

# REFERRAL OF A PROJECT FOR A DECISION ON THE NEED FOR ASSESSMENT UNDER THE *ENVIRONMENT EFFECTS ACT 1978*

## REFERRAL FORM

The *Environment Effects Act 1978* provides that where proposed works may have a significant effect on the environment, either a proponent or a decision-maker may refer these works (or project) to the Minister for Planning for advice as to whether an Environment Effects Statement (EES) is required.

This Referral Form is designed to assist in the provision of relevant information in accordance with the *Ministerial Guidelines for assessment of environmental effects under the Environment Effects Act 1978* (Seventh Edition, 2006). Where a decision-maker is referring a project, they should complete a Referral Form to the best of their ability, recognising that further information may need to be obtained from the proponent.

**It will generally be useful for a proponent to discuss the preparation of a Referral with the Department of Planning and Community Development (DPCD) before submitting the Referral.**

If a proponent believes that effective measures to address environmental risks are available, sufficient information could be provided in the Referral to substantiate this view. In contrast, if a proponent considers that further detailed environmental studies will be needed as part of project investigations, a more general description of potential effects and possible mitigation measures in the Referral may suffice.

In completing a Referral Form, the following should occur:

- Mark relevant boxes by changing the font colour of the 'cross' to black and provide additional information and explanation where requested.
- As a minimum, a brief response should be provided for each item in the Referral Form, with a more detailed response provided where the item is of particular relevance. Cross-references to sections or pages in supporting documents should also be provided. Information need only be provided once in the Referral Form, although relevant cross-referencing should be included.
- Responses should honestly reflect the potential for adverse environmental effects. A Referral will only be accepted for processing once DPCD is satisfied that it has been completed appropriately.
- Potentially significant effects should be described in sufficient detail for a reasonable conclusion to be drawn on whether the project could pose a significant risk to environmental assets. Responses should include:
  - a brief description of potential changes or risks to environmental assets resulting from the project;
  - available information on the likelihood and significance of such changes;
  - the sources and accuracy of this information, and associated uncertainties.
- Any attachments, maps and supporting reports should be provided in a secure folder with the Referral Form.
- A CD or DVD copy of all documents will be needed, especially if the size of electronic documents may cause email difficulties. **Individual documents should not exceed 2MB.**

- A completed form would normally be between 15 and 30 pages in length. Responses should not be constrained by the size of the text boxes provided. Text boxes should be extended to allow for an appropriate level of detail.
- The form should be completed in MS Word and not handwritten.

The party referring a project should submit a covering letter to the Minister for Planning together with a completed Referral Form, attaching supporting reports and other information that may be relevant. This should be sent to:

Postal address

**Minister for Planning  
PO Box 500  
EAST MELBOURNE VIC 3002**

Couriers

**Minister for Planning  
Level 17, 8 Nicholson Street  
EAST MELBOURNE VIC 3002**

In addition to the submission of the hardcopy to the Minister, separate submission of an electronic copy of the Referral via email to [ees.referrals@dpcd.vic.gov.au](mailto:ees.referrals@dpcd.vic.gov.au) is encouraged. This will assist the timely processing of a referral.

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## PART 1 PROPONENT DETAILS, PROJECT DESCRIPTION & LOCATION

### 1. Information on proponent and person making Referral

<b>Name of Proponent:</b>	<b>Auyin Property Development</b>
<b>Authorised person for proponent:</b>	Mr Tony Huang
<b>Position:</b>	General Manager
<b>Postal address:</b>	PO Box 7270, BEAUMARIS VIC 3194
<b>Email address:</b>	tony.huang@auyinproperty.com.au
<b>Phone number:</b>	03 9587 3010
<b>Facsimile number:</b>	03 9587 3010
<b>Person who prepared Referral:</b>	Michael Cramer
<b>Position:</b>	Principal Environmental Scientist
<b>Organisation:</b>	<b>AECOM</b>
<b>Postal address:</b>	Level 6, 417 St Kilda Road Melbourne VIC 3004
<b>Email address:</b>	michael.cramer@aecom.com
<b>Phone number:</b>	03 8699 2199
<b>Facsimile number:</b>	03 8699 2122
<b>Available industry &amp; environmental expertise:</b> (areas of 'in-house' expertise & consultancy firms engaged for project)	AECOM in Melbourne has extensive experience in the management of complex and long running environmental assessment programs, including preparing EES referrals, EESs and Works Approvals, for the mining, industrial, power generation and transportation industries.

### 2. Project – brief outline

<p><b>Project title: Latrobe Briquette Manufacturing Facility</b></p> <p><b>Project location:</b> (describe location with AMG coordinates and attach A4/A3 map(s) showing project site or investigation area, as well as its regional and local context)</p> <p>The proposed site for the Latrobe Briquette Manufacturing Facility (the Project) is located in the Latrobe Valley approximately 150 km east of Melbourne. The site is adjacent to the TRUenergy-Yallourn Coal Mine. AMG coordinates for the site are provided in Table 1 below. A map showing the location of the mine and coordinate points is provided in <b>Figure F1</b>.</p> <p><b>Table 1 AMG coordinates for CVC PF site</b></p> <table border="1"> <thead> <tr> <th>Map reference</th> <th>Easting</th> <th>Northing</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>442678.341</td> <td>5774599.229</td> </tr> <tr> <td>2</td> <td>442843.146</td> <td>5774686.768</td> </tr> <tr> <td>3</td> <td>442920.184</td> <td>5774519.11</td> </tr> <tr> <td>4</td> <td>442786.651</td> <td>5774440.474</td> </tr> </tbody> </table> <p><b>Short project description</b> (few sentences):</p> <p>The Project involves the construction and operation of a briquette processing facility adjacent to the TRUenergy-Yallourn Coal Mine in the Latrobe Valley, Victoria. The proposed facility would use coal from the TRUenergy-Yallourn Coal Mine and process the coal into briquettes which would then be transported via truck to the Port of Melbourne for export to China.</p> <p>It is proposed to develop the project in stages, increasing the capacity of the briquette facility from manufacturing 120,000 tonnes of briquettes in the first year of operation, to 240,000 tonnes of briquettes in the second year and 300,000 tonnes in the third year (maximum capacity).</p>	Map reference	Easting	Northing	1	442678.341	5774599.229	2	442843.146	5774686.768	3	442920.184	5774519.11	4	442786.651	5774440.474
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### 3. Project description

**Aim/objectives of the project** (what is its purpose / intended to achieve?):

The aim of the Project is to build a facility to process brown coal into briquettes for export to China.

Key objectives of the project are to:

- Use Victorian brown coal to manufacture a high calorific, commercially viable coal product for export
- Establish a contract with a brown coal supplier (TRUenergy) to provide the coal for briquette manufacturing
- Adopt proven and robust technology to ensure consistency of product and reliability of supply
- Develop and service a market for the product in China

**Background/rationale of project** (describe the context / basis for the proposal, e.g. for siting):

***Brown coal briquettes***

Lower grade coal with high moisture content, such as the brown coal in Victoria's Latrobe Valley, burns inefficiently, is prone to spontaneous combustion during transport, and is expensive to transport (CSIRO, 2005). Latrobe Valley brown coal has a typical moisture content of 48-70% by weight (DPI, 2008).

Briquettes are produced by drying as-mined coal and then forming the dried coal into individual briquettes that are compacted under pressure to form a dense product that has an energy content comparable to many higher rank coals. Briquettes represent the second-largest application, currently, for brown coal around the world (DPI, 2009).

The manufacture and use of brown coal briquettes as an energy source is desirable because briquettes have reduced water content and higher density than as-mined brown coal. This means that:

- Transportation of the coal from Australia to China will be more efficient because excess water is not transported within the coal.
- Burning of briquettes to produce energy is more efficient when compared to burning of as-mined brown coal.
- Testwork has shown that briquettes manufactured from Latrobe Valley brown coal have a comparable calorific value and burn at a higher temperature than the Chinese black coal currently in use in the region they will be exported to.

In addition:

- Latrobe Valley brown coal has a very low sulphur content (0.3%-0.5%, dry basis, (DPI, 2008)). Briquettes manufactured from the coal also have a low sulphur content. Under normal combustion conditions with excess air, it can be assumed that all sulphur is oxidised to SO<sub>2</sub>. SO<sub>2</sub> exposure is associated with major health concerns including: effects on breathing, respiratory illness and aggravation of existing cardiovascular disease. Environmental concerns include: damage to trees and crops; acid rain contributing to the acidification of lakes and streams, accelerated corrosion of buildings and reduced visibility. It is therefore desirable to use coal with lower sulphur content (Integrated Sustainability Analysis, undated).
- Latrobe Valley brown coal has a low ash content of between 1% and 4% (e.g. compared with values of 5% and 25% for European brown coal) (DPI, 2008). Ash is a non-combustible material which lowers the heating value and also presents problems for disposal after burning. It can also cause corrosion and abrasion of boilers and clinkering or slagging of furnaces (Rail Age Australia, 2007). A low ash content is therefore desirable.
- Transport of briquettes is safer than as-mined coal because there is a reduced risk of spontaneous combustion.

***China's coal briquette market***

China's demand for coal as an energy source is enormous with an estimated 2.77 billion tonnes of coal consumed in 2008 (Energy Information Administration, 2009). China's coal demands are increasing. In particular, the demand for lump coal (briquettes) for gasification has increased significantly over the past few years.

China imports a large amount of coal with more than 300 million tonnes of coal imported in 2007 (Energy Information Administration, 2009).

A ceramic tile manufacturing company in Foshan City in Guangdong Province, China is already purchasing Victorian brown coal briquettes from another supplier. The Victorian briquettes are mixed and burned with the local Chinese briquettes to achieve enhanced performance for the gasification furnaces in the tile manufacturing company. The ceramics firm has been satisfied with the performance of the Victorian brown coal briquettes in terms of calorific value, low ash low sulphur and briquette size. The ceramic tile company's demand for briquettes is approximately 100,000 tonne per annum.

Foshan City is famous for its ceramics industry. There are many other tile manufacturers in the city, providing a ready market for the Latrobe Briquette Manufacturing Facility.

**Main components of the project** (nature, siting & approx. dimensions; attach A4/A3 plan(s) of site layout if available):

The proposed coal briquette facility is to be located in a bituminised area formerly used as a car park. In the initial year of operations (120,000 tonnes/year production) it will include the components outlined below (see **Figure F2**).

**Figure F3** provides a diagram of the proposed system for processing the brown coal into briquettes. The Stage 1 proposed layout of these key project components is shown in **Figure F4**.

**Process Building:**

The building is to be sited to the southern side of the existing electrical transmission power lines crossing the site. The proposed location of the building has been selected to take into account the safety exclusion zone required for works in the vicinity of the transmission lines so as to protect workers during the construction phase of the proposed building.

The proposed building is to be of a standard industrial type with structural steel portal frame with Colorbond metal cladding to the external façade including precast concrete dado wall panels in specific areas, as outlined below. The main process areas within the building will be the:

- Base material receivable area
- Crushing and drying area

The building will include water storage tanks with rain water harvesting for reuse, including in the amenities areas.

Attached to the building will be the:

- Product storage area
- Furnace and fuel storage area

The external and peripheral areas of the site will include landscaping, pavements, a stormwater collection system and lighting.

**Base Material Receivable Area:**

The base material receivable area is where the brown coal will be received prior to processing. A conveyer within the adjacent TRUenergy-Yallourn Coal Mine will convey coal to the south eastern boundary of the proposed facility. The coal will be deposited directly into trucks that will transport it the approximately 100 m distance to the receivable area.

The base material receivable area will be located under a roof approximately 9 m high and sited to provide protection from the predominate weather direction. This will limit exposure of the base material (brown coal) to inclement weather. The floor to this area will be structural concrete pavement that is graded to an in-ground receiver conveyor.

The base material receivable area will include rainwater collection pits that will be directly connected to the on site environmental treatment facility. This system will control and contain coal dust contamination washed off from the coal receiving area due to the effect of inclement weather.

There will be no perimeter walls around this area as mobile equipment (front end loader type) will be used to push the base material towards the receiver conveyor. Safety barriers will be installed to provide protection around the in-ground receiver conveyor.

The area will include standard high-bay type electrical lighting to allow 24 hour operations.

#### **Crushing and Drying Area:**

The crushing and drying area will be located within the building envelope and will be the main area for processing the brown coal. The expected roof height over this area will be between 6 and 9 m to the springing point, this will allow placement within the building envelope of the primary environmental recovery systems (cyclone baghouses and precipitators) to contain dust, etc. generated from the drying process. The area will include material handling conveyor systems.

Depending upon final design considerations, the crushing and drying area could include large, elevated storage bins for feeding the brown coal to the drying area. These bins may penetrate the roof cladding to allow gravity feed of the coal into the drier equipment.

The floor of this area will be structural concrete, graded as required to collection pits to allow the capture and containment of coal dust and any condensation from the processing of the brown coal.

Extensive duct work will be installed within the crushing and drying area to capture and direct emissions through the emission control systems prior to atmospheric discharge of the treated emissions via a stack.

At roof level, apex level ventilation will be provided to remove excess heat.

Attached to the crushing and drying area will be the process control room and amenities areas (e.g. toilet, shower, first aid room, change room and meals areas).

#### **Product Pressing and Packing Area**

The product pressing and packing area is where briquettes will be processed for sale and to provide fuel for the on site furnace.

The area will be located within the building envelope and will be linked to the drying area by conveyors. The roof height in this area will be approximately 6 m to the springing point. The floor of this area will be structural concrete with extensive concrete footings for the pressing equipment.

Two grades of briquettes will be produced – the high quality, high density briquettes for export and smaller volumes of lower quality briquettes for to feed the furnace.

#### **Furnace and Fuel Storage Area**

The furnace will be a self contained unit and will include a 6 m high roofed enclosure and an elevated storage hopper. The furnace will include a discharge chimney or flue designed in accordance with Australian Standards and EPA requirements. The hopper will be fed by furnace quality briquettes transported by conveyor systems from the product pressing area.

The furnace and fuel storage area will be under cover and open on two sides. The storage area will include structural concrete pavement graded to collection pits to capture any coal dust contaminants from the handling of the briquettes.

Precast concrete dado wall panels to a maximum height of 3 m will be provided to the common wall abutting the pressing and packing area. The walls are to provide protection from damage by mobile equipment (e.g. front end loaders) used within this area.

#### **External and Peripheral Areas**

A perimeter chain link security fence will be installed at the site boundary. The fence will be similar to the adjacent electrical power plant fencing and will include remote operated automatic sliding gates. All entry points will be monitored using remote closed circuit television (CCTV) from the main control room within the process building.

It is proposed that the site entry gates be set back from the title boundary by approximately 8 m to improve the safe entry and egress of vehicles from the site.

### **Landscaping**

Areas abutting the road reserves will be landscaped to improve visual appearance. The landscaped areas will be 3 m wide and planted out to an appropriate landscape plan. Landscaping to the eastern boundary will be restricted due to the proximity of the overhead electrical infrastructure (e.g. height limits will apply to vegetation).

It is proposed to create a raised, landscaped mound along the northern boundary of the facility, abutting the Latrobe River reserve. The installation of the raised mound will provide additional rainwater run off protection for the river.

The proponent will seek approval to carry out localised planting of indigenous plant species into the adjacent river reserve. This will provide a visual buffer between the proposed process facility and the Latrobe River and provide further protection of the river from site runoff.

All landscaped areas will be mulched to limit loss of ground moisture and to provide soil retention.

### **Pavements**

Extensive structural concrete pavement will be installed in all areas where access is required by heavy transport for container storage and finished product storage. All other areas will remain as asphalt (as per current conditions).

### **Stormwater Collection and Controls**

Separation of clean and potentially contaminated stormwaters will be incorporated into the design and management of the site.

Water collected from the process building and the pavement areas that is potentially contaminated by coal dust will be collected by in-ground pits and discharged to the legal point of discharge as agreed with the relevant authorities (e.g. as trade waste to the sewer servicing the site).

Clean runoff (e.g. water from washdown drainage and stormwater) will be directed through a series of silt traps to minimise sediment loads prior to discharge to the environment through designated release points.

The raised, landscaped mound abutting the Latrobe River reserve will provide a physical barrier to prevent uncontrolled rainwater runoff. Water trapped by the mound will be directed to the environment through the designated release points.

### **External Lighting**

Pole mounted floodlighting will be installed to provide 24 hour operational safe levels of light for on site personnel and transport access.

Lighting will extend to the external elevations of the process building for operational safety.

Lighting will be detailed to limit light shedding and the effect on the adjacent Powerhouse Hotel building and the river reserve.

### **Upgrade of Facility to Full Capacity:**

The upgrade of the facility in years two and three to achieve the full production of 300,000 tonnes of coal per year will be undertaken by installing two additional crushing and drying circuits (one each year) adjacent to the initial circuit.

Each crushing and drying circuit will have its own dedicated storage bins, crushers, furnaces, dryers, emissions control equipment, stacks and presses. The three parallel circuits will all be serviced by the one fuel storage and product storage area.

**Ancillary components of the project** (e.g. upgraded access roads, new high-pressure gas

pipeline; off-site resource processing):

Once manufactured, the briquettes will be transported to the Port of Melbourne by truck using the existing road network (see **Figures F5 and F6**). The design for the site layout and access road has incorporated the requirements for traffic movements, including the turning circle for trucks.

The operation of the plant is not expected to create any significant change in traffic volumes or movements from the Princess Highway to the Port of Melbourne. There will be an increase in traffic in the roads leading directly from the facility to the Princess Highway, 5.7 km from the facility. However, the facility will use the access roads for the TRUenergy-Yallourn W Power Station and Coal Mine which link directly into the highway road system, designed for transportation to Melbourne.

In the first year of operation the briquette facility will require approximately 24 trucks per day for transporting briquettes to the Port of Melbourne for export. The number of trucks will increase in the following two years reaching a maximum of approximately 59 trucks per day.

**Key construction activities:**

The main construction activities include:

- Demolition and removal of existing infrastructure
- Provision of civil infrastructure (e.g. roads, embankments and ramps)
- Earthworks to install foundations of facility
- Construction and installation of components of facility
- Mechanical, structural, and electrical installation of plant equipment (e.g. conveyors, furnaces, dryers and presses)
- Installation of high voltage (HV) reticulation and fire services reticulation.

During project construction, the existing car park will be dismantled. The bitumen seal of the car park will be broken up and removed, a new concrete slab will be laid and bunding constructed. The briquette plant and associated equipment and storage tanks will be installed. The building will be erected to house the processing plant.

The equipment involved in construction is expected to include an excavator, tip trucks, jack hammers, earth moving equipment, cranes, semi-trailer trucks, drills (various kinds), saws (various kinds) and a cement mixer. There is ample hardstand area for use as a laydown area for plant, equipment and materials. All construction access to the site will be via the Yallourn W Power station access road.

Construction waste is expected to consist mainly of bitumen rubble and excavated soil. Other construction waste may comprise timber, cardboard, metals, plaster, plastics, foam, insulation, textiles, glass and packaging. Where possible, construction waste (e.g. bitumen and concrete) will be reused or recycled.

The project area will have a raised, landscaped mound on the northern boundary providing a physical barrier between the site and the Latrobe river. This bunded area will be planted with native vegetation to provide a visual screen of the site.

The shallow (600 mm) excavations during project construction will produce only limited exposure to the underlying soils. There is no reason to expect disturbance of contamination in the project area during the construction of the project. However, inspection for contamination indicators (e.g. staining, odour) will be undertaken during excavation.

There will be a temporary increase in site activities during the construction phase of the project, which is expected to last for approximately nine months. Construction activities will create short term elevated levels of noise and dust emissions and a minor increase in traffic movements to and from the site. In particular, there will be dust and noise generated during the construction activities related to the demolition of the existing car park. However, due to the relatively small size of the facility, the standard construction methods that will be employed, and the routine management measures that will be implemented there are no proposed activities considered to pose a significant risk to the surrounding environment.



**Key operational activities:**

Once constructed, the coal briquette facility is expected to operate 24 hours a day 7 days a week, 48 weeks a year.

Operational activities will include:

- Transport (by conveyor) of brown coal from the TRUenergy-Yallourn Coal Mine to the south eastern boundary of the briquette facility and by truck from the conveyor to the base material receivable area
- Bunker storage of the coal to be processed
- Mechanical crushing of the coal
- Drying of the coal in a cylinder drier using heat from a furnace fuelled by briquettes
- Mechanical pressing of the dried coal into briquettes
- Bunker storage of the briquettes
- Container loading and transport by road to port facilities.

Further detail is provided in Section 3, Project Description.

**Dangerous and Hazardous Goods**

A range of chemical standards apply to the operations including the Dangerous Goods Act 1985, the National Occupational Health and Safety Exposure Standards (1995) and relevant Australian Standards. In addition, to minimise impact to the environment, the SEPPs Prevention and Management of Contamination of Land, Groundwaters of Victoria, and Waters of Victoria, also apply.

Given the nature and quantities of chemicals to be consumed and generated by the project and the existing adherence to applicable guidelines and codes, the presence of dangerous goods or hazardous materials is not considered to pose an unacceptable risk to health, the environment or local amenity.

Materials used in the facility will be transported, stored, handled and disposed in accordance with applicable guidelines and codes (e.g. WorkSafe Victoria Hazardous Substances [Code of Practice No. 24, 2000]) and operational procedures (to be developed).

**Key decommissioning activities (if applicable):**

The design life for the coal briquette manufacturing facility is 20 years. Decommissioning will involve the dismantling and removal of the plant, equipment, superstructure and above-ground footings and services. The concrete slab will either be broken up and removed or left in-situ, depending upon the final land use for the site, as agreed prior to decommissioning with relevant authorities.

Any site contamination (e.g. due to coal dust, hydrocarbon spillage etc) will be cleaned up to a standard agreed to with relevant authorities. Areas of the site to be returned to vegetation will be planted with native vegetation, unless otherwise agreed with relevant authorities.

Regardless of the final agreed land use, the site will be left in a safe and stable condition.

**Is the project an element or stage in a larger project?**

No  Yes If yes, please describe: the overall project strategy for delivery of all stages and components; the concept design for the overall project; and the intended scheduling of the design and development of project stages).

**Is the project related to any other past, current or mooted proposals in the region?**

No  Yes If yes, please identify related proposals.

TRUenergy-Yallourn has recently referred to the State and Commonwealth a project to change the alignment of the Yallourn Coal Field Project. Both levels of government determined that an Environmental Report for public exhibition was required for the project. The consultation process for this project is currently occurring.

The new alignment is not directly relevant to the proposed Latrobe Briquette Manufacturing Facility, other than by extending the life of the TRUenergy-Yallourn Coal Mine.

#### 4. Project alternatives

**Brief description of key alternatives considered to date** (e.g. locational, scale or design alternatives. If relevant, attach A4/A3 plans):

Compared with the mining and export of unprocessed brown coal, the export of briquettes achieves:

- Cost savings from more efficient transport (reduced weight and bulk due to greatly reduced water content and higher density)
- Improved safety associated with transport (reduced risk of spontaneous combustion compared to as-mined coal)
- Improved efficiency of combustion (brown coal briquettes are a much higher value product than 'as-mined' brown coal).

Auyin has assessed a range of potential locations in the Latrobe Valley for siting the Latrobe Briquette Manufacturing Facility. The key advantages of the selected location over the other potential sites include the:

- Proximity of a reliable brown coal supply (from the adjacent Yallourn W Power Station)
- Presence of an existing conveyer system at the Yallourn W Power Station that could be recommissioned to supply the coal to the proposed facility
- Suitability of the existing land use zoning of the proposed location (Special Use Zone 1 (SUZ1) – Brown Coal)
- Adequate size and flat topography of the site
- Access to the road transportation routes to Melbourne
- Distance of the location (and access roads) from nearby populations
- Lack of environmental and community values associated with the site.

The scale of the project has been chosen as it is large enough to sustain the economic viability of the briquette production and export scheme.

Auyin assessed the relative advantages of using dry furnace heat rather than steam to dry the briquettes. The company's assessment indicated that using dry heat was more economic and effective than steam and was technologically achievable.

The company also investigated the potential use of waste hot gas from TRUenergy-Yallourn W Power Station to dry the brown coal. This would involve laying pipelines from the power station site to the briquette facility. The investigation found that there were technical difficulties associated with the use of the waste heat to dry the coal and it was determined to be too costly and risky an option.

**Brief description of key alternatives to be further investigated** (if known):

Auyin has assessed the potential for transporting the briquettes to the Port of Melbourne by rail instead of road. The company considers that rail transport, while not currently viable, is likely to be more cost-effective if it becomes viable in the future. The State Government is currently upgrading and expanding its railway between Kensington and the wharf in the Port Melbourne. If a rail transportation system becomes available, Auyin will review the possibility of using rail as an alternative to trucks for transporting coal to the Port of Melbourne.

Auyin has also assessed the potential for future export through an upgraded Port of Hastings rather than the Port of Melbourne. The company would consider using the Port of Hastings due to its closer proximity to the site of the briquette facility if it became a viable and cost effective option in the future.

## 5. Proposed exclusions

### Statement of reasons for the proposed exclusion of any ancillary activities or further project stages from the scope of the project for assessment:

The current project description includes the renovation and recommissioning of a conveyor system to transport the coal from TRUenergy-Yallourn's Coal Mine to the briquette facility. As the upgrade of the conveyor system would occur within TRUenergy-Yallourn's land and within the current mining licence it is not appropriate to include it as part of the EES Referral process for the Latrobe Briquette Manufacturing Facility.

## 6. Project implementation

**Implementing organisation** (ultimately responsible for project, i.e. not contractor):  
Auyin Property Development will implement the project.

### Implementation timeframe:

It is proposed to implement the project as follows:

- Construction will commence approximately four months following completion of the EES referral and Works Approval process.
- Approximately five months after completion of the Works Approval, the facility building will be finished.
- After the completion of the facility building, approximately three months is required for the installation of equipment.
- It is expected that the brown coal processing facility will be up and running in June 2010.

### Proposed staging (if applicable):

The initial plan for the facility envisages 120,000 tonnes of briquettes to be produced in the first year of operation. The annual production of briquettes will be incrementally increased up to a maximum capacity of 300,000 tonnes per year of briquettes in the third year of operation.

## 7. Description of proposed site or area of investigation

### Has a preferred site for the project been selected?

No  Yes If no, please describe area for investigation.

If yes, please describe the preferred site in the next items (if practicable).

**General description of preferred site**, (including aspects such as topography/landform, soil types/degradation, drainage/ waterways, native/exotic vegetation cover, physical features, built structures, road frontages; attach ground-level photographs of site, as well as A4/A3 aerial/satellite image(s) and/or map(s) of site & surrounds, showing project footprint):

The proposed site of the Latrobe Briquette Manufacturing Facility is a disused carpark covered with asphalt located between the Yallourn W Power Station, the original Yallourn Power Station Administrative Building (now the Powerhouse Hotel) and the Latrobe River.

### **Topography**

The site comprises flat to gently rolling terrain.

### **Geological Setting and Soil Types**

The proposed site for the Latrobe Briquette Manufacturing Facility is located in the Latrobe Valley. The Latrobe Valley forms the onshore portion of the Gippsland Sedimentary Basin. The Basin stretches from Darnum in the west and passes into the Latrobe Valley (from Yallourn to Sale) before reaching the coast between Gelliondale and Orbost. The eastern portion of the basin stretches into Bass Strait and includes the oil and gas reserves which are extracted from this area.

The geology underlying the site is believed to be typical of the coal-rich, low energy sedimentary sequences underlying the majority of the flat lying areas of the region (to be confirmed during geotechnical drilling).

**Drainage and Waterways**

The Latrobe River runs adjacent to the northern boundary of the proposed facility. The River is approximately 300 m away from the site. The proximity of the river to the site is shown in **Figure 1**.

**Native and exotic vegetation cover**

An ecological assessment of the project area was undertaken in July 2009 by AECOM (see **Appendix A** and **Figure F7**).

The site was originally developed in 1922 with the construction of the Yallourn Power Station Administrative Building and carpark. As a result, the majority of native vegetation has been lost and weeds have infiltrated the site. The field assessment identified that remnant Riverine Escarpment Scrub, Plains Grassy Woodland and Riparian Forest which were historically present on or immediately adjacent to the survey area, or have been mapped as extant on the survey area (DSE, 2009a) are not present. No other EVCs were recorded as present within the project area, but there is remnant Riparian Forest along the Latrobe River to the north of the proposed facility.

The survey area is highly degraded and has been almost entirely denuded of native vegetation. Vegetative cover is predominantly exotic weed species, including exotic or non-indigenous plantings around the vicinity of the Powerhouse Hotel. Common weed species in the survey area include grasses (e.g. *Paspalum Paspalum dilatatum*, Rats-tail Grass *Sporobolus africanus*, Sweet vernal Grass *Anthoxanthum odoratum*, Couch Grass *Cynodon dactylon*), sedges (e.g. Drain Flat-sedge *Cyperus eragrostis*), *Watsonia Watsonia versfeldii* (an exotic iris which is dominant in areas), Blackberry *Rubus fruticosus*, Flax-lead Broom *Genista linifolia*, Sweet Pittosporum *Pittosporum undulatum* and Coast Wattle *Acacia longifolia* ssp. *sophorae* (latter two are probably not indigenous to the area, but have expanded their range and are now considered as weeds in many areas).

**Physical features (including built structures and road frontages)**

A site topography and feature survey was commissioned by Auyin and is shown in **Figure F2**.

The site incorporates the following built features:

- Carpark (approximately 160 m by 165 m)
- Four high voltage distribution lines, including five steel pylon towers, that traverse the northern section of the carpark
- Five low voltage transmission lines including timber poles and stays that traverse the eastern boundary of the carpark
- A chain wire security fence to the east of the site the defines the boundary of the original Yallourn Power Station Administrative Building (now the Powerhouse Hotel)
- The land fronts onto Yallourn Drive.

The Powerhouse Hotel and surrounds is also owned by Auyin. This land will not be part of the Latrobe Briquette Manufacturing Facility, except for the possible temporary use of a section of the hotel building for administration during project construction.

Photos taken at the site are provided in **Plates 1 – 3** while the project footprint is shown in **Figure F2**.

**Site area** (if known):

Area of project site – 2.68 Ha

**Route length** (for linear infrastructure) .....NA..... (km) **and width** .....NA..... (m)

**Current land use and development:**

The proposed project site (**Plate 1**) was originally developed in 1922 to service the adjacent Yallourn Power Station Administrative Building (Powerhouse Hotel) (**Plate 3**). The car park is not currently in use and has fallen into a state of general disrepair. As stated above, large power lines transverse the site.

Since the privatisation of the SEC, the adjacent administrative building has been used for a variety of activities, most recently as a local band venue.

**Description of local setting** (e.g. adjoining land uses, road access, infrastructure, proximity to residences & urban centres):

The site is bound to the north by the Latrobe River and to the south by the TRUenergy-Yallourn W Power Station (**Plate 2**) and open cut coal mine. The site is accessed via Yallourn Drive.

Apart from the Power Station and ancillary facilities, the site is in a rural area, with the closest residential area being Yallourn North, approximately 1.8 km to the northeast.

**Planning context** (e.g. strategic planning, zoning & overlays, management plans):

Zoning and Overlays associated with the Latrobe City Planning Scheme are provided in **Figure F8 & F9**. Under the provisions of the Planning Scheme, the proposed site of the Latrobe Briquette Manufacturing Facility is included in a Special Use Zone 1 (SUZ1) – Brown Coal. The purpose of this zone is:

- *To provide for brown coal mining and associated uses*
- *To provide for electricity generation and associated uses*
- *To provide for interim and non-urban uses which protect brown coal resources and to discourage the use or development of land incompatible with future brown coal mining and industry*

(Latrobe Planning Scheme)

Within this zone, 'Industry' is a Section 1 Use (no permit required) on the condition that the use must be directly associated with mining, processing, or treatment of brown coal. It is also to be 1,000 m from land in a residential zone, business zone, hospital or school. The proposed project meets these requirements.

The development does trigger a requirement for a Planning Permit for Buildings and Works, as the gross floor area of all buildings for the project will be equal to or greater than 1000 m<sup>2</sup>. The area of buildings, once the maximum capacity of the project (300,000 tonnes per year) is reached, will be approximately 75 m x 60 m = 4,500 m<sup>2</sup>.

Clause 52.10 of the Planning Scheme (Uses with Adverse Amenity Potential) also needs to be considered for the proposed project. The threshold distance from a sensitive use within which a permit would be triggered for the production of briquettes is 300 m. Given the absence of sensitive uses within 300 m of the proposed development, this clause would not be triggered.

The land east of the proposed site is partially subject to a Heritage Overlay (HO6) which covers the former Yallourn Power Station Administrative Building (**Figure F9**). Any external works affecting the building would therefore need to be included in the planning application. The administrative building is also included on the Victorian Heritage Register (No. H1054). Any development of the administrative building site would therefore be likely to require a permit from Heritage Victoria.

Other zones overlays in close proximity to the site are:

- Road Zone 1 (RDZ1) located approximately 140 m north northwest of the proposed briquette facility site (La Trobe Road).
- Public Park and Recreation Zone (PPRZ) located approximately 1.1 km to the northwest of the site.
- Farm Zone (FZ) approximately 900 m north of the site.
- Residential 1 Zone (R1Z) associated with the township of Yallourn North, located approximately 1.8 km away from the site.
- Wildfire Management Overlay applies approximately 150 m north of the proposed site.

**Local government area(s):**

The proposed project site is within the local government area of Latrobe City Council.

## 8. Existing environment

<p><b>Overview of key environmental assets/sensitivities in project area and vicinity</b> (cf. general description of project site/study area under section 7):</p> <p>The proposed project site is located in a highly disturbed area which was previously cleared of native vegetation for the development of the Yallourn Power Station Administrative Building in 1922.</p> <p>The land to the east of the site is partially subject to a Heritage Overlay (HO6) which covers the former Yallourn Power Station Administrative Building. The administrative building is also included on the Victorian Heritage Register (No. H1054).</p> <p>The carpark is bound to the south by the TRUenergy-Yallourn W Power Station and open cut coal mine, a highly degraded, industrial area.</p> <p>The Latrobe River is located 300 m to the north of the site. The Latrobe River environs include patches of native vegetation including highly significant Riparian Forest vegetation communities and the Commonwealth significant <i>Eucalyptus strzeleckii</i>.</p>
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## 9. Land availability and control

<p><b>Is the proposal on, or partly on, Crown land?</b>  <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, please provide details.</p>
<p><b>Current land tenure</b> (provide plan, if practicable):</p> <p>The proposed project site is owned by Auyin Property Development.</p>
<p><b>Intended land tenure</b> (tenure over or access to project land): N/A</p>
<p><b>Other interests in affected land</b> (eg. easements, native title claims):</p> <p>Four SP Ausnet high voltage distribution lines traverse the northern section of the site. Five low voltage transmission lines traverse the eastern boundary of the site.</p>

## 10. Required approvals

<p><b>State and Commonwealth approvals required for project components</b> (if known):</p> <p>The proposed project does not trigger the Environment Protection and Biodiversity Conservation Act 1999 and, therefore, no known Commonwealth approval is currently required for the project.</p> <p>The Environment Protection Act 1970 (Victoria) requires that before prescribed industries or processes are established (that is, if a premise will become a scheduled premises), the person intending to establish that industry must have a Works Approval from EPA Victoria. An EPA Works Approval and operating licence will be required.</p> <p>The development is expected to trigger a requirement for a Planning Permit for Buildings and Works, as the gross floor area of all buildings for the project will cover &gt;1000 m<sup>2</sup> (4500 m<sup>2</sup>).</p> <p>The potential temporary use of a section of the Yallourn Power Station Administrative Building for administration during project construction may require a permit from Heritage Victoria due to the existence of the Heritage Overlay.</p> <p><b>Have any applications for approval been lodged?</b>  <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, please provide details.</p> <p>A Works Approval under the Environment Protection Act 1970 is required for the proposed project</p>
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and will be submitted following completion of the EES referral process. Auyin Property Development will seek advice from relevant government authorities to obtain relevant licenses and permits, however, no submissions have been made at time of writing.

**Approval agency consultation** (agencies with whom the proposal has been discussed):

Consultation has been undertaken and is continuing with the following government departments:

- EPA Victoria (Melbourne and Traralgon offices)
- Department of Innovation, Industry and Regional Development
- Department of Planning and Community Development

**Other agencies consulted:**

Consultation is planned with other regulatory agencies, including the Department of Sustainability and Environment, Department of Primary Industries, Latrobe City Council, Gippsland Water, VicRoads, SP Ausnet and the West Gippsland Catchment Management Authority.

## PART 2 POTENTIAL ENVIRONMENTAL EFFECTS

### 11. Potentially significant environmental effects

**Overview of potentially significant environmental effects** (identify key potential effects and comment on their significance and likelihood, as well as key uncertainties):

The installation and operation of the facility is a brownfield project located in an already heavily industrialised precinct. The project footprint does not impact on:

- Undisturbed land
- Sites of archaeological significance
- Vegetation of significance
- Natural waterways (except for potential off-site effects on the Latrobe River).

The project will not require the handling of significant quantities of dangerous goods or hazardous materials, by-products or products.

Air emissions are expected to be released from the manufacturing plant. The design of the plant and performance of the baghouse and precipitators and modelling of emissions will be included in the EPA Works Approval meeting State Environment Protection Policy – Air Quality Management (1999) (SEPP AQM).

The environmental management of the facility will be integrated into the management processes and the plant will be operated in accordance with the EPA licence conditions.

Taking into account the surrounding land uses, industrial setting and the nature of the project, the construction and operation of the facility is not expected to result in any significant environmental or community impacts.

### 12. Native vegetation, flora and fauna

#### Native vegetation

**Is any native vegetation likely to be cleared or otherwise affected by the project?**

NYD  No  Yes If yes, answer the following questions and attach details.

**What investigation of native vegetation in the project area has been done?** (briefly describe)

An ecological assessment of the site is present as **Appendix A**.

A desktop assessment was initially undertaken including a search of:

- Victorian Flora Database (DSE, 2009b).
- Atlas of Victorian Wildlife (DSE, 2009c).
- Advisory List of Rare or Threatened Plants in Victoria - 2005 (DSE, 2005a).
- EPBC Act Protected Matters Database (DEWHA, 2009a).
- DSE Biodiversity Interactive Map (DSE, 2009a) for Ecological Vegetation Classes (EVCs).
- Planning Scheme maps (DPCD, 2009) for relevant biodiversity overlays (i.e. Vegetation Protection Overlays, Environment Significance Overlays).

The desktop included the entire project site and a 2 km search buffer around the site.

A field assessment of the project site was conducted by an AECOM ecologist on 21 July 2009. The aim of the site visit was to visually inspect vegetation and, in particular, to assess native vegetation and faunal habitat and the possible impacts of the proposed project on these values.

The field assessment was used to identify areas of:

- Remnant patches of native vegetation
- Scattered native trees
- Threatened species or ecological communities or potential habitat for threatened flora



- and/or fauna
- Aquatic habitat (waterways and waterbodies).

The following information was obtained during the field assessment:

- The veracity or otherwise of EVCs mapped by the DSE adjacent to the highway as determined from the general appearance of vegetation, including dominant plant species, community structure (approximate height and cover of each stratum) and soil substrate. The presence of invasive weeds and threatening processes were also noted. The general floristic and structural characteristics of the vegetation observed were compared with EVC benchmarks to ascertain the accuracy of EVC mapping.
- General flora species present: plant species that could not be identified in the field were collected and identified at a later time. Some plants could not be identified to species level due to lack of suitable reproductive materials and are listed at the level of genus.
- Fauna species present (including signs such as scats, tracks, burrows, disused nests where evident).
- General description of faunal habitat (e.g. tree hollows, rocks, soil cracks, potential wildlife corridors).
- Survey area photographs showing general habitat.

**What is the maximum area of native vegetation that may need to be cleared?**

NYD Estimated area .....0.....(hectares)

No patches of remnant vegetation or EVCs will be removed as a result of the project.

**How much of this clearing would be authorised under a Forest Management Plan or Fire Protection Plan?**

N/A ..... approx. percent (if applicable)

**Which Ecological Vegetation Classes may be affected?** (if not authorised as above)

NYD  Preliminary/detailed assessment completed. If assessed, please list.

No EVCs are associated with the site according to a DSE Interactive Mapping Tool website search. This has been verified through the on-ground survey.

**Have potential vegetation offsets been identified as yet?**

NYD  Yes If yes, please briefly describe.

As no remnant vegetation patches will be removed, there is no requirement for vegetation offsets.

**Other information/comments?** (e.g. accuracy of information)

NYD = not yet determined

**Flora and fauna**

**What investigations of flora and fauna in the project area have been done?**

(provide overview here and attach details of method and results of any surveys for the project & describe their accuracy)

A desktop assessment has been undertaken including a search of:

- Victorian Flora Database (DSE, 2009b).
- *Advisory List of Rare or Threatened Plants in Victoria - 2005* (DSE, 2005a).
- EPBC Act Protected Matters Database (DEWHA, 2009a).
- DSE Biodiversity Interactive Map (DSE, 2009a) for Ecological Vegetation Classes (EVCs).
- Planning Scheme maps (DPCD, 2009) for relevant biodiversity overlays (i.e. Vegetation Protection Overlays, Environment Significance Overlays).
- Atlas of Victorian Wildlife (DSE, 2009c).
- Victorian Aquatic Fauna Database (DSE, 2009d).
- *Advisory List of Threatened Vertebrate Fauna in Victoria - 2007* (DSE, 2007b).

A field assessment of the project site was conducted by an AECOM ecologist on 21 July 2009, as described above under 'Native Vegetation' (see **Appendix A** and **Figure F7**).

**Have any threatened or migratory species or listed communities been recorded from the local area?**

NYD  No  Yes If yes, please:

- List species/communities recorded in recent surveys and/or past observations.
- Indicate which of these have been recorded from the project site or nearby.

***Ecological Vegetation Classes***

The site is located within the Gippsland Plain Bioregion (DSE, 2009a). Review of the DSE Biodiversity Interactive Map indicates that the pre-1750 vegetation of the site within a 2 km search buffer was comprised of seven EVCs (**Table 1**). The EVCs mapped in 2005 are the same for the pre-1750 mapping, but with a more patchy distribution however the 2005 mapping indicates there are no EVCs associated with the project area. The current survey found no EVCs within the proposed project area

***Listed flora species***

The Victorian Flora Site Database (DSE, 2009b) contains records of 279 vascular plant species from within 2 km of the survey area, comprising 222 native species and 57 exotic or naturalised species growing outside their usual range. The database contains a record of one threatened flora species within 2 km of the survey area (Slender Tick-trefoil *Desmodium varians* which is listed as Poorly Known in Victoria, recorded as recently as 1990 with all records north of the Latrobe River). No threatened plant species have previously been recorded from the survey area. The EPBC Act Protected Matters Search Tool (DEWHA, 2009) indicates that four threatened flora species may potentially occur, or their habitat is predicted to occur, within the survey area or within a 2 km radius of the survey area.

A total of 36 plant species (16 exotic) were recorded during the field assessment (not including planted individuals). This indicates that the survey area has very low flora diversity compared with the surrounding region and that a high proportion (43%) of plant species recorded are exotic. No threatened plant species were recorded in the survey area during the field survey. The likelihood of occurrence of threatened flora species (those recorded or predicted to occur within 2 km of survey area) on the survey area is outlined in **Table 2**.

***Listed fauna species***

The Atlas of Victorian Wildlife (DSE, 2009c) contains records of 68 terrestrial vertebrate fauna species (58 bird, four mammal, four reptiles, two frogs) that have been previously recorded within 2 km of the site. Of these, 10 species are exotic (two mammals, eight birds) and the rest are indigenous.

No threatened terrestrial vertebrate fauna species have been recorded from within 2 km of the site. The EPBC Act Protected Matters Search Tool (DEWHA, 2009a) indicates that one threatened ecological community, 13 threatened fauna species and 14 migratory bird species may potentially occur, or their habitat is predicted to occur, within the site or within a 2 km radius of the site.

A total of eight fauna species (seven birds and one unidentified skink, probably *Lampropholis* sp.) were recorded on the site during the field assessment. A number of other bird species were recorded from the vicinity of the Latrobe River, but these were from off the site. This indicates that faunal diversity on the site is low compared with the surrounding region as would be expected from a highly degraded area lacking a significant area of remnant native vegetation or structurally complex vegetation.

No threatened fauna species were recorded during the field assessment. The likelihood of occurrence of threatened fauna species (those recorded or predicted to occur within 2 km of site) on the site is outlined in **Table 3**.

***Aquatic Fauna and Habitat***

The Victorian Aquatic Fauna Database (AFD) (DSE, 2009d) contains records of 11 fish species that have been previously recorded within 2 km of the survey area (from the Latrobe River), including five native and six exotic species (see **Table 2**).

No waterways or waterbodies are present within the survey area (as determined from the field

assessment) and, as such, no aquatic fauna or faunal habitat is expected to occur there. However, the Latrobe River lies immediately to the north of the survey area (see **Figure 1**) and has aquatic fauna such as fishes and waterbirds.

One species, Australian Grayling *Prototroctes maraena* (recorded as Vulnerable under the EPBC Act, Vulnerable in Victoria and FFG Act listed) has been recorded from the Latrobe River downstream of the Yallourn Cooling Towers. One fauna species, River Blackfish *Gadopsis marmoratus*, recorded as Data Deficient in Victoria, has been recorded from the Latrobe River immediately to the north of the survey area.

**If known, what threatening processes affecting these species or communities may be exacerbated by the project?** (e.g. loss or fragmentation of habitats) Please describe briefly. No threatening processes are likely to be exacerbated by the project.

**Are any threatened or migratory species, other species of conservation significance or listed communities potentially affected by the project?**

NYD  No  Yes If yes, please:

- List these species/communities:
- Indicate which species or communities could be subject to a major or extensive impact (including the loss of a genetically important population of a species listed or nominated for listing) Comment on likelihood of effects and associated uncertainties, if practicable.

The Latrobe River is likely to provide habitat for Australian Grayling and River Blackfish, as such, any runoff from the project into the river will need to be carefully managed to avoid impacts to these species. The proposed site water management measures will mitigate this risk.

No other threatened or migratory species are likely to be affected by the project.

**Is mitigation of potential effects on indigenous flora and fauna proposed?**

NYD  No  Yes If yes, please briefly describe.

The proposed site water management measures will mitigate this risk of impacts on the Latrobe River. Proposed site water management includes:

- Separation of clean and potentially contaminated stormwaters.
- Discharge of potentially contaminated waters to sewer.
- Discharge of clean stormwaters through a series of silt traps to minimise sediment loads prior to discharge to the environment through designated release points.
- Construction of a raised, landscaped bund along the northern boundary of the site to prevent uncontrolled runoff towards the Latrobe River.

**Other information/comments?** (eg. accuracy of information)

None

### 13. Water environments

**Will the project require significant volumes of fresh water (e.g. > 1 GI/yr)?**

NYD  No  Yes If yes, indicate approximate volume and likely source.

**Will the project discharge waste water or runoff to water environments?**

NYD  No  Yes If yes, specify types of discharges and which environments.

Only clean runoff water from the project area will discharge to the environment. Proposed site water management includes:

- Separation of clean and potentially contaminated stormwaters.
- Discharge of potentially contaminated waters to sewer.
- Discharge of clean stormwaters through a series of silt traps to minimise sediment loads prior to discharge to the environment through designated release points.
- Construction of a raised, landscaped mound along the northern boundary of the site to prevent uncontrolled runoff towards the Latrobe River.

<p><b>Are any waterways, wetlands, estuaries or marine environments likely to be affected?</b>  <input type="checkbox"/> NYD <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, specify which water environments, answer the following questions and attach any relevant details.</p> <p>The Latrobe River lies directly north of the site. The site water management described above is expected to provide adequate protection of the listed species in the river. Any discharges to the Latrobe River will meet the requirements of the State Environment Protection Policy (Waters of Victoria).</p>
<p><b>Are any of these water environments likely to support threatened or migratory species?</b>  <input type="checkbox"/> NYD <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, specify which water environments.</p> <p>The Latrobe River may support one listed species, Australian Grayling <i>Prototroctes maraena</i> (Vulnerable under the EPBC Act, Vulnerable in Victoria and is FFG Act listed) and one species, River Blackfish <i>Gadopsis marmoratus</i>, listed as Data Deficient.</p>
<p><b>Are any potentially affected wetlands listed under the Ramsar Convention or in 'A Directory of Important Wetlands in Australia'?</b>  <input type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, please specify.</p> <p>There are no Ramsar wetlands within or in close proximity to the proposed project site, however, the area lies within the catchment of the Gippsland Lakes which are declared Ramsar wetlands. The Gippsland Lakes are approximately 100 km east of the proposed site.</p>
<p><b>Could the project affect streamflows?</b>  <input type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, briefly describe implications for streamflows.</p> <p>The project will not require extraction of streamflows from Latrobe River and will not result in elevated flows to the river.</p>
<p><b>Could regional groundwater resources be affected by the project?</b>  <input type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, describe in what way.</p>
<p><b>Could environmental values (beneficial uses) of water environments be affected?</b>  <input type="checkbox"/> NYD <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, identify waterways/water bodies and beneficial uses (as recognised by State Environment Protection Policies)</p> <p>The Latrobe River lies directly north of the site. The site water management described above is expected to provide adequate protection of the listed species in the river. Any discharges to the Latrobe River will meet the requirements of the State Environment Protection Policy (Waters of Victoria).</p>
<p><b>Could aquatic, estuarine or marine ecosystems be affected by the project?</b>  <input type="checkbox"/> NYD <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, describe in what way.</p> <p>The Latrobe River lies directly north of the site. The site water management described above is expected to provide adequate protection of the listed species in the river. Any discharges to the Latrobe River will meet the requirements of the State Environment Protection Policy (Waters of Victoria).</p>
<p><b>Is there a potential for extensive or major effects on the health or biodiversity of aquatic, estuarine or marine ecosystems over the long-term?</b>  <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, please describe. Comment on likelihood of effects and associated uncertainties, if practicable.</p>
<p><b>Is mitigation of potential effects on water environments proposed?</b>  <input checked="" type="checkbox"/> NYD <input type="checkbox"/> No <input type="checkbox"/> Yes If yes, please briefly describe.</p> <p>The proposed site water management measures will mitigate this risk of impacts on the Latrobe River. Proposed site water management includes:</p>

<ul style="list-style-type: none"> <li>• Separation of clean and potentially contaminated stormwaters.</li> <li>• Discharge of potentially contaminated waters to sewer.</li> <li>• Discharge of clean stormwaters through a series of silt traps to minimise sediment loads prior to discharge to the environment through designated release points.</li> <li>• Construction of a raised, landscaped mound along the northern boundary of the site to prevent uncontrolled runoff towards the Latrobe River.</li> </ul>
<b>Other information/comments?</b> (eg. accuracy of information) None

#### 14. Landscape and soils

##### Landscape

<b>Has a preliminary landscape assessment been prepared?</b> <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please attach.
<b>Is the project to be located either within or near an area that is:</b> <ul style="list-style-type: none"> <li>• <b>Subject to a Landscape Significance Overlay or Environmental Significance Overlay?</b>  <input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, provide plan showing footprint relative to overlay.</li> <li>• <b>Identified as of regional or State significance in a reputable study of landscape values?</b>  <input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please specify.</li> <li>• <b>Within or adjoining land reserved under the <i>National Parks Act 1975</i> ?</b>  <input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please specify.</li> <li>• <b>Within or adjoining other public land used for conservation or recreational purposes ?</b>  <input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please specify.</li> </ul> <p>While not identified in planning zones the proposed project site is adjacent to Crown Land along the Latrobe River.</p>
<b>Is any clearing vegetation or alteration of landforms likely to affect landscape values?</b> <input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please briefly describe.
<b>Is there a potential for effects on landscape values of regional or State importance?</b> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes Please briefly explain response.
<b>Is mitigation of potential landscape effects proposed?</b> <input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Yes If yes, please briefly describe.
<b>Other information/comments?</b> (eg. accuracy of information)  The project site and surrounding area comprises heavily degraded environments with little native vegetation, which has been previously developed for the coal industry. The site comprises flat to gently rolling terrain and contains no landscape features that will be significantly altered by the project.

**Note:** A preliminary landscape assessment is a specific requirement for a referral of a wind energy facility. This should provide a description of:

- The landscape character of the site and surrounding areas including landform, vegetation types and coverage, water features, any other notable features and current land use;
- The location of nearby dwellings, townships, recreation areas, major roads, above-ground utilities, tourist routes and walking tracks;
- Views to the site and to the proposed location of wind turbines from key vantage points (including views showing existing nearby dwellings and views from major roads, walking tracks and tourist routes) sufficient to give a sense of the overall site in its setting.

## Soils

**Is there a potential for effects on land stability, acid sulphate soils or highly erodible soils?**

NYD  No  Yes If yes, please briefly describe.

No effects on land stability, acid sulphate soils or highly erodible soils are expected; however a geotechnical investigation will be completed as part of the design phase to ensure that any implications on these aspects are addressed as required.

**Are there geotechnical hazards that may either affect the project or be affected by it?**

NYD  No  Yes If yes, please briefly describe.

No effects on land stability, acid sulphate soils or highly erodible soils are expected.

**Other information/comments?** (eg. accuracy of information)

## 15. Social environments

**Is the project likely to generate significant volumes of road traffic, during construction or operation?**

NYD  No  Yes If yes, provide estimate of traffic volume(s) if practicable.

Construction-related traffic will comprise the movement of vehicles, trucks, plant and equipment to site. Liaison will be undertaken with TRUenergy, VicRoads and the Latrobe City Council to ensure that construction traffic is managed safely and with minimal disruption to existing traffic.

During operations, trucks will be used to transport the briquettes to the Port of Melbourne for export. The proposed route of the trucks is provided in **Figure 5**. The majority of the route taken by the trucks will be along the Princess Freeway. Access between the Freeway and the briquette facility is along the Morwell-Yallourn Road which runs to the west of the TRUenergy-Yallourn Coal Mine. The closest township which may be affected is Morwell, as the Princess Freeway goes directly through this town. However, the Princess Freeway is a major arterial road continually subject to truck traffic.

In the first year of operation the briquette facility will require approximately 24 trucks per day for transporting briquettes to the Port of Melbourne for export. The number of trucks will increase in the following two years reaching approximately 59 trucks per day (20,800 trucks per year) in the third year of operation when the maximum amount of briquettes (300,000 tonnes per year) is being produced.

The roads exiting the site and connecting with the Princess Freeway provide access to the TRUenergy-Yallourn W Power Station and therefore are expected to be readily able to accommodate the proposed briquette facility traffic without the need for upgrade. This will be confirmed in discussions with VicRoads. A traffic study will be completed as part of the Works Approval process.

**Is there a potential for significant effects on the amenity of residents, due to emissions of dust or odours or changes in visual, noise or traffic conditions?**

NYD  No  Yes If yes, briefly describe the nature of the changes in amenity conditions and the possible areas affected.

### **Air quality**

The sensitive receptors (closest residents to the site) which have the highest likelihood of being impacted by air quality impacts (including particulate, odour and combustion emissions) are located approximately 1.8 km away from the site at Yallourn North.

Air modelling, as required by the EPA, will be undertaken to ensure that particulate and other emissions (see **Table 4**) from the briquette facility comply with SEPP (Air Quality) requirements at sensitive receptors.

A modelling proposal will be put to the EPA as part of the Works Approval process to ensure that the proposed modelling meets the EPA's requirements. Accordingly, we propose the following

scope of work for the proposed air quality study:

- Identification of relevant guideline assessment criteria for the compounds to be assessed, based on the EPA Victoria State Environment Protection Policy (Air Quality Management) (SEPP (AQM))
- Development of an emissions inventory, based on the assessment criteria and stack parameters
- Preparation of meteorological data for input into the AUSPLUME dispersion model
- Modelling of a range of exit velocities and emission rates to enable comparison with SEPP (AQM) emission limits
- Preparation of base maps for presentation of model results
- Preparation of a brief report detailing the methodology and results of the study in accordance with SEPP (AQM)

The use of AUSPLUME for modelling and the preparation of a report consistent with the SEPP AQM are requirements of the EPA.

A brief air quality report will be prepared for the WA application. The report will detail all aspects of the assessment including the methodology, findings of the study, and discuss emission limits for each assessed pollutant. Site emissions will be placed into the context of regional air quality (as established by the Latrobe Valley Air Monitoring Network) and cumulative impacts assessed.

#### **Visual amenity**

Visual amenity at the site will change from a disused carpark to an industrial site (briquette manufacturing facility). The façade of the adjacent Administrative Building will not be altered, even if it is used temporarily for administrative purposes during construction. The local area is highly industrialised with the TRUenergy-Yallourn W Power Station adjacent to the proposed site therefore visual amenity impacts are expected to be minimal in comparison. Due to the remote location of the facility, there are only limited vantage points from which the facility can be viewed and no vantage points from permanent dwellings.

#### **Noise**

The noise sensitive receptors (closest residents to the site) which have the highest likelihood of being impacted by noise emissions are located approximately 1800 m away from the site at Yallourn North. The operation of the adjacent TRUenergy-Yallourn W Power Station already generates elevated noise in the area.

Noise modelling, as required by the EPA, will be undertaken to ensure that noise from the briquette facility complies with SEPP-N3 requirements at sensitive receptors. Accordingly, we propose the following scope of work for the proposed noise study:

- Conduct background noise monitoring to determine the background noise levels at nearby residences. This would involve placement of a noise logger at one or two locations to continuously measure the background noise levels for a period of approximately one week.
- Based on the measured background noise levels, determine the day, evening, and night period noise limits in accordance with the requirements of SEPP N-3 that would apply to noise emissions from the Latrobe Briquette Manufacturing Facility.
- Assess the predicted noise levels for the extended plant in relation to the SEPP N-3 noise limits.
- If the predicted noise levels at the nearby residences do not comply with the noise criteria, use the computer model to determine noise control measures to reduce the noise emissions.
- Provide a report that presents the methodology and findings of the assessment, and any noise control recommendations, as applicable.

#### **Traffic**

There will be an increase in traffic volume during the construction and operation phases of the project. A traffic study will be completed as part of the Works Approval process.

<p><b>Is there a potential for exposure of a human community to health or safety hazards, due to emissions to air or water or noise or chemical hazards or associated transport?</b>  <input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, briefly describe the hazards and possible implications.</p> <p>The site is relatively remote, with the nearest community located approximately 1.8 km away at Yallourn North.</p> <p>The transport, storage, handling and disposal of dangerous goods (principally coal and briquettes) will comply with all relevant guidelines and codes (e.g. Dangerous Goods Code). Procedures will be developed to manage any potential associated risks.</p> <p>All discharges and emissions including stormwater, noise and particulates will comply with State Environment Protection Policies and therefore there should be no impacts on the human community. This will be verified through noise and air quality modelling to be completed prior to commencement of the project.</p>
<p><b>Is there a potential for displacement of residences or severance of residential access to community resources due to the proposed development?</b>  <input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, briefly describe potential effects.</p>
<p><b>Are non-residential land use activities likely to be displaced as a result of the project?</b>  <input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, briefly describe the likely effects.</p>
<p><b>Do any expected changes in non-residential land use activities have a potential to cause adverse effects on local residents/communities, social groups or industries?</b>  <input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, briefly describe the potential effects.</p>
<p><b>Is mitigation of potential social effects proposed?</b>  <input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, please briefly describe.</p> <p>Following the completion of air quality, noise and traffic assessments as part of the Works Approval process, management and mitigation measures will be proposed to minimise any identified social impacts.</p>
<p><b>Other information/comments?</b> (eg. accuracy of information)  None</p>

### Cultural heritage

<p><b>Have relevant Indigenous organisations been consulted on the occurrence of Aboriginal cultural heritage within the project area?</b>  <input checked="" type="checkbox"/> No If no, list any organisations that it is proposed to consult.  <input checked="" type="checkbox"/> Yes If yes, list the organisations so far consulted.</p>
<p><b>What investigations of cultural heritage in the project area have been done?</b>  (attach details of method and results of any surveys for the project &amp; describe their accuracy)</p> <p>Due to the highly modified nature of the site, cultural heritage values are not expected to be present within the project footprint.</p>
<p><b>Is any Aboriginal cultural heritage known from the project area?</b>  <input checked="" type="checkbox"/> NYD <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, briefly describe:</p> <ul style="list-style-type: none"> <li>• Any sites listed on the AAV Site Register</li> <li>• Sites or areas of sensitivity recorded in recent surveys from the project site or nearby</li> <li>• Sites or areas of sensitivity identified by representatives of Indigenous organisations</li> </ul> <p>Under the provisions of the Aboriginal Heritage Act 2006, a site is not considered to be sensitive as long as:</p> <ul style="list-style-type: none"> <li>• Sites listed on the AAV Register are not associated with the site</li> <li>• No registered cultural heritage places are associated in or within 50 m of the proposed</li> </ul>



- project site
- The closest waterway (the Latrobe River) is more than 200 m away from the proposed site.

A search of the AAV Register for registered cultural heritage places has not yet been undertaken. This will be completed as part of the cultural heritage assessment. If Aboriginal Cultural Heritage sites are identified, a management plan will be developed to ensure values are managed in accordance with all relevant regulations.

The project site is approximately 300 m from the Latrobe River, i.e. not within 200 m of a waterway, and is therefore not considered to be a sensitive site under this condition.

**Are there any cultural heritage places listed on the Heritage Register or the Archaeological Inventory under the *Heritage Act 1995* within the project area?**

NYD  No  Yes If yes, please list.

The Yallourn Power Station Administrative Building adjacent to the project site is listed on the Victorian Heritage Register (No. H1054).

**Is mitigation of potential cultural heritage effects proposed?**

NYD  No  Yes If yes, please briefly describe.

Part of the adjacent Yallourn Power Station Administrative Building may be temporarily used for administrative purposes during project construction. Any potential impacts on the building and surrounds will be submitted as part of the planning permit application process.

**Other information/comments?** (eg. accuracy of information)

None

**16. Energy, wastes & greenhouse gas emissions**

**What are the main sources of energy that the project facility would consume/generate?**

Electricity network. If possible, estimate power requirement/output.

Mains electricity will be used to power the proposed administration and other ancillary facilities as well as site instrumentation and lighting. Energy required will be comparable to that required for typical office operations.

The main briquette manufacturing equipment will be coal powered, however, the hydraulic press, air compressors, the dryer conveyor and barrel crusher will be electrically powered.

Natural gas network. If possible, estimate gas requirement/output .....

Generated on-site. If possible, estimate power capacity/output .....

Other. Please describe.

Please add any relevant additional information.

Furnaces will be used to provide the heat for each of the coal dryers. The furnaces will be fed by briquettes, initially by briquettes purchased elsewhere and then, once production begins, by briquettes manufactured on site. The briquettes manufactured on site to power the furnaces will be of lesser quality and density than those produced for export.

Vehicles such as forklift trucks are expected to be powered by liquefied petroleum gas (LPG). Larger vehicles such as the front end loader and trucks will be powered by diesel, sourced from an off-site commercial distributor and stored on-site in a fully self contained above ground fuel storage and delivery system (internally banded).

**What are the main forms of waste that would be generated by the project facility?**

Wastewater. Describe briefly.

Solid chemical wastes. Describe briefly.

Excavated material. Describe briefly.

Other. Describe briefly.

Please provide relevant further information, including proposed management of wastes.

Waste will be generated in both the construction and operation phases of the project. Waste Management will be in accordance with the EPA Victoria's Waste Management Hierarchy as follows:

1. Avoid
2. Reuse
3. Recycle
4. Energy Recovery
5. Treatment
6. Containment
7. Disposal

Potential waste generated as part of the construction phase may include:

- Waste fill from excavations.
- Waste asphalt, concrete and scrap iron from demolishing the old carpark.
- Left over timber, metals, plaster, plastics, foam, insulation, textiles, glass used in construction.
- Waste oils, lubricants, paints etc.
- Packaging materials, including pallets, cardboard, plastics and containers.

Auyin will determine whether any of the waste material from the demolition of the carpark is suitable for use in construction. Waste requiring transport off-site will be sent for re-use or recycling if practicable. Excavated soil requiring off-site disposal will be assessed for contamination risk and disposed of in accordance with EPA requirements. Waste oils, lubricants and paints etc will be recycled or disposed of at a registered facility. Packaging materials and scrap metals, timber glass etc will be recycled where possible.

#### **The operation phase of the project may result in the generation of the following wastes**

##### **Wastewater**

Minor amounts of wastewater will be generated by the drying process and the emissions control equipment. All water collected in the processing building, workshop and captured from plant will be form trade waste. The discharge volume is not expected to be greater than 1000 kL per annum. The waste water is expected to be saline and to contain residual coal dust. It is expected to be disposed of via sewer as part of the trade waste agreement for the site.

The discharge of Trade Waste to Gippsland Water's Systems will at all times comply with Gippsland Water's Acceptance Standards as defined in Gippsland Water's Trade Waste Management Policy.

##### **Chemicals**

Only minor amounts of chemicals, such as oils and lubricants, welding flux, paints etc are expected to be stored on site. Waste chemicals will be collected by the supplier or disposed of at a registered facility. Diesel will be stored on-site in a fully self contained above ground fuel storage and delivery system (internally banded).

##### **Air Emissions**

It is anticipated that typical air emissions (refer to **Table 4**) will be below acceptable criteria. Other emissions will include coal ash and 170,000 t CO<sub>2</sub>-e from the use of 75,712 t/pa of briquettes for the drying process. Air emissions will be modelled in accordance with EPA requirements as part of the Works Approval process.

##### **Ash and Particulate Matter**

Ash from the furnaces will either be accepted back by TRUenergy for disposal in their ash pond or taken offsite by a licenced contractor for disposal at a registered facility in accordance with EPA requirements. Approximately 3,000 t/pa of ash is expected to be produced by the plant at full capacity.

Particulate matter (mainly coal dust) collected by the dust filter systems will either be disposed of with the ash or fed to the furnaces.

**What level of greenhouse gas emissions is expected to result directly from operation of the project facility?**

- Less than 50,000 tonnes of CO<sub>2</sub> equivalent per annum  
 Between 50,000 and 100,000 tonnes of CO<sub>2</sub> equivalent per annum  
 Between 100,000 and 200,000 tonnes of CO<sub>2</sub> equivalent per annum  
 More than 200,000 tonnes of CO<sub>2</sub> equivalent per annum

Please add any relevant additional information, including any identified mitigation options.

Potential greenhouse gas emissions associated with the project have been calculated using the National Greenhouse Accounts (NGA) Factors (June 2009) and ACO Factors and Methods Workbook (December 2006). The greenhouse gas (GHG) emissions for the maximum capacity of the briquette facility producing 300,000 briquettes are expected to be as follows:

- GHG emissions from briquette production = 149,506 t CO<sub>2-e</sub>
- GHG emissions from transportation briquettes by truck from Latrobe Valley to Port of Melbourne = 5,309 t CO<sub>2-e</sub>
- Total GHG emissions (briquette production + transportation) = 154,815 t CO<sub>2-e</sub>

GHG emissions and energy use will be assessed in accordance with EPA requirements as part of the Works Approval process for the proposed project.

## 17. Other environmental issues

**Are there any other environmental issues arising from the proposed project?**

- No  Yes If yes, briefly describe.

## 18. Environmental management

**What measures are currently proposed to avoid, minimise or manage the main potential adverse environmental effects? (if not already described above)**

- Siting: Please describe briefly

**Transport** - The proposed site is located adjacent to the TRUenergy-Yallourn Coal Mine minimising the transport required between the coal source and the briquette facility.

**Landscape and Land Use** - The proposed location is within a Special Use Zone under the Latrobe Planning scheme reserved for coal industrial activities and therefore will have minimal environmental impact in comparison to other coal operations in the local area.

**Native Vegetation** – The proposed site has been previously cleared of native vegetation therefore no native vegetation will be removed for the project.

- Design: Please describe briefly

The design includes the use of cyclone baghouses and electrostatic precipitators to ensure that air emissions from the dryer comply with the requirements of the SEPP (AQM). Auyin is currently evaluating the emissions control technologies from a number of suppliers, but is committed to selecting systems that are proven, robust and effective.

The design includes providing a roof over the majority of the coal storage and manufacturing areas to exclude rainfall. Runoff from roofed areas will be collected in tanks for re-use in amenities or for site washdown.

The design of the site water management system includes:

- Separation of clean and potentially contaminated stormwaters.
- Discharge of potentially contaminated waters to sewer.
- Discharge of clean stormwaters through a series of silt traps to minimise sediment loads prior to discharge to the environment through designated release points.
- Construction of a raised, landscaped bund along the northern boundary of the site to

prevent uncontrolled runoff towards the Latrobe River.

Environmental management: Please describe briefly.

Environmental Management Plans (EMPs) will be developed for the construction and operation of the briquette facility. The EMPs will, at a minimum, include management of:

- Site water and waterways
- Air quality
- Noise
- Transport
- Landscaping and vegetation.

Other: Please describe briefly

None

Add any relevant additional information.

## 19. Other activities

**Are there any other activities in the vicinity of the proposed project that have a potential for cumulative effects?**

NYD  No  Yes If yes, briefly describe.

## 20. Investigation program

### Study program

**Have any environmental studies not referred to above been conducted for the project?**

No  Yes If yes, please list here and attach if relevant.

**Has a program for future environmental studies been developed?**

No  Yes If yes, briefly describe.

Auyin propose to undertake the following studies to ensure minimal impacts on the environment are associated with the project:

- Air modelling
- Noise modelling
- Stormwater and erosion assessment
- Energy and greenhouse gas assessment
- Contaminated soils risk assessment
- Dangerous and hazardous goods assessment
- Traffic study

### Consultation program

**Has a consultation program conducted to date for the project?**

No  Yes If yes, outline the consultation activities and the stakeholder groups or organisations consulted.

As mentioned above, this project has been discussed with:

- EPA Victoria (Melbourne and Traralgon offices)
- Department of Innovation, Industry and Regional Development
- Department of Planning and Community Development

**Has a program for future consultation been developed?**

NYD  No  Yes If yes, briefly describe.

A community consultation plan for the briquette facility will be developed as part of the Works

Approval process. In addition to ongoing consultation with the groups referred to above, the plan will include consultation with the following stakeholders:

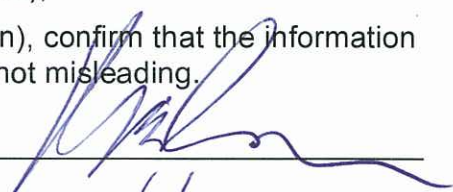
- Latrobe City Council
- Department of Sustainability and Environment
- Department of Primary Industries
- Clean Coal Victoria
- VicRoads
- Gippsland Water
- SP Ausnet
- West Gippsland Catchment Management Authority

The community consultation plan is expected to include:

- A description of the community who may be directly impacted or may directly impact the operation (communities or groups with differing interests will be identified).
- Identification of current community attitudes and expectations in relation to the project.
- Description of how and when the communication of information will be delivered to the community.
- Outline of how the community will be engaged during the development, construction and operation of the project. This is to include the method of engagement used and the frequency of occurrence and responsibility for the activity.
- Description of how the community will be able to provide feedback to the proponent and consideration of community feedback will be used.

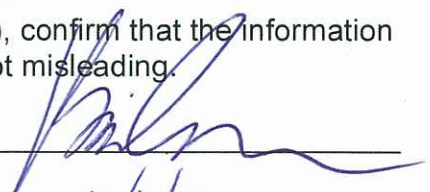
**Authorised person for proponent:**

I, MICHAEL LEIGH CRAMER (full name),  
PRINCIPAL ENVIRONMENTAL SCIENTIST (position), confirm that the information contained in this form is, to my knowledge, true and not misleading.

Signature   
Date 14/8/09

**Person who prepared this referral:**

I, MICHAEL LEIGH CRAMER (full name),  
PRINCIPAL ENVIRONMENTAL SCIENTIST (position), confirm that the information contained in this form is, to my knowledge, true and not misleading.

Signature   
Date 14/8/09

## **Attachments**

### **Tables**

Table 1: Ecological Vegetation Classes Recorded in the Site or Within 2 km of the Site

Table 2: Likelihood of Occurrence for Threatened Flora Species

Table 3: Likelihood of Occurrence for Threatened Fauna Species

Table 4: Estimated Emission Levels, based on TRUenergy Yallourn combustion data

### **Plates**

Plate 1: Former Yallourn Carpark, where facility will be located

Plate 2: TRUenergy-Yallourn W Power Station adjacent to site

Plate 3: Former Yallourn Power Station Administrative Building adjacent to site

(Source:[http://vhd.heritage.vic.gov.au/vhd/heritagevic#detail\\_places;11491](http://vhd.heritage.vic.gov.au/vhd/heritagevic#detail_places;11491))

### **Figures**

Figure F1: Location Map

Figure F2: Building Location

Figure F3: Process Diagram

Figure F4: Manufacturing Plant (Stage 1)

Figure F5: Transport Route to Melbourne

Figure F6: Transport Route to Princes Freeway

Figure F7: Vegetation Field Assessment

Figure F8: Planning Scheme Zones

Figure F9: Environmental and Heritage Overlays

### **Appendix A**

Flora and Fauna Report

## References

CSIRO (2005) Binderless Briquetting of Coal, CSIRO Energy Technology website accessed 24/07/2009 via URL: [http://www.det.csiro.au/science/lee\\_cc/briquettes.htm](http://www.det.csiro.au/science/lee_cc/briquettes.htm)

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DPI (2009) Brown Coal Research and Development, accessed 24/07/2009 via URL: <http://www.dpi.vic.gov.au/DPI/dpinenergy.nsf/LinkView/02C73866B10B9510CA2572BB000D73CAA FE5D9442E22210ACA2572BB00096717>

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## Tables

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**Table 1: Ecological Vegetation Classes Recorded in the Site or Within 2 km of the Site**

ECV #	EVC Name	Description	Bioregional Conservation Status	Pre-1750 EVC	2005 EVC	Recorded During Current Assessment
ECV 16	Lowland Forest	Eucalypt forest to 20 m tall on relatively fertile, moderately well-drained soils in areas of relatively high rainfall.	Vulnerable	✓	✓	No
ECV 18	Riparian Forest	A tall forest to 30 m tall dominated by eucalypts with sparse secondary tree layer of wattles and scattered dense patches of shrubs, ferns, grasses and herbs. Occurs along river banks and associated alluvial terraces with occasional occurrences in the heads of gullies leading into creeks and rivers.	Vulnerable	✓	✓	Not on site, but present just to north along Latrobe River
ECV 29	Damp Forest	Dominated by a tall eucalypt tree layer to 30 m tall over a medium to tall dense shrub layer of broadleaved species typical of wet forest mixed with elements from dry forest types. The ground layer includes herbs and grasses as well as a variety of moisture-dependent ferns.	Endangered	✓	✓	No
ECV 55	Plains Grassy Woodland	An open, eucalypt woodland to 15 m tall occurring on a number of geologies and soil types. Occupies poorly drained, fertile soils on flat or gently undulating plains at low elevations. The understorey consists of a few sparse shrubs over a species-rich grassy and herbaceous ground layer.	Endangered	✓	✓	No
ECV 56	Floodplain Riparian Woodland	Open eucalypt woodland to 20 m tall over a medium to tall shrub layer with a ground layer consisting of amphibious and aquatic herbs and sedges. Occurs along the banks and floodplains of the larger meandering rivers and major creeks,	Endangered	✓	✓	No
ECV 82	Riverine Escarpment Scrub	Shrubland to 10 m tall with occasional emergent eucalypts. Occurs on shallow colluvial soils along rocky cliffs and slopes associated with rivers and creeks and may extend onto alluvial terraces.	Endangered	✓	✓	No
ECV 151	Plains Grassy Forest	Open forest to 20 m tall often above a heathy shrub layer and a diverse grassy, sedgy and herbaceous ground layer. Occurs on lowland plains and old river terraces made up of gravelly sandy clays.	Vulnerable	✓	✓	No

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**Table 2: Likelihood of Occurrence for Threatened Flora Species**

Common Name	Species Name	National Conservation Status	Victorian Conservation Status	Preferred Habitat	Habitat in Study Area	Recorded within 2 km of the Study Area	Likelihood of Occurrence on the Study area
Slender Tick-trefoil	<i>Desmodium varians</i>	None	Poorly known	Occurs mainly in woodland and open forest communities of inland eastern Victoria.	No	Yes	Unlikely. Lack of suitable habitat in Study area. All previous records are north of the La Trobe River.

**Table 3: Likelihood of Occurrence for Threatened Fauna Species**

Common Name	Species Name	National Conservation Status	Victorian Conservation Status	Preferred Habitat	Habitat in Study area	Recorded within 2 km of the Study area	Likelihood of Occurrence on the Study area
Australian Grayling	<i>Prototroctes maraena</i>	Vulnerable	Vulnerable	Occur in freshwater streams and rivers. Prefer clear gravelly streams with moderate flow. Can also occur in fast-moving shoals.	No	Yes	No water bodies present in the study area. Likely to occur downstream in the La Trobe river.
River Blackfish	<i>Gadopsis marmoratus</i>	None	Data Deficient	Occur in a diverse range of streams but prefer habitats with good instream cover such as vegetation, woody debris or boulders.	No	Yes	No water bodies present in study area, however likely to occur directly north of the study area in the La Trobe river.

**Table 4: Estimated Emission Levels, based on TRUenergy Yallourn combustion data**

t/hr	NO <sub>x</sub>	SO <sub>2</sub>	CO	HF	HCl	SO <sub>3</sub>	CO <sub>2e</sub>	Moisture	Particulates
Emission	0.00400	0.00592	0.00220	0.00000	0.00039	0.00022	5.04996	4.13888	0.00205

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## Plates

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**Plate 1: Former Yallourn Carpark, where facility will be located**



**Plate 2: TRUenergy-Yallourn W Power Station adjacent to site**

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**Plate 3: Former Yallourn Power Station Administrative Building adjacent to site  
(Source: [http://vhd.heritage.vic.gov.au/vhd/heritagevic#detail\\_places;11491](http://vhd.heritage.vic.gov.au/vhd/heritagevic#detail_places;11491))**

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