-operative Limited channel and/or a yet to be approved bore. The bore requires consent under the *Water Management Act 2000*. Water will be treated and demineralised before being used in the boilers. Condensers will capture the water for reuse and/or to irrigate a 10ha community orchard on site.

State Environmental Planning Policy No. 64 – Advertising and Signage

SEPP 64 applies to the proposed Development, as it is likely that identification signage for the development will be visible from a public road being the Kidman Way. It is noted the SEPP will apply in the event of any inconsistency with another Environmental Planning Instrument.

This will be addressed as part of the EIS assessment.

3.2.3 Local Environmental Plans

Murrumbidgee Shire Local Environmental Plan 2013

The site is currently zoned RU1 Primary Production under the *Murrumbidgee Shire Local Environmental Plan 2013 (LEP 2013).* The site is outlined in blue in Figure 5.

The aims of this LEP 2013 are as follows:

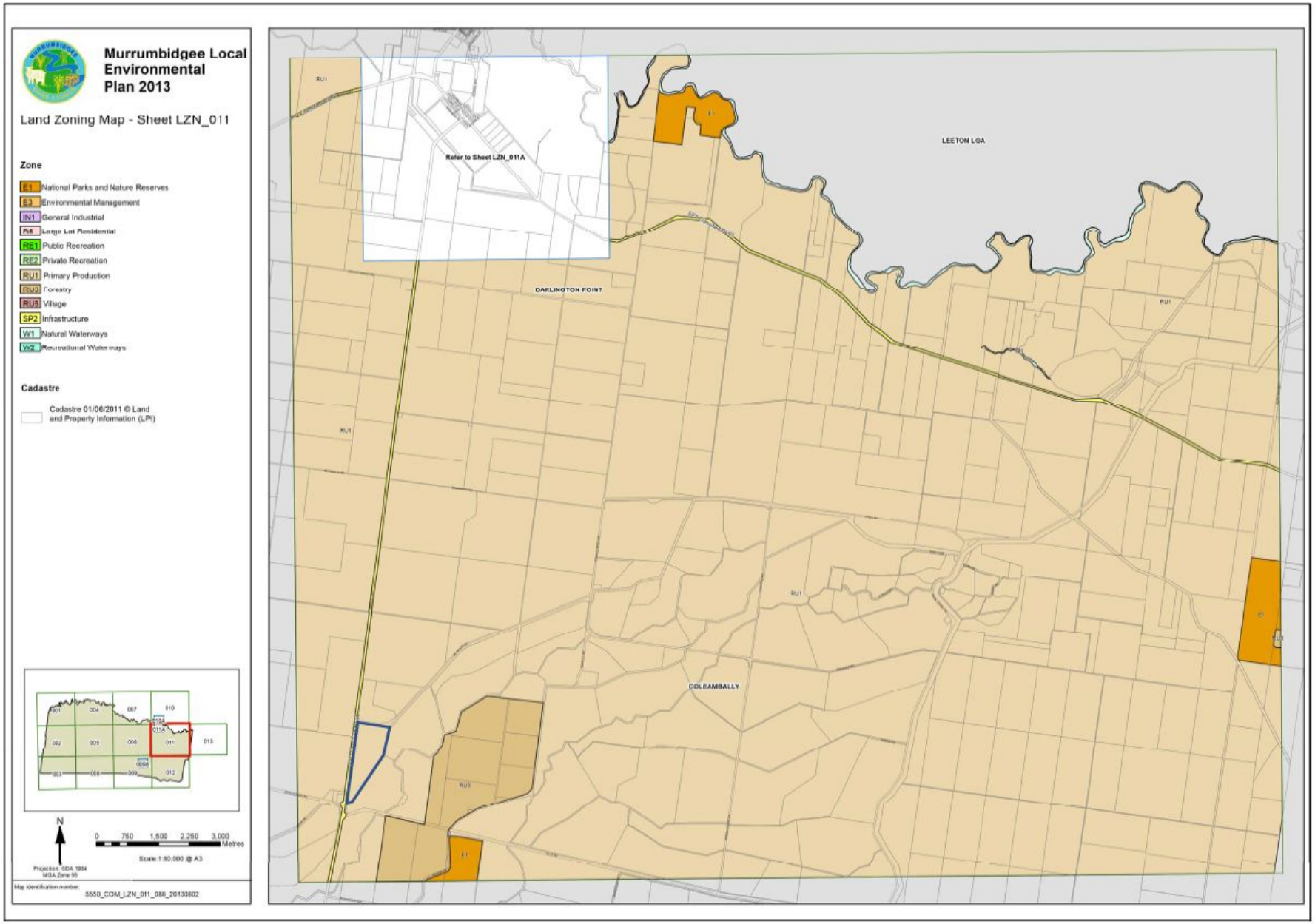
> *"(a) to protect, enhance and conserve agricultural and horticultural land through the proper management, development and conservation of natural and man-made resources,*
>
> *(b) to encourage a range of housing, employment, recreation and community facilities to meet the needs of existing and future residents of Murrumbidgee,*
>
> *(c) to promote the efficient and equitable provision of public services, infrastructure and amenities,*
>
> *(d) to conserve the environmental heritage of the land to which this Plan applies."*

The objectives of the RU1 zone are:

> *"• To encourage sustainable primary industry production by maintaining and enhancing the natural resource base;*
>
> *• To encourage diversity in primary industry enterprises and systems appropriate for the area;*
>
> *• To minimise the fragmentation and alienation of resource lands;*
>
> *• To minimise conflict between land uses within this zone and land uses within adjoining zones."*

Electricity generating works are prohibited within the RU1 zone. The RU1 zone is a prescribed rural zone under the ISEPP and the proposal is permissible with consent under the ISEPP.

Figure 5: Land Zoning Map



The following development controls and provisions within the *Murrumbidgee Shire Local Environmental Plan 2013* are relevant to the proposal and site:

- Clause 1.2 Aims of the Plan;
- Clause 2.3(1)(a) Objectives of the RU1 Primary Production Zone;
- Clause 6.1 Earthworks;
- Clause 6.3 Terrestrial Biodiversity (mapping under this Clause partially affects the site); and
- Clause 6.4 Groundwater Vulnerability (mapping under this Clause affects the whole site).

Terrestrial biodiversity and groundwater vulnerability overlays are depicted in Figure 6 and Figure 7 with the site boundary highlighted in blue.

It is expected that the proposal would be subject to the relevant provisions of the Murrumbidgee LEP. This report considers the implications of the mapping of the site for terrestrial biodiversity and ground water vulnerability and these and other provisions will be considered further during the EIS process.

Development Control Plans

Murrumbidgee Council's Development Control Plans are used in conjunction with the Murrumbidgee and Jerilderie Local Environmental Plans. There are no DCPs with development controls for the Murrumbidgee local government area affecting the proposal or the site.

3.2.4 Water Management Act 2000

The objects of the *Water Management Act, 2000:*

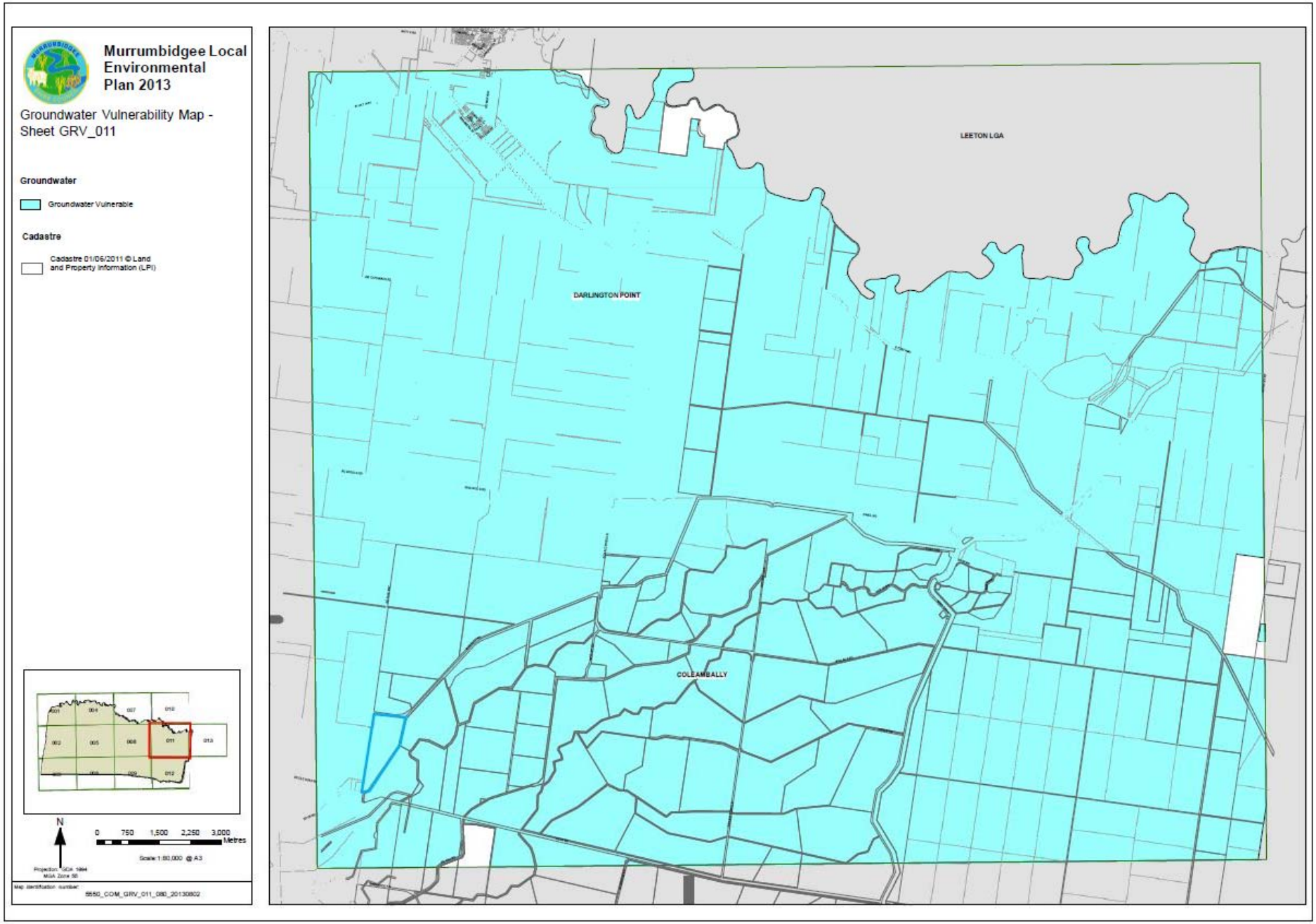
> *"are to provide for the sustainable and integrated management of the water sources of the State for the benefit of both present and future generations "*

Water Sharing Plans are the main tool under the Act to manage water resources. Water Sharing Plans protect basic landholder rights as well as each water source and dependent ecosystem.

A Works and Use Approval for the proposed bore is required under Section 90 of the *Water Management Act, 2000*. An application for Works and Use Approval for the proposed bore will be submitted concurrently with this EIS.

Figure 6: Terrestrial Biodiversity

Figure 7: Groundwater Vulnerability



3.2.5 Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* (POEO Act) seeks to manage pollution impacts from various premises and non-premises based operations in NSW.

Clauses 48 and 49 of this Act require certain premises-based and non-premises-based activities to obtain licences for their operation.

These activities and their licencing thresholds are listed in Schedule 1 of the Act.

Clause 17 of Schedule 1 – Electricity generation triggers the criteria for a scheduled activity under this Act for *general electricity works with a capacity to generate more than 30 megawatts of electrical power.*

Given the above, an Environment Protection Licence is required for the operation of the Proposed Facility as a premises-based scheduled activity.

Schedule 4 of the POEO Act sets out standards for air emissions concentration for scheduled premises. The EIS will address this schedule and the technology within the boilers to meet the Schedule 4 emissions limits.

3.2.6 Roads Act 1993

The *Roads Act 1993* (Roads Act) provides a framework for the management of roads in NSW. It provides for the classification of roads and the declaration of the Roads and Maritime Services (RMS) and other public authorities as roads authorities for both classified and unclassified roads. The Roads Act confers functions on RMS and other roads authorities, and allows distribution of such functions between RMS and other roads authorities.

The Roads Act sets out procedures for the opening and closing of public roads and regulates the carrying out of various activities on public roads.

A traffic impact assessment report outlining any requirements for use of roads in the area will be included as part of the EIS. If required, approval from the RMS or local council will be sought under section 138 of the Roads Act.

3.2.7 Biodiversity Conservation Act 2016

The *Biodiversity Conservation Act 2016* (BC Act) commenced on 25 August 2017 as part of the NSW Government's new framework for the conservation of biodiversity. It supersedes the *Native Vegetation Act 2003*, *Threatened Species Conservation Act 1995*, *Nature Conservation Trust Act 2001* and sections of the *National Parks & Wildlife Act 1974*. The BC Act governs the management and conservation of biodiversity in NSW, which includes all flora, fauna and ecological communities, consistent with principles of ecologically sustainable development (as described in section 6(2) of the *Protection of the Environment Administration Act 1991*). The BC Act establishes (amongst others):

- A framework to avoid, minimize and offset the impacts of proposed development and land use change on biodiversity;
- A scientific method for assessing the likely impacts on biodiversity values of proposed development and land use change, for calculating measures to offset those impacts and for assessing improvements in biodiversity values; and
- A market-based conservation mechanisms through which the biodiversity impacts of development and land use change can be offset at landscape and site scales.

While it is noted that there are delays in implementation of the Act and Regulations until 2018 the potential for impacts on biodiversity as a result of the proposal has been considered in this report and will be addressed further by an accredited assessor using the Biodiversity Assessment Method during the EIS process.

3.2.8 Local Land Services Amendment Act 2016

The *Local Land Services Act 2013* (LLS Act) was amended on 25 August 2017 in relation to native vegetation land management and clearance in rural areas, replacing the *Native Vegetation Act 2003,* as part of the NSW Government's new framework for the conservation of biodiversity. The LLS Act provides a framework for the management of local land services which includes programs and advisory services relating to agricultural production, biosecurity, natural resource management (including management of native vegetation, weeds and pests) and emergency management.

The LLS Act aims to ensure natural resources are managed in accordance with the principles of ecologically sustainable development (as described in section 6(2) of the *Protection of the Environment Administration Act 1991*) in the social, economic and environmental interests of the State.

The LLS Act does not apply to this development as under Division 3 of the Act clearing of native vegetation on regulated rural land can be authorised through Part 4 of the EP&A Act.

3.2.9 Biosecurity Act 2015

The *Biosecurity Act 2015* (Biosecurity Act) provides a statutory framework for the management of biosecurity risks from diseases, pests (plant and animal) and contaminants which have the potential to cause harm to the environment, people and the economy. The Biosecurity Act aims to reduce risks by: preventing the entry of diseases, pests and contaminants into NSW; identifying, containing and eradicating new entries; and minimising potential impacts through appropriate management.

The Biosecurity Act has provisions in place for: conferring a power, function or right; or imposing an obligation, for the prevention of the introduction, or control or eradication of invasive pests (such as weeds and animals pests) which threaten ecosystems, habitats or species.

Under the Biosecurity Act, Local Control Authorities such as local councils may appoint authorised officers to enforce weed management and provide direction on complying with obligations under the Biosecurity Act.

The potential for the proposal to result in noxious weed impacts will be considered during the EIS process.

3.2.10 National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act) is the key legislation governing the State's care, control and management of all national parks, historic sites, nature reserves and Aboriginal areas. State conservation areas, karst conservation reserves and regional parks are also administered under the Act.

Places or objects of Aboriginal cultural heritage on or in the vicinity of the site will need to be managed in accordance with this Act. Clause 86 of this Act states: a person must not harm or desecrate an object that the person knows is an Aboriginal object.

Section 87 of the NPW Act establishes defenses against prosecution under s.86 (1), (2) or (4) - harming or desecrating Aboriginal objects and Aboriginal places. The defenses are as follows:

> *"1. An Aboriginal Heritage Impact Permit (AHIP) authorizing the harm (s.87(1));*
>
> *2. Exercising due diligence to establish Aboriginal Objects will not be harmed (s.87(2)). Due diligence may be achieved by compliance with requirements set out in the National Parks and Wildlife Regulation 2009 (the NPW Regulation) or a code of practice adopted or prescribed by the NPW Regulation (s.87(3)).*"

Under Section 89J of the EP&A Act, an Aboriginal heritage impact permit under section 90 of the *National Parks and Wildlife Act 1974* would not be required for an SSD, unless the requirement of an environmental planning instrument for consultation or concurrence specifies that it applies to an SSD.

The potential for the proposal to have an impact upon Aboriginal cultural heritage has been considered in this report, and will be addressed through an Aboriginal Cultural Heritage Assessment during the EIS process.

3.2.11 National Parks and Wildlife Regulation 2009

The NPW Regulation 2009 (cl.80A) assigns the OEH (2010b) *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW* as one of the codes of practice that can be complied with pursuant to s.87 of the NPW Act.

The presence and extent of ground disturbance is a key determinant in establishing the cultural heritage potential of an area under the *Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW*.

The potential for the proposal to impact upon Aboriginal cultural heritage has been considered in this report and will be addressed through an Aboriginal Cultural Heritage Assessment during the EIS process.

3.2.12 Heritage Act 1977

The *Heritage Act 1977* provides a legal framework for the management of items and places of State heritage significance, providing for their protection. The Act encourages conservation of the State's heritage and provides for the identification and registration of items of State heritage significance.

Under Section 89J of the EP&A Act, an approval under Part 4, or an excavation permit under section 139, of the *Heritage Act 1977* would not be required for a State Significant Development.

Any existing or unknown or other potential unknown State heritage items will be managed under the Act.

The potential for the proposal to have an impact upon historic cultural heritage has been considered in this report and will be addressed further during the EIS process.

3.2.13 Crown Lands Act 1989

The *Crown Lands Act 1989*, administered by the Minister for Crown Lands, regulates the management of Crown land for the benefit of the people of New South Wales and in particular to provide for:

> *"(a) a proper assessment of Crown land,*
>
> *(b) the management of Crown land having regard to the principles of Crown land management contained in this Act,*
>
> *(c) the proper development and conservation of Crown land having regard to those principles,*
>
> *(d) the regulation of the conditions under which Crown land is permitted to be occupied, used, sold, leased, licensed or otherwise dealt with,*
>
> *(e) the reservation or dedication of Crown land for public purposes and the management and use of the reserved or dedicated land, and*
>
> *(f) the collection, recording and dissemination of information in relation to Crown land."*

Under Part 3 of the Act, a land assessment is required to be undertaken for any matters affecting Crown Land.

The potential impacts of the proposal on Crown Land (if any) will be addressed during the EIS process.

3.2.14 Local Government Act 1993 and Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005

The Local Government Act 1993 principally deals with the governance of councils in New South Wales. Section 68 of the Act sets out the range of activities that require Council approval that are separate to a development application.

The following are relevant Section 68 approvals that are relevant to the proposed development:

- Installing a manufactured home, moveable dwelling or associated structure on land;
- Installing a temporary structure on land;
- Installing, constructing or altering a waste treatment device or a human waste storage facility or a drain connected to any such device or facility;
- Operating a mortuary; and
- Carrying out an activity prescribed by the regulations under the Local Government Act 1993 or an activity of a class or description so prescribed.

The Local Government (Manufactured Home Estates (MHEs), Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005 sets out design (setbacks), operation, and maintenance requirements for caravan parks and MHEs and sets out design, construction and installation requirements for manufactured homes.

The relevant approvals under Section 68 and the Local Government (Manufactured Home Estates, Caravan Parks, Camping Grounds and Moveable Dwellings) Regulation 2005 for temporary and staff accommodation will be addressed during the EIS process. This includes addressing relevant codes of practice produced by Safe Work Australia and NSW WorkCover including Managing the Work Environment and Facilities Code of Practice December 2011.

3.3 Regional Strategies

3.3.1 Riverina Murray Regional Plan 2036

The land is located within that area affected by the Riverina Murray Regional Plan 2036.

This plan is the overarching regional strategic plan affecting the proposal.

The region has significant potential for renewable energy industries including the current proposal as identified under this Plan.

The following **Direction and Action** are relevant to the strategic justification of the proposal in this region:

Direction 11: Promote the diversification of energy supplies through renewable energy generation.

Actions

11.1 Encourage renewable energy projects by identifying locations with renewable energy potential and ready access to connect with the electricity network.

The identification of renewable energy projects under the Regional Plan is consistent with the recent publication of *A market report by the Clean Energy Finance Corporation November 2015 (CEFC)* which highlights:

The Australian bioenergy and energy from waste market is under developed but has considerable potential. Bioenergy and energy from waste technologies have a long track record of cost-effectively reducing carbon emissions, improving energy productivity and generating reliable baseload renewable energy around the world. But these technologies are not widely deployed in Australia, contributing only 0.9 per cent of Australia's electricity output, well below the OECD average of 2.4 per cent. This suggests significant potential for new investment.

More importantly the CEFC estimates that new bioenergy and energy from waste projects could avoid 9 million tonnes of CO2 each year by 2020, potentially contributing 12 per cent of Australia's national carbon abatement task to 2020.

4.0 ENVIRONMENTAL ASSESSMENT

The key development-related issues warranting detailed assessment and reporting will be identified through:

- The existing environmental context of the proposal and surrounding locality (refer to Section 2.0);
- The planning and legislative framework relevant to the proposal (refer to Section 3.0);
- A completed preliminary risk assessment;
- The outcomes of consultation to be undertaken with government agencies and other relevant stakeholders; and
- Specialist studies to be completed as part of the preparation of the EIS.

4.1 Preliminary Risk Assessment

A preliminary risk assessment was completed by Booth Associates team in order to:

- Identify those issues relating to the proposed development that represent the greatest risk to the local environment and surrounding area; and
- Assist in setting (and justifying) priorities for the level of assessment required to address each identified risk within the EIS.

In summary the key environmental impacts to be assessed will be air quality, noise and traffic.

A preliminary risk assessment of the proposal has been undertaken to identify key environmental issues for assessment. This is provided in Table 1 and Table 2**.** Table 1 provides a definition and ranking of risks. Table 2 evaluates those known environmental impacts associated with the proposal.

The environmental impacts identified in this preliminary risk assessment as having high "inherent" risk (a score of 6+) are considered to be the key environmental issues for assessment.

Those issues with a risk ranking of 5 are considered to have a moderate inherent risk and those ranked between 2 and 4 are considered to have a low inherent risk.

Table 1: Definition and Ranking of Risk

Likelihood (L)		
1	Rare	Event may occur but only under exceptional circumstances
2	Unlikely	Event could occur at some time
3	Possible	Event should occur at some time
4	Likely	Event will probably occur in most circumstances
5	Almost Certain	Event expected to occur in most circumstances
Consequence (C)		
1	Negligible	No detectable effect on or off-site
2	Minor	Detectable effects with minimal impact on site
3	Moderate	Effects on and off site requiring attention
4	Major	Sizeable effects warranting immediate attention
5	Critical	Sizeable effects with a large impact warranting immediate attention
Risk Level (L + C)		
2 – 4	Low	
5	Moderate	
6+	High (Key Issue)	

Table 2: Preliminary Risk Assessment – identification of Key Environmental Assessment Issues

Environmental issue	Environmental impacts	L (1-5)	C (1-5)	R (L-H)	Comments
Air Quality	Likely air quality impacts during construction and operation of facility. Biomass energy projects can generate local air pollutant and assessment of pollutants and particulates will be required in accordance with EPA 2016 guidelines *Approved Methods for Modelling and Assessment of Air Pollutants in NSW.*	4	3	6+ (H)	The proposed technology for the facility is based on existing facilities in the UK and rest of Europe and will incorporate best available technology for emission control. Emissions must meet the detailed criteria in the *Protection of the Environment Operations (Clean Air) Regulations 2010.* This is considered to be a key environmental issue.
Noise	Likely impacts during construction and operation of facility. Impacts on noise amenity (including cumulative impacts) associated with construction noise, operational noise and road traffic noise. Assessment of noise impacts will be required in accordance with the *EPA NSW Industrial Noise Policy.*	4	3	6+ (H)	This is considered to be a key environmental issue
Water Resources	Site is located in a area identified as having a vulnerable groundwater source. Water will be circulated in a closed system on site, vapour from the boilers will be captured in condensors with minimal surplus water produced which will be unsed on site to irrigate tree lots and an orchard/market garden. The plant will use up to 100ML per annum as is essential to the operation of the plant. The property adjoins a Coleambally Irrigation Co-operative Limitedmain supply channel. Coleambally Irrigation Co-operative Limited have offered to provide a letter of supply stating a water access point to the site from their irrigation channel will be made available to the project. The intention is to apply for a groundwater licence under the Water Management Act 2000. The plant will need three days water storage as a buffer plus contingency water for firefighting.	3	3	6 (H)	Due to the design and operation of the development the risk of impacts on water resources can be considered to be low. However the impacts on groundwater within the site will need to be investigated. While identified as a critical operational element for the proposed development sufficient reliable water supply is readily available. The proposed development will utilise a small operational component of a high security water supply from either and/or both regulated surface and groundwater sources.
Human Health	Adverse health impacts from emissions.	3	3	6(H)	The site is approximately 11km north east of Coleambally and is located within an agricultural area with a low density of settlement Located in a predominantly agricultural area. This issue will be examined in conjunction with assessing potential impacts on air quality.
Terrestrial Flora & Fauna	Most of the site has been cleared, however consideration of likely local and regional impacts required.	2	2	4	Assessment required under relevant legislation using the Biodiversity Assessment Method.
Aquatic Flora & Fauna	No natural waterbodies (intermittent or permanent) within site or adjoining lands.	2	2	4	Assessment required under relevant legislation.

Environmental issue	Environmental impacts	L (1-5)	C (1-5)	R (L-H)	Comments
Hazards & Risk	Known processes and risks associated with facility operation including storage of chemicals, fuels and raw materials. Spontaneous combustion of straw is a potential risk where straw moisture levels are high. Strict moisture detection and management protocols are required. Storing and handling of Dangerous Goods on site and risks of ignition of stored materials. Limited impacts of bushfire, flooding or other natural hazards.	3	2	5	A preliminary hazard assessment will be required under relevant guidelines and legislation to address consequences of risk and necessary mitigation strategies.
Indigenous and non-indigenous heritage	Most of the site has been extensively disturbed through previous agricultural practices however may contain sites of archaeological significance. Possible disturbance of Cultural Heritage values, Aboriginal places or objects and disturbance of sites of European heritage significance.	3	2	5	Aboriginal Cultural Heritage Assessment required under relevant legislation.
Visual amenity	Site will be visible from the local public road network. Visual obtrusion of the proposed development in the remote and rural setting.	3	1	4	An assessment of visual impacts will be required. Localised impacts that can be mitigated will be addressed through site design and treatment and development of a tree corridor.
Traffic and Transport	Likely impacts during construction and operation of the facility. Impacts on local and regional road networks. The proposal will generate up to 40,000 truck movements per annum and 20,000 motor vehicle movements per annum. Altered traffic conditions during construction and increased travel times.	4	3	6+ (H)	This is considered to be a key environmental issue. A Traffic Impact Assessment will be prepared as part of the EIS.
Socio-economic impacts	Local and regional impacts associated with employment and support for management of agricultural wastes within the local area and region. The plant will employ up to 110 permanent staff during operation which will have significant positive economic impacts in the region.	3	2	5	Consistent with regional outcomes to promote renewable energy development and employment.
Community	Disruption to the community during construction. Community concern over impacts on air quality, human health risk and visual impact.	3	2	5	Ongoing community consultation will occur throughout the assessment and construction to ensure key local stakeholders are kept informed of the progress of the proposed Facility and provided an opportunity to voice any concerns which will in turn be responded to accordingly.
Soil/land contamination	Site not identified as being contaminated and likely residues include those associated with agricultural uses. Storage of inert materials and some operational materials and chemicals. The EPA notes that agricultural biomass material may contain pesticide or herbicide residues. The risks presented by these residues would be assessed as part of the resource recovery order and exemption application.	3	2	5	A preliminary assessment of contaminated land under SEPP 55 will be required. Assessment of biomass material required to meet EPA standards under the Eligible Waste Fuel Guidelines 2016 will also be required.

Environmental issue	Environmental impacts	L (1-5)	C (1-5)	R (L-H)	Comments
Waste Water	The project goal is to minimise any impacts of waste water within the site and local environment. Water is required for staff amenities and general cleaning but only in small amounts. Water is required for the turbines up to 100ML per annum. This water must be treated to a potable standard and stored on site in tanks. The steam from the turbines will be captured in condensers and can be reused.	3	2	5	Water use and reuse on the site is part of the project design and operational efficiencies
Greenhouse Gas Emissions	Significant use of agricultural waste resources to generate electricity. It is estimated that the operation of the proposed facility would have a net positive GHG effect of 1,000,000 tonne of polluting CO_2 every year.	3	3	6 (H)	This is considered to be a key environmental issue

5.0 PRELIMINARY IMPACT ASSESSMENT

5.1 Project Issues and Risks

The proposed development may result in a number of potential environmental and social impacts, both positive and negative. The nature and extent of these potential impacts will need to be assessed during the EIS process so that effective avoidance, management and mitigation measures can be incorporated into the project design, construction, and operation.

The preliminary assessment of environmental risks has identified high priority areas of potential impact that will require particular focus during the EIS process. These include potential impacts on:

- Air quality;
- Noise;
- Human Health;
- Greenhouse gas emissions; and
- Traffic and transport.

The risk of impact on water resources is low, but secure access to water is essential for the plant.

The preliminary assessment of environmental risks identified a number of moderate and lower priority potential environmental impacts. Moderately and lower ranked environmental risks are considered further in this report.

Lower ranked impacts are considered lower risk than the high and moderate priority impacts and can be readily managed by detailed investigation and implementing standard environmental management and mitigation procedures.

5.2 Key Environmental Issues

5.2.1 Air Quality

Existing Environment

Existing air quality is generally good, occasionally experiencing high dust levels during dryer periods. Stubble burning of annual crops in the local area can have significant impact on air quality particularly in the autumn. As shown in Figure 2 there are nine sensitive receptors (houses) within 5km of the site. The closest sensitive receptor is approximately 1.5km away from the site.

Further Assessment

This was identified as a key environmental risk associated with this project.

The NSW EPA Energy from Waste (EFW) Policy Statement January 2015 requires that any facility proposing to recover energy from waste will need to meet current international best practice with respect to:

- Process design and control;
- Emission control equipment design and control; and
- Emission monitoring with real-time feedback to the controls of the process.

The policy also requires that emissions from such facilities must satisfy, as a minimum, current emission limits prescribed by the POEO (Clean Air) Regulations.

To address these and other statutory requirements an air quality impact assessment and detailed air quality modelling will be undertaken in accordance with EPA's approved methods.

The air quality impact assessment will also have regard to the site context, potential impacts of the proposed development, consideration of statutory requirements and identification of appropriate mitigation measures.

Air quality impacts will need to be assessed at the closest sensitive receptors.

5.2.2 Noise

Existing Environment

Existing noise levels are likely to be low at the site of the proposed development. The background noise is likely to be predominantly influenced by vehicle movements on nearby local roads, and machinery on adjoining farming properties.

As shown in Figure 2 there are nine sensitive receptors (houses) within 5km of the site. The closest sensitive receptor is approximately 1.5km from the proposed development.

Further Assessment

Potential noise sources from the proposal include construction, operational and on and off-site traffic noise. This was also identified as a key environmental risk.

Being in a relatively remote rural locality the establishment of an appropriate assessment methodology will need to reflect surrounding land uses, site and operational conditions.

A quantitative noise impact assessment will be carried out in accordance with relevant Environment Protection Authority guidelines including:

- Noise Policy for Industry (superseding the previous NSW Industrial Noise Policy);
- Noise Guide for Local Government;
- NSW Road Noise Policy;
- Interim Construction Noise Guidelines; and
- Assessing Vibration: A Technical Guideline.

This assessment will address operational noise sources and provide details of noise mitigation, management and monitoring methods for inclusion in the Construction Environmental Management Plan (CEMP) and Operational Environmental Management Plan (OEMP) to be prepared for the proposal.

5.2.3 Water Resources

Existing Environment

The site is adjacent to a main supply channel operated by Coleambally Irrigation Co-operative Limited, but does not have an access point to this channel. The site is located in Zone 3 of the Lower Murrumbidgee Groundwater Source, but does not have a licence to access this water resource.

Further Assessment

Water resources were ranked as a key environmental risk. This risk level is associated with gaining access to a reliable water supply to support the proposed development. The project requires a water supply for the following uses;

- Each of the two boiler converts 2,000 to 3,000 litres of water per hour into steam to drive turbines. Air-cooled condensers convert the steam back to water for reuse in the boilers;
- Drinking and sanitation water for the plant and accommodation; and
- Tree corridor and orchard irrigation. This water could be sourced from the Coleambally Irrigation Co-operative Limted channel, proposed bore or condenser output. Using condenser output will reduce the power consumption of the condenser units.

At times when water supply is scarce, condenser output can be reused by the boilers thus requiring little water to operate.

Coleambally Irrigation Co-operative Limited have indicated their willingness to provide a letter of support for the project including an offer of a access point to the adjoin main supply channel to access surface water. The regulated Murrumbidgee River has nearly 420,000ML of High Security entitlements which has not reached less than allocation 95% in any year since volumetric allocations were introduced in the 1980s. High Security entitlements can be purchased and attached to the site access point, worth in todays market about $400,000.

The Lower Murrumbidgee Groundwater Source has nearly 270,000ML, of entitlement shares. The intention is to apply to Water NSW for a groundwater licence and install a bore supplied by purchased entitlements worth in todays market about $200,000.

Coleambally Irrigation Co-operative Limited and Water NSW will be consulted as part of the EIS process to resolve secure access to water for the project.

5.2.4 Human Health

Existing environment

The proposed development is to be located in a sparsely populated agricultural area.

The proposed site is located between Coleambally and Darlington Point. Coleambally represents the closest settlement and is approximately 11km south of the site. The immediate area within a 10km radius from the site has been developed for a diverse range of agriculture including a mix of grazing, annual cropping, irrigated annual crops such as rice, cotton, wheat, canola and corn, permanent crops such as prunes, almonds and wine grapes and poultry sheds.

As identified there are nine sensitive receptors within a 5km radius of the site the closest being 1.5km from the site.

Further assessment

As part of commitment to examining air quality impacts from the proposed development an assessment of the risks to human health covering the inhalation of criteria pollutants and exposure (from all pathways i.e. inhalation, ingestion and dermal) to specific air toxics will be completed having regard for the “Environmental Health Risk Assessment – Guidelines for assessing human health risks from environmental hazards”, referred to as the enHealth Guidelines.

The key issue in relation to human health is the release of substances from the proposed development to the atmosphere which has the potential to harm human health.

Section 1.9 Tiered Approach to Environmental Health Risk Assessment of the enHealth Guidelines provides guidance for undertaking these assessments.

It will be necessary to undertake an initial screening evaluation of human health risks using default exposure parameter estimates and comparing those with published health based guidelines.

This will assist in determining whether more detailed assessments are warranted acknowledging from the guidelines that in Australia it is common for most risk assessments to have a screening step and a detailed assessment step.

5.2.5 Traffic and Transport

Existing Environment

The site will be accessed from the Kidman Way which is sealed and identified as a classified road between Coleambally and the Sturt Highway.

Further Assessment

During construction and operation of the facility there will be a range of vehicles and an increased number of large vehicles on the road network travelling to and from the site. At the peak of construction there could be up to 250 construction workers travelling to the site each day. One hundred workers will be accommodated on-site during construction.

Traffic generated during operation will be substantial, including operational staff travelling to the site each day.

The EIS through a Traffic Impact Assessment report will assess the adequacy of the access roads to cater for the construction and operation of the proposed development and whether any road upgrades are required. An assessment of potential impacts to traffic during construction will also be included.

Council and RMS may require road upgrades or other road works to be undertaken to facilitate the traffic movements generated by the proposed development. Consultation will be undertaken as part of the EIS process.

5.2.6 Greenhouse Gas Emissions

Existing environment

As early as 2004 in a report entitled *Biomass energy production in Australia Status, costs and opportunities for major technologies* prepared for the Rural Industries Research and Development Corporation (RIRDC) in conjunction with the Australian Greenhouse Office described bioenergy – energy produced from biomass – as essentially renewable or carbon neutral. At a global scale this report identified, at that time:

> *"……. 15 percent of the planet's energy requirements are met from biomass, mainly for cooking and heating in developing countries, but also increasingly for fuelling a growing number of large scale, modern biomass energy plants in industrialised countries."*

Source: www.sustainability.vic.gov.au/-/media/resources/documents/publications-and-research/knowledge-archive/bioenergy-resource-in-victoria/archive-bio-biomass-energy-production-in-australia.pdf?la=en

Biomass involves burning crop or agricultural processing residues to drive steam turbine generators. Plants absorb CO_2 as they grow, and burning biomass then releases CO_2, so the use of biomass as an energy source is essentially carbon-neutral. However as with other renewable energy sources, there are emissions associated with harvest, transport, manufacture of required equipment, and processing.

Further assessment

A detailed greenhouse gas assessment will be required to assess greenhouse gas emissions from the project as well as an assessment of the potential impacts of these emissions on the environment and a detailed description of the measures that would be implemented on site to ensure that the proposed development is energy efficient.

In preparing this assessment the following in relation to greenhouse gas emissions needs to be considered:

- The NSW EPA prescribed ambient impact assessment criteria as outlined in their "Approved Methods for Modelling and Assessment of Air Pollutants in NSW";
- The Australian Government's current commitments to reduce greenhouse gas emissions;
- The *National Greenhouse and Energy Reporting (NGER) Act 2007* which requires corporations to register and report emissions, energy consumption or production that meets certain thresholds every year; and
- Relevant guidelines for the consideration of energy and greenhouse issues when developing projects and when undertaking environmental impact assessment.

Greenhouse gas emissions will also need to be considered in the context of the following:

- *State and Territory Greenhouse Gas Inventories* (current version is 2015) published by the *Department of Energy and Environment* which outlines targets for emissions based on the Kyoto accounting. The assessment of emissions considers emissions generated from key components of developments including transport, waste, manufacturing and construction;
- NSW Environment Protection Authority's Energy from Waste Policy Statement requiring that emissions from EFW facilities must satisfy, as a minimum, current emission limits prescribed by the POEO (Clean Air) Regulations; and
- The National Carbon Offset Standards and relevant guidelines.

5.2.7 Other Environmental Risks (Moderate to low)

5.2.7.1 Terrestrial Biodiversity

Existing environment

The northern portion of the site is uncleared and is possibly an Endangered Ecological Community (EEC) (Weeping Myall Woodlands), though the whole site has been subject to grazing for many years. The northern portion of the site is mapped as terrestrial biodiversity in the Murrumbidgee LEP 2013.

Further assessment

To examine the likely presence, extent and quality of the potential EEC an accredited assessor will be engaged to survey the site using the Biodiversity Assessment Method. Offsets may be required if removal of any trees is required for the proposed development.

5.2.7.2 Hazards and risks

Existing environment

The existing site is not impacted by any known external risks or hazards. The site is not specifically mapped as bushfire prone land by the NSW Rural Fire Service however grass and crop fires do occur. The site is not mapped (or known to be) as being flood liable.

All risks associated with the proposed development will need to be assessed (e.g. environmental, fire, toxic gas, etc).

Further assessment

The external issues associated with property protection from grass and crop fires will be addressed in the Operational Management Plan for the site.

As identified in Section 3.2.2 a Preliminary Hazard Analysis of the site and operations will be undertaken. This analysis must consider the relevant Hazardous Industry Planning Advisory Papers (HIPAPs) and other guidelines such as applying SEPP 33 and Multi-level Risk Assessment that have been issued by the Department. It is likely that the Preliminary Hazard Analysis will need to respond specifically to Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis and Multi-Level Risk Assessment

Hazard identification will need to be developed and completed for operations and storages on site. This will assist to develop scenarios which may occur and the likely offsite impacts. A detailed qualitative review of each hazard scenario will need to be performed to assess the potential for offsite impacts. Following the qualitative review, scenarios that still had potential to impact offsite will be carried forward to inform a consequence analysis. These scenarios can then be drawn together with expected outcomes of estimated impacts.

It will also be necessary to assess fire risks, including fire scenarios, incident frequency, probability of failure of the safety systems at the site and risk of fire (as a result of the combination of the fire impacts and frequency). The fire risks that will be identified at the site will be used to determine the fire protection requirements.

5.2.7.3 Indigenous and Non-Indigenous Heritage

Existing environment

The site has a long history of European land use for agricultural purposes that will have resulted in disturbance to the ground surface. The Riverina region is known to contain scar trees, earth mounds, shell middens, human burials and stone artefact scatters. Sites are located near waterways and other water bodies however, they can potentially occur anywhere in the landscape. Given the length of time Aboriginal people have lived in the Riverina they would have traversed the local area regularly.

Further assessment

A search of the Aboriginal Heritage Information Management System (AHIMS) was undertaken. From that search, it was determined that no Aboriginal sites were known to exist within the development site or adjoining land.

Searches of this database cannot be assumed to be definitive and search results indicating no sites are present are usually a reflection of a lack of systemic survey in a given region, rather than a lack of sites existing at any given location.

Given that this development is a State Significant, identification of cultural values and archaeological assessments will be undertaken to ensure:

- Opportunities for engagement and consultation with traditional owners and/or RAPs are provided;
- Compliance with the requirements of the SEARs;
- Compliance with the OEH (2010a) Aboriginal cultural heritage consultation requirements for applicants; and
- Compliance with the OEH (2011) Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW.

If any potential impacts to Aboriginal heritage sites or items are identified during field assessments as part of the EIS, they will be managed in accordance with the NPW Act and consultation undertaken with the relevant groups, including the OEH, relevant Registered Aboriginal Parties (RAPs), and council. This could result in a change in the design of the development to avoid Aboriginal heritage sites.

5.2.7.4 Visual amenity

Existing environment

The existing site is predominantly flat with little or no topographic relief. The site is also located adjacent to the Kidman Way. The site is highly visible.

Further assessment

The proposal will need to be supported by an analysis of the visual setting and an assessment of the potential impacts of the development of the site on its viewshed.

The rural viewshed to be assessed is primarily the area/s where highest impacts are likely to occur. Given the lack of topographic relief this assessment would need to consider distances typically within 2.5 km of the site boundary.

In assessing the visual sensitivity of the development given the remote location of the site this would focus on how critical a change to the existing landscape the proposal will be when viewed from the different areas and associated activities undertaken within the those areas. For example, tourists who travel on the Kidman Way as a part of a holiday experience will generally view changes to the landscape more critically than agricultural workers in the same setting.

This would include a qualitative and quantitative assessment addressing issues such as:

- How much of the proposed development will be visible from particular public viewpoints?
- How does the proposed development contrast with the rural and agricultural landscape of the surrounding setting?
- What is the quality of the rural and agricultural landscape setting?
- How sensitive will viewers be to the proposed development?
- What are the impacts of night and security lighting associated with the site?

This visual assessment would be completed as part of the EIS .

5.2.7.5 Socio-Economic and Community Impacts

Existing environment

The Murray Darling Basin Authority's Community Profile (2006) describes the Murrumbidgee region as covering approximately 8% of the Murray–Darling Basin within southern NSW. The catchment includes the major centres Canberra, Wagga Wagga, Griffith, Leeton and Hay and comprises 27% of the Basin's population. The region is one of the more major irrigated regions within the Murray–Darling Basin, using over 22% of the surface water diverted for irrigation and urban use and over 24% of the Basin's groundwater resource.

Within the region the centres of Griffith, Leeton, and Coleambally, together with a number of smaller centres located within the intensively irrigated areas of the region, are regionally known as the centres most exposed to the agricultural economy.

In 2014 the Murrumbidgee Local Health District identified that the Murrumbidgee LGA was among the top 20 per cent of disadvantaged LGAs in Australia ranked 28th respectively of the 153 LGAs in NSW

Further assessment

Construction of the proposal would result in immediate social and economic change to the local and regional community.

The project would increase local employment opportunities and drive growth in the area, whilst helping NSW to sustainably meet its energy needs.

The proposal is likely to have positive impacts on the existing social and economic environment of the Murrumbidgee Council area, and, in particular, for the town of Coleambally.

The construction phase would involve the expenditure of a significant proportion of the estimated total project cost on local goods and services and generate associated employment. The operation of the power station would generate, at a lower level, ongoing expenditure and employment opportunities for local communities.

There may be some pressure on local services including accommodation, health services and schools has the potential to increase due to the relocation of construction workers into the area.

The EIS will include an analysis of the social and economic impacts that the proposal would have on local and regional industries, employment, infrastructure and demography.

5.2.7.6 Soil/Land Contamination

Existing Environment

There are over 90 different soil types mapped in the Coleambally Irrigation Area. These are broadly categorised as clays, which were further divided into self-mulching and hard setting clays, red-brown earths, which are further divided into four subplasticity classes, transitional red brown earths, sands over clay (solodized solonetz) and deep sandy soils

The soils across the site have been mapped in the Atlas of Australian Soils as consisting of Calcarosols which are often called 'Mallee loams', 'Mallee sands' or 'calcareous earths'. Limitations with this soil type include shallow depth, low water retention due to hard carbonate content and wind erosion on the sandier types. There is also evidence that these soils may be of high salinity, alkalinity and sodicity.

The site has been used for extensive agriculture. There is no physical or anecdotal evidence that there were specific contaminating activities associated with the previous use of the land and site for agriculture.

As highlighted in the preliminary risk assessment consideration will need to be given to the storage of biomass that may be impacted by pesticides and herbicides.

Further Assessment

The soils across the site do not pose a constraint to the proposed development that cannot be addressed through detailed on-site soil testing which is standard to inform engineering design with any specific recommended mitigation works.

Wider management of soils across the site will be addressed in the Construction Management Plan and Operational Management Plan for the site.

Consistent with the Managing Land Contamination Planning Guidelines that support SEPP 55 in considering the suitability of land for the proposal, which incorporates on-site short term workers accommodation, a preliminary investigation of potential contamination will be undertaken to examine the site's history and assess any potential areas of contamination within the site.

Residues associated with the storage of biomass materials within the site will be addressed through consultation with NSW EPA and addressed through the resource recovery order and exemption application.

5.2.7.7 Waste water

Existing environment

The site is vacant agricultural land that has been used specifically for agricultural purposes.

The site has been mapped as having groundwater sensitivity under the Murrumbidgee LEP 2013. There is site specific survey of groundwater resources within the site.

Further assessment

An assessment of groundwater conditions across the site will be required.

Detailed assessment of water and waste water management within the site will also be undertaken to address the following key issues associated with the development:

- water demands and a breakdown of water supplies;
- measures to minimise water use;
- a detailed water balance;
- details of the surface and stormwater management system, including on site detention, and measures to treat or reuse water;
- details of any waste water disposal within the site arising from the development; and
- potential surface and groundwater impacts associated with the development including details of mitigation, management and monitoring.

6.0 ALTERNATIVES TO THE PROPOSAL

The site was chosen after consideration and assessment of a number of sites within the Coleambally area and the Riverina region. The proposed site provides:

- Direct access to the Kidman Way necessary for the significant volume of substrate required to support the plant;
- Access to the TransGrid electricity network with the Darlington Point substation located approximately 12km north-east of the project, which is a 330kV station, and the Coleambally substation which is located approximately 0.55km west, which is a 132kV station. Both the 330kV and 132kV power lines pass through the eastern side of the property between the two substations;
- The land is not known to be flood prone;
- The site is already heavily developed and presents a highly modified site in relation to biodiversity, native vegetation and cultural heritage;
- The site is in a rural region with limited settlements and housing in the immediate vicinity and is well away from any villages, towns or regional centres;
- Access to a variety of substrate sources in the local area and wider region to fulfil operational needs and to provide supply options during droughts; and
- Secure access to water from the adjoining Coleambally Irrigation Co-operative Limited supply channel and potential to acquire a groundwater licence.

Alternative sites considered in the local area had substantial constraints including road access, water access, proximity to major electricity substations and power lines, and potential issues with biodiversity and cultural heritage.

This project has great strategic potential for both the region, NSW and across Australia. It will generate locally 110 permanent jobs as well as 350 jobs for 2 years during construction, and will process up to 1M tonnes of agricultural waste per annum, in particular straw, which in many instances is usually burnt off in the paddocks. More importantly this project has the potential to generate up to 100MW per annum of base load electricity.

The alternative to this proposal is for the project to not proceed, which would result in:

- Significant lost economic and social benefits for the local region;
- Reduction in renewable energy production;
- Continued air pollution from stubble burning; and
- Dumping or stockpiling of some waste streams such as cotton gin trash.

Alternative sources of bioenergy include gasification, which is still not a reliable solution and very expensive, and anaerobic digestion which is usually small scale, around 2MW.

7.0 CONSULTATION

Booth Associates is developing an engagement and consultation strategy to ensure a broad engagement process with all government and community stakeholders relevant to the proposal throughout the life of the development.

Booth Associates have been proactive in commencing early consultation with a range of local and state government agencies for the purposes of this assessment including Murrumbidgee Council, the Environmental Protection Authority (EPA), Office of Environment and Heritage (OEH), Roads & Maritime Services (RMS) and Department of Primary Industries (DPI). The engagement and consultation strategy will be finalised upon receipt of the SEARs and consultation will continue and increase throughout the EIS process to ensure all stakeholders have an understanding of the nature and scope of the proposal.

A Planning Focus Meeting is to be convened on site prior to the issuing of the SEARs to ensure the key agencies are appraised of the nature and extent of this proposed development.

Finalisation of the engagement and consultation strategy will be informed by a range of resources and experts, including reference to the NSW Government report "Community Attitudes to Renewable Energy in NSW" (OEH, 2015).

TransGrid, the operators of the major electricity supply network, have been engaged to provide advice on the best option for accessing the network. TransGrid are supportive of this baseload power generating project.

Coleambally Irrigation Co-operative Limitedhave been appraised of the project and have indicated a willingness to provide support including an access point on the irrigation channel to supply water to the project if required.

Consultation with the local community by Brannan Tempest has included websites:

- http://www.agriwasteenergy.com.au;
- http://www.agriwaste.com.au; and
- http://www.macanzac.com.

Posters have been erected in community spaces around the local area. Flyers have been mailed out to the community on four occasions in the Coleambally, Jerilderie and Darlington Point postal districts with a total of 4,000 flyers mailed. A copy of the poster and flyers used is included as Annexure 5. The response from the community includes 20 local farmers who have expressed an interest in supplying straw to the project.

Engagement with local industry includes discussion with three cotton gins in relation to the supply of cotton gin trash, and SunRice about the supply of rice husks to the project.

The applicant and the project team will engage with adjoining landowners and the local community throughout the course of preparing the EIS.

8.0 CONCLUSION

This report has been prepared in accordance with the requirements of DPE for projects identified as SSDs and therefore requiring an EIS to be prepared under Part 4 of the EP&A Act. The report will support a request to DPE for the SEARs for the EIS.

Potential environmental and social issues associated with the project have been identified and prioritised as either high, moderate or lowpriority issues. Based on a preliminary assessment of the potential issues, Booth Associates has proposed environmental assessment requirements for consideration by DPE.

The project is expected to result in significant benefits to the local community and state of NSW by generating economic activity, and contributing to the transition to cleaner electricity generation and increased energy security through a more diverse energy mix.

Annexure 1

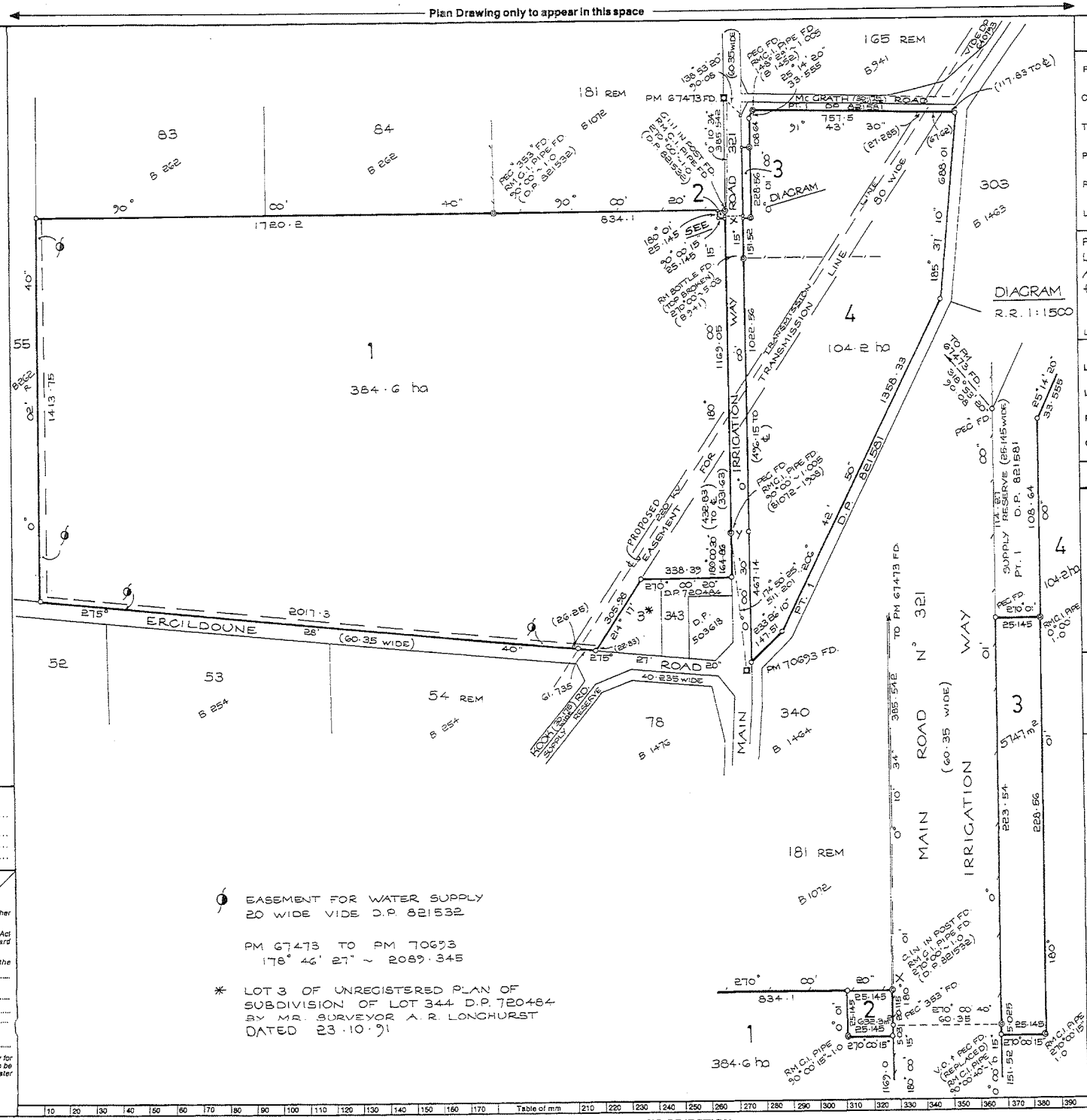
Title Plan

PLAN FORM 2

Plan Drawing only to appear in this space

*OFFICE USE ONLY

SIGNATURE AND SEALS ONLY.



℄ EASEMENT FOR WATER SUPPLY 20 WIDE VIDE D.P. 821532

PM 67473 TO PM 70693
178° 46' 27" ~ 2089·345

* LOT 3 OF UNREGISTERED PLAN OF SUBDIVISION OF LOT 344 D.P. 720484 BY MR. SURVEYOR A.R. LONGHURST DATED 23·10·91

DP 46629 (E)

Registered: 16·9·1996

C.A:

Title System: TORRENS & CROWN LAND

Purpose: CROWN FOLIO CREATION

Ref Map: PARISH #

Last Plan: D.P 821532, D.P 217840 #

PLAN OF SUBDIVISION OF LOT 353 D.P. 821532 AND ~~LOT 296~~ CROWN ~~D.P. 750906~~ LAND

Lengths are in metres. Reduction Ratio 1:10,000

LGA: MURRUMBIDGEE

Locality: COLEAMBALLY

Parish: WADDI

County: BOYD (37) L/F

This is sheet 1 of my plan in sheets. (Delete if inapplicable).

I, DEREK ROBERT BUDD

of POLKINGHORNE, BUDD & LONGHURST P.O. BOX 735, GRIFFITH 2680

a surveyor registered under the Surveyors Act 1929, hereby certify that the survey represented in this plan is accurate, has been made in accordance with the Survey Practice Regulation 1990 and was completed on 20.2.1996.

(Signature) ..... Surveyor registered under the surveyors Act 1929

Datum Line of Azimuth X - Y

LOTS 1 & 4 HAVE BEEN PARTLY COMPILED FROM D.P. 821532 AND B 1452 - 1908 RESPECTIVELY

Plans used in preparation of survey/compilation.

D.P. 821532 B 941 - 1908
D.P. 640793 B 262 - 1908
B 1452 - 1908
B 1072 - 1908

PANEL FOR USE ONLY for statements of intention to dedicate public roads, to create public reserves, drainage reserves, easements, restrictions on the use of land or positive covenants.

DARLN

Crown Lands Office Approval

PLAN APPROVED ..... Authorised Officer

Land District ... COLEAMBALLY

Paper No. ... GH 94 H 129

Field Book ... pages ...

Council's Certificate

I hereby certify that –

(a) the requirements of the Local Government Act, 1919 (other than the requirements for the registration of plans), and

†(b) the requirements of † Part 3 Division 2 of the Water Board Act 1987, or † Part 5 Division 7 of the Hunter Water Board (Corporatisation) Act 1991,

have been complied with by the applicant in relation to the proposed ..... (insert "new road", "subdivision" or "consolidated lot") set out herein

Subdivision No. .....

Date .....

Signature .....

General Manager/Authorised Person

Council File No. .....

†This part of certificate to be deleted where the application is only for consolidated lot or the opening of a new road or where the land to be subdivided is wholly outside the areas of operations of the Water Board and the Hunter Water Corporation Ltd.

†Delete if inapplicable

SURVEYOR'S REFERENCE: R.P. 7183 FAX (069) 64·1575

WARNING: CREASING OR FOLDING WILL LEAD TO REJECTION

Annexure 2

Landowner Consent

Mr Thomas Allen Rawson
11 Currawong Avenue,
Coleambally NSW 2707

9th November 2017

TO WHOM IT MAY CONCERN

This letter is to confirm that I, **THOMAS ALLEN RAWSON** being the current rightful owner of Lot 4 Plan DP46629 Folio Identifier 4/46629 Kidman Way, Coleambally New South Wales 2707, give permission for **BRANNAN TEMPEST** and his Companies
AUSTRALIAN BIOWASTE ENERGY PTY LTD (A.C.N. 621222697),
AGRIWASTE ENERGY PTY LTD (A.C.N. 622529613),
AGRIWASTE PTY LTD (A.C.N. 622529524) to lodge a State Significant Development Application for this land.

Dated: 24 / 11 / 2017

T.A Rawson
Thomas Allen Rawson

Witness
Print Name: Sandra Teresa Comaring

Annexure 3

Photo Gallery

PHOTO GALLERY – SITE PHOTOS

Photo taken in south-west corner of site adjacent to Kidman Way. Note extensively cleared nature of the site.

Photo taken on south west corner of site adjacent to Kidman Way and rice sheds.

Photo taken north-eastern side of the site. Note extensively cleared nature of the land, and the Coleambally Irrigation channel on the left side of the site and rice sheds in the background

Photo taken adjacent to Kidman Way on the western side of the site. Note 132kV and 330kV power lines in the background.

North-east corner showing both irrigation channels and power lines.

Eastern side of site against irrigation channel.

Eastern side of site against irrigation channel.

North-east side of the uncleared section with cattle grazing and power lines in the background.

Cattle grazing on northern section of the site.

Cattle grazing on northern section of the site.

Cattle grazing on northern section of the site.

Cattle grazing on northern section of the site.

Cattle grazing on the southern section of the site.

Cattle grazing on the southern section of the site.

The following photos were taken by Brannan Tempest at the Snetterton Bioenergy Plant in the UK in October 2017.

Plant as seen from the adjacent road.

Boiler with stack

Straw unloading bays

Straw unloading crane.

Straw store

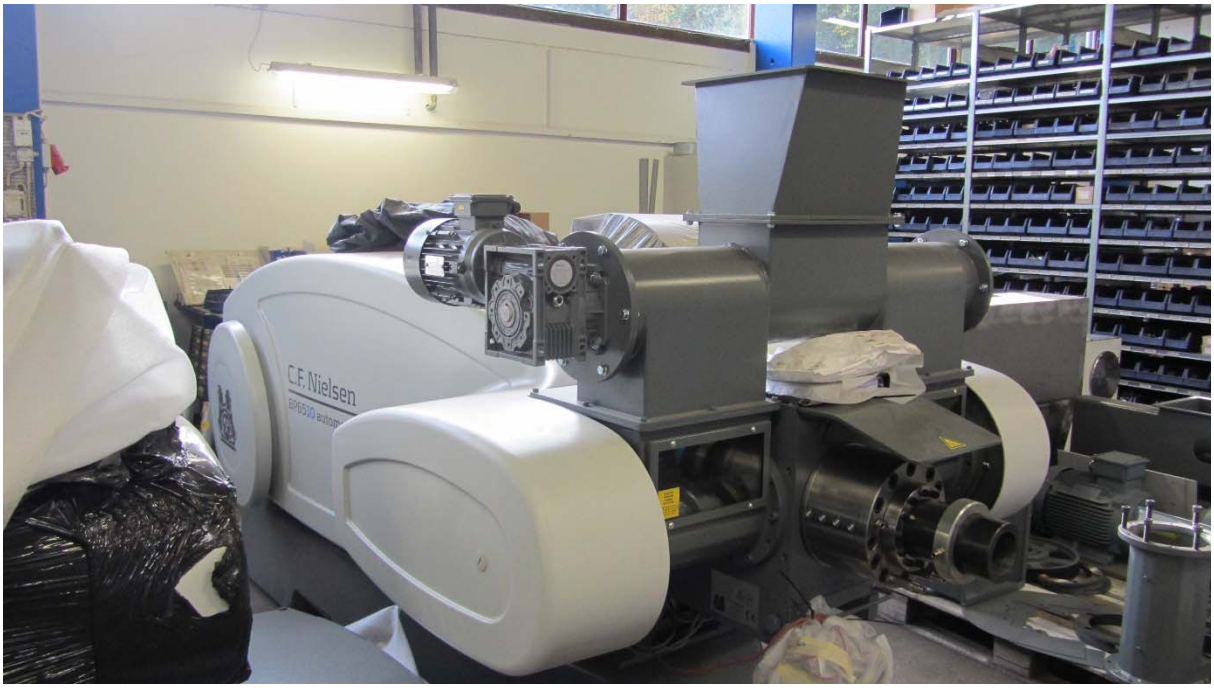
Straw store

Boiler

Wood chip substrate

Ash pile at bottom of the boiler

Example briquettes



Briquette machine

Briquette machine

Example briquette

Briquettes for commercial sale

Annexure 4

Cupel Solutions Report

CUPEL
SOLUTIONS LTD
OBSERVATION EVALUATION SOLUTIONS

Reference: AgriWaste Energy Pty Ltd

Dear Brannan,

Thank you for the opportunity to work with you, by us providing a quantity surveyor's capital estimation report confirming the capital investment value of your development referenced above

Our estimation is based on

Site Details

The proposed site is located on Lot 4 Plan DP46629 Folio Identifier 4/46629, approximately half way between Darlington Point and Coleambally NSW, on the eastern side of Kidman Way.

Development Description

The proposed development includes

2 x 130 MW boilers, each generating 50MW of electric and 30-80Mw steam heat and each boiler consuming 330,000 tonnes of agricultural waste per annum

30 x briquette machines capable of producing 3000,000 tonnes of briquettes per annum

2 x 150,000 tonnes straw storage sheds

2 x 50,000 tonnes briquette storage sheds

1 x 75,000 tonnes (wet) per annum prune drying plant

1 x 100,000 tonnes (wet) per annum grain drying plant

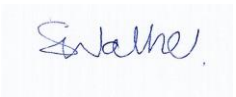
Ancillary sheds including workshops, shed area for straw balers, fuel and water storage, staff amenities and carparks.

The estimated capital investment is in the region of A$390,000,000

Please note that this estimate could change as much as 23% once the final combination of primary and secondary feedstock has been selected.

If you require any further information, please do not hesitate to contact me.

Yours sincerely,



Steven Walker
Managing Director – Cupel Solutions Ltd.
Steve@cupelsolutions.co.uk

CUPEL SOLUTIONS LTD
OBSERVATION EVALUATION SOLUTIONS

Attached:
Estimate
Qualifications
Service Standards
Terms and Conditions

Breakdowns of estimates

Main Summary		
1.	2 x 130 MW boilers generating 50MW electric and 30-80Mw of usable steam heat, each boiler consuming 330,000 tonnes of agricultural waste per annum.	
2	30 x briquette machines capable of producing 300,000 tonnes of briquettes per annum	
3	2 x 150,000 tonnes straw storage sheds	
4	2 x 50,000 tonnes briquette storage sheds	
5	1 x 1 75,000 tonnes (wet) per annum prune drying plant	
6	1 x 100,000 tonnes (wet) per annum grain drying plant	
7	Ancillary sheds including workshops, shed area for straw balers, fuel and water fruit and grain storage, staff amenities and carparks.	
	Total	**A$390,000,000**
	Please note that this estimate could change as much as 25% depending upon your final selection of primary and secondary feedstock and or the combination of feedstock.	

CUPEL SOLUTIONS LTD

OBSERVATION EVALUATION SOLUTIONS

Qualifications

1. Estimates exclude VAT or local taxes
2. Change of specification by the customer may be subject to further costs
3. Clients specifications will be clarified to prior start on the site and may be subject to increase/decrease in costs
4. This tender is not final and may change, a full detailed tender will be available once all final details and specifications are determined
5. Site inspections to be carried out, this may cause additions/omissions to the tender documents
6. All construction and finishing details have been assumed.

Service Standards

Calls – If your phone call cannot be directed to the relevant person we aim to respond to you within two hours of receiving your call.

Emails – We aim to respond to you within two hours of receiving a new enquiry.

Estimates

A fixed price quote will be offered together with a turnaround time upon receipt of all documents and drawings. Please note the submission date offered is subject to an order being placed the same day as the quote. This date is subject to change, if your confirmation of order is after this date.

Our standard service for completing estimates is seven days. We also offer a 24 and 48 hour service subject to availability and price premium.

Projects are typically logged and invoiced within 48 hours from confirmation of order. Please note this is subject to when your job is due and does not apply to projects to be completed within 24 and 48 hours.

All estimates are provided n PDF and fully editable Excel document as standard. Please note the Excel document is formulated and therefore can be easily edited.

We provide full instructions on how to use or Excel documents, including how to male amendments to Excel and converting a document from Excel to PDF format.

When the job is complete we will issue a first draft and will require your feedback and comments within seven days.

Clients are to review the quantities and rates within seven days and report any changes they feel need to be made. We will endeavor to action amendments within two working days subject to availability.

Any queries that you have regarding the estimate can be made via email or telephone. As part of the quote we offer a free thirty minute call to discuss the estimate. Please note all technical queries will be dealt with by an estimator and phone call can be arranged at a time convenient to you.

We will send you a pro forma invoice and all payments must be made upon receipt of the invoice. Please note a delay in paying the invoice, may result in a delay in submission of documents.

If you provide us with details of your sub-contractors we can obtain estimates from the. Please note we would require a full list of sub-contractors within 24 hours of order confirmation. Quotes are subject to them being obtainable in the time frame. This service is not available for 24 and 48 jour estimates.

We will contact any specified manufacturers for material (as applicable) – subject to quotes being obtainable.

Schedule of Works

We can price Schedule of Works in accordance with the documents provided.

Site Visits

Site visits are available, subject to a charge and availability.

The cost of the site visit must be paid on the date of order, to secure the date.

If the site visit is cancelled with less than 48 hours notice, you will still be charged a cancellation fee of minimum £100.

Aftercare

We will try to make any amendments within two working days, subject to availability. Please note that any design changes or additional works will be chargeable (price upon application)

Terms and Conditions

These Terms and Conditions are the standard terms which apply to the provision of all services by Cupel Solutions Ltd, a company registered in England under number 4289784, whose office is at 12, Baronsmead, Whitkirk, Leeds, LS15 7AR, Yorkshire, England and whose registered office is at 207, Bradford Road, Stanningley, Pudsey, Leeds, Yorkshire, England ("the Company").

1. Definitions and Interpretation
1.1 In these Terms and Conditions, unless the context otherwise requires, the following expressions have the following meanings:
"Agreement" means the contract into which you and we will enter if you accept our Proposal. The Agreement will incorporate, and be subject to, these Terms and Conditions;
"Consumer" means a consumer as defined by the Consumer Rights Act 2015;
"Client" means you, the party accepting our estimate or Proposal or placing an order with us. Where an individual is entering into this Agreement on behalf of a business, the individual confirms they have the authority to enter into this Agreement on behalf of that business and the business will be the Client in the context of this Agreement;
"Project" means the development project as detailed in our Proposal, in relation to which we are to render our Services;
"Proposal" means the proposal we give to you in accordance with clause 2 detailing the Services we will provide to you and the fees we will charge;
"Services" means the Services we will provide as specified in the Agreement or otherwise agreed between the Parties; and
"Site" means the site at which construction is to take place for the Project.
1.2 Each reference in these Terms and Conditions to:
1.2.1 "we", "us" and "our" means the Company and includes all employees, agents and sub-contractors of ours;
1.2.2 "you" and "your" means the Client;
1.2.3 "writing" and "written" includes emails;
1.2.4 a statute or provision of a statute is a reference to that statute or provision as amended or re-enacted at the relevant time;

1.2.5 a “Party” or the “Parties” refer to the parties to these Terms and Conditions;
1.2.6 “these Terms and Conditions” is a reference to these Terms and Conditions; and
1.2.7 a clause or paragraph is a reference to a clause of these Terms and Conditions.
1.3 The headings used in these Terms and Conditions are for convenience only and will have no effect on their interpretation. Words signifying the singular number will include the plural and vice versa. References to any gender will include the other gender. References to persons will include corporations.

2. Proposal
2.1 We will prepare and submit a Proposal to you which will set out the Services to be carried out and our fee for doing so. Any price we provide will be valid for 30 days unless otherwise stated, and our Proposal will constitute our entire scope of works. You may make changes to the Proposal before accepting it. You may accept the Proposal verbally or in writing.
2.2 By accepting our Proposal (whether verbally or in writing), or placing an order with us, you are accepting these Terms and Conditions and a legally binding Agreement incorporating these Terms and Conditions will be formed between you and us.
2.3 No terms or conditions stipulated or referred to by you in any form whatsoever will in any way vary or add to these Terms and Conditions unless otherwise agreed by us in writing.
2.4 Our Proposal is based on the information you provide to us at the time we prepare it. Should any errors or discrepancies become evident which affect our order value, we reserve the right to make adjustments to it.
2.5 Our Proposal is based on our Services being carried out during normal working hours (Monday to Friday, 9am – 5pm excluding bank holidays). Works required outside of these hours will incur additional costs.

3. Cost Planning and Estimating Services
3.1 We will provide you with an estimated turnaround time for your estimate, when we provide our Proposal. This is subject to the order being received by us on the same day as our Proposal date. If our Proposal is not accepted on the same day, any turnaround time will be subject to change. Time will not be of the essence for the performance of our Services.
3.2 Payment is required in full, up front, before we will commence our Services. We will commence work as soon as the payment has been received and therefore reserve the right to charge the full order value (and no refund will be offered) should you cancel your
order at any time after our Proposal has been accepted.
3.3 Any estimate we provide will be based on information provided by you in the “Client Profile Form” or if no form is issued, it will be based on your replies to any questions we send you. If you are a returning Client, we will use information supplied to us previously, unless you expressly request otherwise. We will not check the information against site requirements, local conditions, building regulations or third party information. It is assumed for the purposes of estimating that plans supplied are accurate and approved by planning and building regulations and any/all statutory undertakings where relevant.
3.4 We provide budget costs for mechanical and electrical work, which should be checked by you and your specialist contractors. We will state any relevant assumptions and exclusions on documents we provide to you.
3.5 Any items not mentioned in our documents have been excluded.
3.6 We will provide a first draft of your estimate and will require your feedback within 7 working days. It is your responsibility to check the estimate at every stage for any changes you may require, together with any errors or omissions. Subject to availability, we will endeavour to make any changes to the estimate within 2 working days of receiving your comments.
3.7 Once the final draft has been provided, any further amendments required, such as additional documents or design changes will be subject to additional fees, chargeable at our current hourly rate in effect at the time. We will also charge for changes to your finished estimate required as a result of insufficient information provided by you in the way of plans, specifications or other details. A minimum charge of 1 hour will apply and payment will be required in advance of any changes being made.
3.8 All estimates will be provided as a PDF and an editable Excel document.
3.9 We offer a free thirty minute telephone consultation to discuss the estimate provided. Any advice required beyond this will be chargeable.
3.10 We accept no liability for any item lost in the post. Any drawings or plans posted to us should be full-sized copies of the originals.
3.11 Our Services are to provide cost plans and estimates only and we cannot guarantee or accept responsibility for any

variations in the actual build cost. All our estimates are based on rates provided to us by you and our cost plan prices are based on build cost information resources. We will not verify whether or not information provided by you or third parties on your behalf is correct. We may provide professional advice and recommendations in relation to the Services, such as estimates of quantities needed and the suitability of materials, however this is for guidance and we cannot accept responsibility for any actions taken as a result of such advice or recommendations. Further, we shall not be liable for any consequences should any professional advice not be taken.
3.12 Subject to clause 13, we accept no liability for any loss or damage you may incur as a result of any inaccuracy, mis-description or any other error in the information supplied by you. We assume no liability for any changes as a result of Site conditions, whether specified at the time of order or otherwise, nor for any matters beyond our control in relation to the Project.

4. Quantity Surveying and Project Management Services
4.1 We will provide the Services as specified in our accepted Proposal with reasonable skill and care, in accordance with current professional standards.
4.2 Payment will be due for all quantity surveying and project management Services in accordance with clause 7 below.
4.3 The Construction (Design and Management) Regulations 2015 ("CDM") may apply to the works and you must be aware that you have responsibility under these regulations for the appointment of Designers, the CDM Coordinator and the Principal Contractor. The CDM Coordinator is responsible for the preparation and maintenance of the Pre-Construction Health and Safety Plan. Unless otherwise agreed, we do not act as Principal Contractor in the full sense of CDM requirements.
4.4 We can place orders with third party consultants and contractors, for and on your behalf, if you require us to do so. We may recommend preferred contractors, however no such recommendations will be binding on you. A separate contractual relationship will be formed between you and the third party consultants and contractors and under no circumstances will we be liable for the actions or lack of actions of said other third parties.
4.5 You will be required to hold all third parties responsible for the competence and delivery of their own relevant work or services. Any and all third party consultants and contractors appointed to the Project shall be required to cooperate fully with us and to promptly provide any and all such information reasonably required by us to enable us to provide the Services.
4.6 You must in all circumstances ensure that any third party consultants and contractors are responsible for site safety and the proper completion of the relevant works. Under no circumstances are we to bear responsibility for this.
4.7 We will act in accordance with all reasonable instructions given to us by you, provided such instructions are compatible with the specification of Services provided in the Agreement. However, time will not be of the essence for performance of our Services.
4.8 Upon cancellation of the Agreement in accordance with clauses 10 or 11 below, or on completion of our Services, provided payment has been made of all fees due in accordance with clause 7, we will return any documents or other property provided by you for our use in connection with the Services.

5. Client's Obligations
5.1 You are responsible for:
5.1.1 Providing us with all relevant information to us that is necessary for us to perform our Services. Such information shall include, but not be limited to, full design and third party consultant information, architects documents, the priorities of the Project, the Project timetable, budgets and costing information, health and safety information and any information about or affecting the Site or construction work, which we will rely upon in performing our Services;
5.1.2 ensuring that any reasonable instructions issued to us are compatible with the specification of the Services provided in our Proposal;
5.1.3 ensuring that if any consents, licences or other permissions are needed from any third parties such as landlords, planning authorities, local authorities or similar,
these have been obtained by you before we begin the Services;
5.1.4 providing us in a reasonable and timely manner with any decision, approval, consent or any other communication we may require in order to continue with the provision of the Services at any time;
5.1.5 ensuring that we can access the Site on the agreed dates and at the agreed times, if necessary, to provide the Services.
5.2 If you fail to comply with any of your responsibilities outlined in clause 6.1 above, we will not be held liable for any

delays as a result and we reserve the right to recover any costs incurred by us, such as for storage of materials or non-productive visits to site.

6. Payment Terms

6.1 All cost plans and estimates are payable on receipt of invoice. All other invoices are payable strictly 7 days from the date of invoice unless otherwise agreed in writing, at the agreed milestones as set out in our Proposal or due monthly for the number of hours worked within that month.
6.2 Any discount prices we may offer will be valid only for the time period specified in the relevant offer.
6.3 In addition, we shall charge to the Client our reasonable travelling time and travel expenses where these are not included in the Proposal, any incidental expenses for materials used and for third party goods and services supplied in connection with the provision of the Services.
6.4 You will pay for any additional services provided by us that are not specified in the Agreement. These additional services shall be charged in accordance with our current, applicable rate in effect at the time of the performance or such other rate as may be agreed. Any charge for additional services will be supplemental to the amounts that may be due for expenses.
6.5 All sums payable by either Party pursuant to the Agreement are exclusive of VAT at the current rate or any other tax (except corporation tax), for which that Party shall be additionally liable. All payments shall be made in pounds sterling without any set-off, withholding or deduction.
6.6 The time of payment shall be of the essence. If you fail to make any payment on the due date then we shall, without prejudice to any right which we may have pursuant to any statutory provision in force from time to time, have the right to suspend our Services and charge you interest on any overdue sum at a rate of 8% per annum above the Bank of England base rate from time to time, in accordance with the Late Payment of Commercial Debts (Interest) Act 1998. Such interest shall be calculated cumulatively on a daily basis and shall run from day to day and accrue after as well as before any judgment.

7. Variations

7.1 Any variation must be in writing before we can proceed with the works. Any price variation will become due for payment in accordance with the terms for payment as detailed in clause 7.
7.2 If we have to make any change in the arrangements relating to the provision of the Services, we will notify you immediately. We will endeavour to keep such changes to a minimum and will seek to offer you arrangements as close to the original as is reasonably possible in the circumstances.

8. Site Visits

8.1 Should you wish to cancel an agreed site visit, we require a minimum 2 weeks' notice. We reserve the right to charge a cancellation fee of £100 + VAT where such notice is not provided.
8.2 If, due to unforeseen circumstances, we have to reschedule or cancel a scheduled site visit, we will contact you as soon as possible to minimise disruption and will book another visit as soon as reasonably possible.

9. Cooling Off Period – Consumers Only

9.1 Where the Client is a Consumer, the Client has a statutory right to a cooling off period. This period begins once the Agreement is formed (as detailed in clause 2.2) and ends at the end of 14 calendar days after that date.
9.2 If you wish to cancel the Agreement within the cooling off period, you should inform us immediately by post or email to the contact details provided with our Proposal. You may use our Model Cancellation Form, but you do not have to.
9.3 You will meet the cancellation deadline as long as you have sent your cancellation notice before the 14 days have expired.
9.4 If you cancel within this period, you will receive a full refund of any amount paid to us under the Agreement. Any refunds will be made within 14 days after the day on which we are informed of the cancellation, using the same method used to make the payment, unless you have expressly agreed otherwise. In any case, you will not incur any fees as a result of the refund.
9.5 If the start date for the works falls within the cooling off period, you must make an express request for the Services to begin within the 14 day cooling off period. By making such a request, you acknowledge and agree to the following:
9.5.1 If the Services are completed within the 14 day cooling off period, you will lose the right to cancel once the works are completed;
9.5.2 If you cancel the Agreement after the Services have begun, you will be required to pay for the Services supplied up

until the point at which you inform us of your
wish to cancel. The amount due will be calculated and refunded or deducted in proportion to the total estimated fee and the actual Services already provided;
9.5.3 We will process any refund without undue delay and in any event no later than 14 days after you inform us of your wish to cancel.
9.6 Clause 11 applies to cancellation of the Agreement after the 14 calendar day cooling off period has elapsed.

10. Cancellation After the Cooling Off Period and for Non-Consumers

10.1 Where the Client is not a Consumer, or should any Consumer cancel an order with us after the expiry of the cooling off period above, the Client will be liable to pay for any work that has been carried out by us and we reserve the right to impose reasonable cancellation charges against the Client, which will then fall due for payment immediately. Any monies already paid to us will be nonrefundable.
10.2 We reserve the right to cancel the Agreement if:
10.2.1 you fail to make any payment on time as required under clause 7;
10.2.2 you otherwise materially or continually breach the Agreement and fail to remedy the breach within 7 days of the receipt of our written notification of such breach;
10.2.3 you make any voluntary arrangement with your creditors, become subject to an administration order or (being an individual or firm) become bankrupt or (being a company) go into liquidation (otherwise than for the purposes of amalgamation or reconstruction;
10.2.4 you cease or threaten to cease to carry on business; or
10.2.5 we reasonably apprehend that any of the events mentioned above is about to occur in relation to you and we notify you accordingly.
10.3 If we cancel the Agreement, we will confirm this in writing. If at the cancellation date we have provided Services that you have not yet paid for, we will invoice you for those sums and you will be required to make payment in accordance with clause 7.
10.4 Termination of this Agreement, for any reason, will not affect the rights and liabilities of the parties already accrued at such time or affect the continuance in force of any terms which are expressed as capable of having effect after termination.

11. Force Majeure: Neither Party will be liable for any failure or delay in performing their obligations where such failure or delay results from any cause that is beyond the reasonable control of that Party. Such causes include, but are not limited to: power failure, internet service provider failure, industrial action, civil unrest, fire, flood, storms, earthquakes, acts of terrorism or war, governmental action or any other event beyond the control of the Party in question.

12. General Liability

12.1 We do accept liability and will indemnify you against any damage we may cause as a direct result of our negligence resulting in
personal injury or death, or for fraud or fraudulent misrepresentation. Except as provided in this clause 13.1, we will not be liable whether by way of indemnity, breach of contract or
statutory duty or in tort (including negligence) for any loss of profit,
loss of use, loss of contract/contracts, or for any indirect or
consequential loss or damage whatsoever.
12.2 In the event of a breach by us of our express obligations under this Agreement, your remedy will be limited to damages, which in any event, shall not exceed the fees paid by you for the Services during the 6 months preceding the date on which the alleged breach arose.
12.3 These Terms and Conditions are exhaustive of the rights, obligations and liabilities of each party, whether such rights, obligations and liabilities arise in respect of or in consequence of a breach of contract or statutory duty or a tortuous or negligent act or omission which gives rise to a remedy at common law.
12.4 Nothing in these Terms and Conditions is intended to or will limit your legal rights as a Consumer under any consumer protection
legislation, where applicable. For more details of your legal rights, please refer to your local Citizens' Advice Bureau or Trading Standards Office.

13. Insurance: We include for Public Liability, Employers' Liability and Professional Indemnity Insurance. Details are available on request.

14. Literature and Representations
14.1 Our marketing literature is presented in good faith as a guide to represent the product offered and does not form a part of our Agreement.
14.2 Our employees and agents are not authorised to make any representation concerning the materials and services unless confirmed by us in writing. In entering into this Agreement you acknowledge that you do not rely on and waive any claim for breach of any such representations which are not confirmed.

15. Licence and Copyright
15.1 We shall, when requested, provide such necessary documents as we are required to provide under this Agreement. Any such documentation will be submitted in our normal standard format
only. If additional copies or contract specific requirements are needed, we reserve the right to apply additional charges.
15.2 Copyright in all such documents shall remain vested in us, but insofar as we are empowered to do so, we shall grant a royaltyfree non-exclusive licence to you to use and reproduce the said documents for your own use solely in connection with the works. It shall be a condition precedent to the granting of such a licence that all sums properly due to us under this Agreement have been paid in full.
153 We shall have no liability for improper use of the documents other than that for which they are prepared, or for amendments to the documents once they have been provided to you, and you shall indemnify us from and against any loss arising from such improper use or amendments.
15.4 You warrant that any design or instruction furnished or given by you shall not cause us to infringe any letter patent, registered design or trade mark in the execution of our Services.

16. Assignment and Sub-Contracting
16.1 You may not, without our prior written consent, assign, transfer, charge, sub-contract or deal in any other manner with all or any of your rights or obligations under these terms and conditions.
16.2 We may at any time assign, transfer, charge, sub-contract or deal in any other manner with all or any of our rights or obligations under these terms and conditions, without your prior consent.

17. No Employment: Nothing in this Agreement shall render or be deemed to render us an employee or agent of yours or you an employee or agent of ours.

18. Waiver: No failure by either party to enforce the performance of any provision in this Agreement shall constitute a waiver of the right to subsequently enforce that provision or any other provision of this Agreement. Such failure shall not be deemed to be a waiver of any preceding or subsequent breach and shall not constitute a continuing waiver.

19. Confidentiality: Each party undertakes that throughout the duration of the Agreement, the parties may disclose certain confidential information to each other. Both parties agree that they will not use the confidential information provided by the other, other than to perform their obligations under this Agreement. Each party will maintain the confidential information's confidentiality and will not disseminate it to any third party, unless so authorised by the other party in writing.

20. Data Protection: Each party agrees to comply with all applicable data protection legislation including, but not limited to, the Data Protection Act 1998 and any subsequent amendments thereto.

21. Notices
21.1 All notices under the Agreement shall be in writing and be deemed duly given if addressed to the most recent address or email address notified to the other Party and if signed by, or on behalf of, a duly authorised officer of the Party giving the notice.
21.2 Notices shall be deemed to have been duly given: when delivered, if delivered by courier or other messenger (including registered mail) during normal business hours of the recipient; when sent, if transmitted by email and a

successful return receipt is generated; or on the fifth business day following mailing, if mailed by national ordinary mail, postage prepaid.

22. Third Party Rights: The Agreement is between you and us. It is not intended to benefit any other person or third party in any way and no such person or party will be entitled to enforce any provision of the Agreement.

23. Severance: In the event that one or more of the provisions of this Agreement is found to be unlawful, invalid or otherwise unenforceable, that/those provisions shall be deemed severed from the remainder of this Agreement. The remainder of this Agreement shall be valid and enforceable.

24. Governing Law and Jurisdiction: These Terms and Conditions and the Agreement shall be governed by, and construed in accordance with, the laws of England and Wales and any dispute shall fall within the exclusive jurisdiction of the courts of England and Wales.

Annexure 5

Project Poster and Flyer


We Bail and Buy Straw
This could mean an extra AUD 20,000-30,000 per year
to the average 550 Acre Riverina Murray Farm Block
Earn it or Burn it?
MacAnzac BioMass
Why The MacAnzac Project
An extra AUD 20,000-30,000 per year for the average 550 Acre Riverina-Murray Farm Block.
Make use of the energy resource.
Reduce bush fires.
Reduce emissions.
Reduce crop fires.
Reduce health and safety risks.
Many new jobs seasonal and full time.
Cleaner air to breath for all species.
Reduce evaporation from stubble burn.
Reduce the regular black outs and power cuts caused by lack of local base load power.
Help to minimise the huge current practice of burning off stubble in the paddocks every year.
The MacAnzac Project also intends to setup and manage a community fund for local community projects.
Register Now @
MacAnzac.com