Permission pathway form

Environment Protection Act 2017

Publication F1021 June 2021

About this form

Use this form to get Environment Protection Authority Victoria's (EPA) opinion about which permission pathway is most suitable for your proposed prescribed permission activity.

Completing the permission pathway process is not compulsory. It is designed to assist applicants in the preparation of a final permission application and has no application fees. It is also not a statutory decision.

The pathway outcome is based on the information submitted to us. This decision may change, however, if EPA detects discrepancies in the information provided, discovers risks that were not previously realised, or where significant stakeholder concerns are identified. EPA will inform applicants when there is a need for more information.

For some situations, it may not be necessary to complete a permission pathway form to receive a pathway outcome. Where the required permission is clear, an applicant seeking a permission opinion can do so as part of a meeting or by corresponding with EPA.

Permission pathway outcomes

Permission pathway outcomes include:

- no permission is required
- prescribed exemption applies
- application for a permission is required.

If your pathway outcome is that you need to apply for a permission, EPA will specify the type of permission required. Permission types include a development licence (either fast-track or standard), operating licence, pilot project licence, permit, registration, or an exemption from a licence or permit. No permission is required when the activity is not regulated through a prescribed permission by EPA.

How to complete this form

You need to provide both clear and sufficient information about your proposed prescribed activity.

If you're completing this form for the permission applicant, you must have the authority to make this submission on their behalf.

Further guidance on how to complete this form is provided in EPA's publication *Permissions proposal pathway guideline* (publication 1995). If you require more information, you can contact EPA by emailing contact@epa.vic.gov.au or calling 1300 372 842 (1300 EPA VIC).

A completed form and all supporting evidence should be submitted by email to permissions@epa.vic.gov.au

Please note that incomplete forms will be returned to the applicant with a request to provide further information.

Section A: Applicant details

Company or business name	Mount Alexander Bioenergy Pty Ltd		
CEO (or equivalent) name	Mick Lewin, Chair		
CEO (or equivalent) email	mick.lewin@outlook.com	CEO (or equivalent) contact number	0492 913 967
Primary contact name	Deane Belfield		

Primary contact email	deanebelfield@eco2sys.com		Primary contact number	0414617542
ABN or ACN	ABN	30 603 457 638	ACN	603 457 638
Registered office address	1/30 Templeton St, Castlemaine, VIC 3450			
Billing email address	1/30 Templeton St, Castlemaine, VIC 3450			
List the ID(s) of any current permission (for example, licence, permit, registration) or other approvals (for example, authorisation of discharge or disposal, BEPs) at this location relating to this activity.				
N/A				
If a consultant/environmental auditor has been engaged to prepare the pathway, please provide details:				
Consultant/environmental auditor name	Deane Belfield, ECO2Sys Australia P/L			
Email	deanebelfield@eco2sys.com		Contact number	0414617542

Section B: Key questions

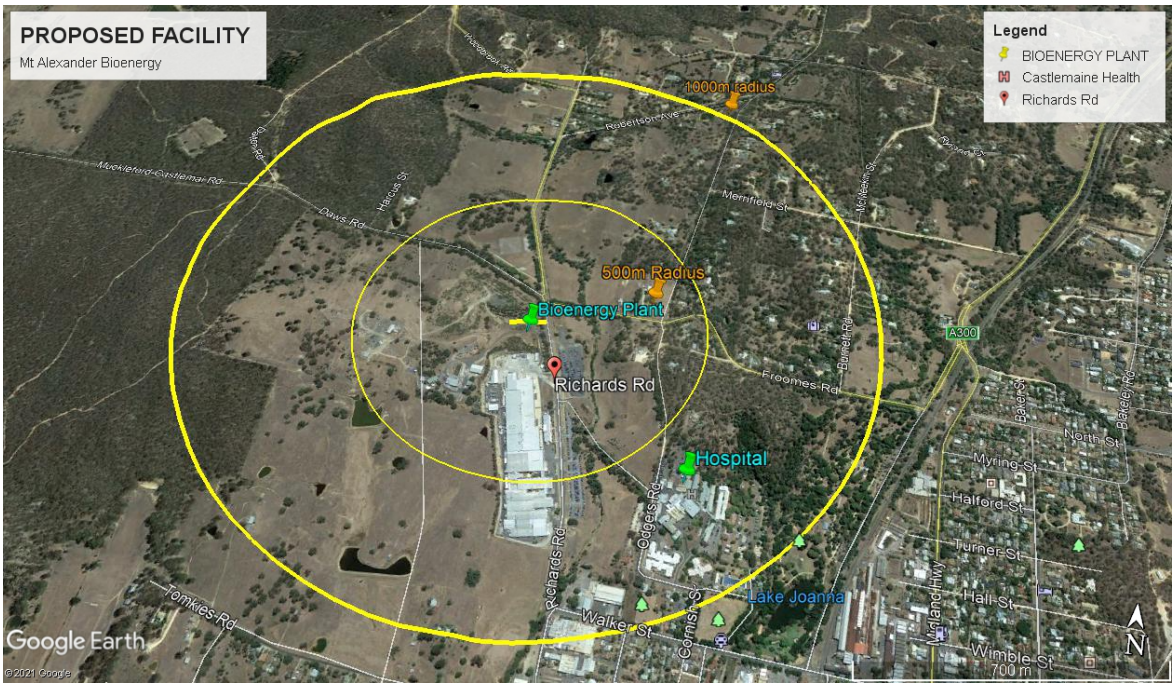
1 PROPOSED ACTIVITY	
1.1 What type of activity is proposed at the premises? Refer to Appendix 1 in EPA publication Permissions proposal pathway guideline (publication 1995) for category of prescribed activities.	
A08 – Waste to energy	
Proposal/activity name	Mount Alexander Bioenergy Project
Capital cost of proposal/activity	$20million

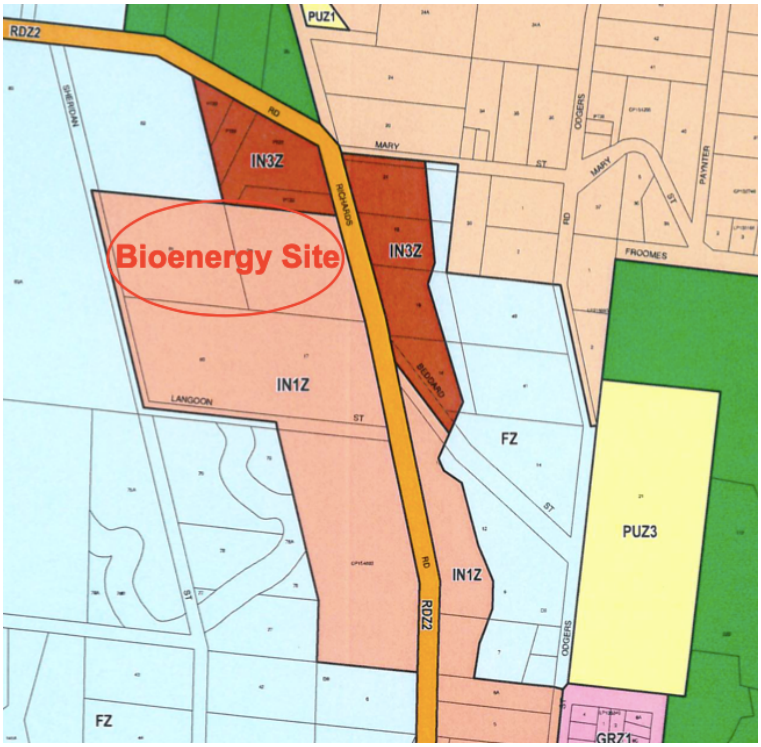
1.2 Provide a description of what your proposed activity is.	Provide a detailed description of the proposal, along with detailed supporting information such as diagrams, tables, or risk assessments, to help describe your proposal. It's important to provide sufficient information for EPA so we can understand the proposal and make an accurate pathway decision.
	The proposed bioenergy from waste facility has been designed for the Mount Alexander Sustainability Group (MASG) with support from Don KRC (DON) at the Castlemaine site location in Victoria. The facility has two complementary waste to energy technologies for processing two different type of biomass / waste streams, to replace circa 20% of Don's KRC's fossil fuel sourced power and heat use with renewable sources as well as providing a strategic solution to Don KRC's inherent waste treatment and disposal challenge. The first waste stream is up to ~23,000 tonnes per annum of commercial and industrial (wet) organic waste streams, including Don KRC's organic (meat) waste output, to be processed through anaerobic digestion. The second waste stream is organic (woody) waste biomass and will be processed through a CHP (pyrolysis-gasification) process consuming up to 14,000 tonnes per annum. The technologies have been selected through a market-based technology RFQ conducted by MASG in 2017, covering both anaerobic digestion (AD) and biomass CHP via a two stage pyrolysis-gasifier-process to produce either steam or syngas (for use in Dons CHP gas to electricity engine), as Dons can take either or both, and co-product biochar and wood vinegar. Activated biochar can serve the regional agriculture sector as a bio-fertiliser and strengthen the overall circular economy focus of the project. The anaerobic digestion facility utilises mechanical separation on the front end under an enclosed negative pressure reception hall capturing and processing any offensive odour, compliant with EPA requirements. Outputting a clean pumpable organic stream ready for a mesophilic biological anaerobic digestion process (38°C), the process breaks down the organic volatile solids in the feed sludge by feeding bacteria in the primary digester tanks. The methane forming bacteria convert the organic acids to methane gas, carbon dioxide and water, producing biogas at ~65% methane. The gas is then fed through a gas dryer and associated gas management, for removing the H_2S and providing processing through a small (200kW) onsite CHP to offset the site's parasitic electrical power and heat requirements of the plant. This CHP is a reciprocating engine for the production of electricity to offset and load follow waste to energy site's electrical requirements with the site's thermal load being met with heat from biomass plant. The generator will provide back-up emergency power and an enclosed biogas flare is included to safely vent biogas as required.

	The non-volatile solids along with the few non-biodegradable organic solids become digested sludge that is fed from the digester tanks into a digester outlet tank, ready for separating through a dewatering separator outputting the solids addition to the pyrolysis plant, the liquid fraction part will be recirculated back in to the process, with the surplus sent to sewer either directly or via Don KRC. The anaerobic digestion plant comprises of a Receival Hall, Anaerobic Digestion Process (Tank Area) and the Gas Management and Power Utilities section. The anaerobic digestion plant also requires regular monitoring and maintenance of the process and equipment including quality control of the entire biogas production process. For processing of biomass, the baseline conceptual system comprises a low pressure, pyrolysis steam biomass boiler. The pyrolysis configuration comprises of a feeding store for fuel handling, mulching and potentially drying with waste heat (if required) to feed through the feeding hopper into a biomass heater, supplying steam or syngas to Don KRC and thermal energy to the anaerobic digestion process. The system operates under low pressure pyrolysis heat plant, which would generate up to 5MWth 10Bar steam for use by Don KRC. A heat exchanger may be required to deliver heat (steam) to the specifications required by Don KR, if they opt for steam instead of syngas. System outputs include biochar (around 20 % of fuel mass) which is a saleable product for agriculture, dependent on market and quality of biochar. Additional value can be added as the biochar is blended with high quality compost and minerals to produce a bio-fertiliser. Being a community-based project, community involvement is a high priority for MASG and as such the project will draw on local expertise where it is available and seek to develop local capacity as appropriate. This includes project management, engineering, equipment providers (tanks, heat exchangers, fabricators, trades), civil works and operating personnel, both during the construction and operational phases of the project. Linked to this is a desire, consistent with circular economy principles, to keep resource flows, employment and investor capital as local as possible.
1.3 Identify if it is a fixed or mobile activity.	Fixed ☒ Mobile ☐
1.4 Provide the address(es) for the activity.	Richards Road, Castlemaine, VIC 3450

1.5 Is the proposed activity for the purpose of technology development or as a pilot project? This includes activities that relate to the research, development or testing of a new technology, equipment, plant, process or system. If these conditions apply, provide relevant information; for example, the scale, dimension, purpose and duration.	
YES ☐ (Provide details below) NO ☒	
1.6 Explain how your proposal utilises best available techniques or technologies.	The proposed activity will be using the best available techniques and technology (BATT) for both Anaerobic Digestion and biomass CHP. It will be using well proven bioenergy technology based on existing successful installations such as: A) Richgro (Biogass) AD plant at Jandakot in WA (similar to planned biodigester project at Girgarre, Vic) and B) Biomass CHP (using pyrolysis-gasification) thermal plant, similar to that produced by PyroCal, Advanced Energy Tech. or Rainbow Bee-Eater (ECHO2). The design is a zero-waste circular economy approach that provides behind the meter energy (steam, natural-biogas, and possibly electricity) to Dons Smallgoods. The BATT plant design incorporates a high degree of HSE (OHS and Environmental) awareness that results in the mitigation of otherwise potentially high risks. All technology solutions proposed have proven examples installed in other parts of Australia and even more so in USA, UK and Europe.
1.7 What emission, discharge or impact to human health or the environment is expected as a result of the proposed activity? Detail: To where (air, land, water), as what (type of substances), from where (point source, diffuse source, etc.) and quantity (per minute/hour/day, etc.).	
By design the proposed facility will not discharge any substances that may have an environmental impact (to air, land, water). This is achieved by only using clean uncontaminated organic waste/material streams and proven technology capable of meeting these outcomes. The technologies are: 1) the anaerobic digester and 2) the pyrolysis-gasifier thermal plant. There is not expected to be any emission, discharge or impact to human health or the environment as a result of the proposed MAB bioenergy plant. Bunding will contain any potential discharge to land and water. Appropriate scrubbers, filters and electrostatic precipitators will ensure emissions to air (such as NOx, CO2, particulates) are safe, recognising that a key risk mitigation strategy is incorporating a high degree of quality control on the inbound material feedstocks to both AD and thermal plants. Flaring of unwanted biogas will be provided and emissions monitoring will be included in the design. To gain an appreciation of the AD technology proposed, please refer to “Works Approval Application – Resource Resolution Pty Ltd, Girgarre (27/6/18)“	
1.8 If you currently hold a permission for the activity, will there be changes to your permission as a result of this proposal? Highlight the proposed changes and provide supporting evidence to demonstrate how any change will/will not impact the environment.	
N/A. MAB does not currently hold permissions or licences. It is a new site.	
1.9 Provide details of the background environmental condition, siting consideration, planning zone and sensitive receptors surrounding the activity. Please provide detailed maps and figures identifying each.	

The proposed facility will be located on a separate parcel of land (industrial 1 zone IN1Z) due north of the Dons Smallgoods facility in Richards Road, Castlemaine. This is currently vacant land that sits between the Smallgoods facility and a ~5ha parcel of vegetated landfill hillock (industrial 3 zone IN3Z) at the junction of Richards Road, Mary St and Dawes Road. The circled map below shows both 500m and 1km radii for sensitive land use (i.e. residential). There are 4 houses within 500m and 40 residents within 1000m. 3 to 4 have a view of the site, others are screened by the hill or trees.





1.10 Provide details of a risk assessment identifying the hazards to human health and the environment from the activity. How have these risks been eliminated or reduced so far as reasonably practicable?

Example of preliminary Risk Table attached - which will be worked through with Don Smallgoods QEHS team.
1.11 Provide details of your engagement, authorisations and permissions for the proposed activity from regulatory authorities other than EPA. Detail your engagement to date and list any authorisation or permission you require, currently hold or are seeking.
MAB has had initial meetings with the Mount Alexander Shire Council Planning Department but is yet to submit a formal application. Discussions have been held with both Don and Bio-security Australia (Dept Ag) regarding the "Approved Arrangements – for 3.2 – Imported pig meat processing Requirements – v4.0 Table 4" which outlines how waste is to be handled and disposed of. These requirements will be included in the bioenergy plant's detailed engineering design specifications. Local planning (DA) discussions have been on-going with the local Council and includes traffic management.

2 COMMUNITY AND THIRD-PARTY ENGAGEMENT

2.1 Have you identified potential impacted/interested stakeholders, community or third parties and engaged with them regarding this activity?

YES ☒ (Provide below details of what type, with whom, how and when you engaged)

NO ☐ (Provide below reasons and what engagement you plan)

As per below, the engagement with the community began several years ago, as follows:

- Presented concept at Town Hall MASG event in 2015
- Pre-feasibility Study presented to stakeholders in 2016
- Community Engagement Plan developed in 2017
- Earlier press releases before preferred site nominated, notably in Midland Express and WIN 9 News in 2017
- ABC Bendigo Radio (two occasions) 2018, 2021; MAIN FM Saltgrass Podcast 2018
- At least three presentations to Mt Alexander Shire Council between 2016 and 2020
- Feasibility Study and Business Case undertaken in 2017 presented in 2018
- While negotiating with Don Smallgoods, had to maintain confidentiality until site agreed in Q1 of 2021
- Public media event on June 4, 2021
- ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
- Meetings were held with nearest* neighbours June 3 (Zoom) and July 1 (live) i.e. * within radius 1km
- Media articles (Midland Express, Castlemaine Mail)
- First full community meeting at Town Hall took place on August 19, 2021
- Follow-up community information meeting is planned for September 21 with participation from EPA and Project Managers from several of the existing bioenergy plants within Victoria.

2.2 Describe the outcome of engagement and consultation, the response of stakeholders, any concerns raised and explain how you have resolved these concerns.
Provide EPA with evidence that stakeholders know about your proposal, including stakeholder contact information (for example, scanned attendance list with contact information), a copy of or link to engagement material, a stakeholder register (including issues raised/resolved).

- Q&A documents and Facts Sheet prepared (attached), arising from and in response to mis-understandings and mis-representation garnered by a small group of NIMBY protagonists known as CRAB (https://wearecrab.org)
- Engagement will be ongoing, throughout the project's phases and resource documents such as resource/fact sheets, presentations and comprehensive Q&A sheets are available (refer www.bioenergy.net.au)
- As the facts are presented to the boarder community there is growing support for the project, as this helps eliminate and overcomes the concerns and fears that non-informed members may have gleaned from the project opponents. The majority if not all of the Shire's Councillors are supportive of the project, as is Rotary and Castlemaine Health (hospital).
- The next proposed community meeting is a further opportunity for the community to informally hear from the EPA about the types of regulations that must be complied with in order for a bioenergy plant licence or permit to be granted, particularly in light of the updated EPA Act.
- MASG is seeking a direct one-on-one meeting with the project opponents, with an independent mediator present, so that their specific objections and concerns can be identified and that MASG will have the opportunity to work with these people to correct the mis-information, misunderstandings and hitherto anonymity of many in their CRAB group.

Apart from CRAB, we believe the community is very supportive, as evidenced by the overt support from the Shire Council. And other residents and meeting on 19/8

Section C: Supporting evidence

Ensure all commercially confidential material is marked as such in the document itself.

☐ Administrative:

- Certificate of Incorporation (Company), or
- Certificate of Registration (Business) as appropriate. ✓

☐ Plans, maps and diagrams:

- site plan ✓
- locality plan ✓
- planning zone map ✓
- map showing sensitive receptors surrounding the activity
- design drawings ✓
- block flow (BFD), process flow (PFD) and/or piping and instrument (PID) diagrams. ✓

☐ Engagement/consultation:

- evidence of engagement/consultation ✓
- stakeholder register identifying issues and concerns, method and date of engagement, names of participants, any engagement templates, materials and supporting information. ✓

Insert extra rows, as required, by clicking on the '+' button that appears on the right-hand side of the table when you select the final row.

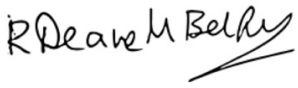
Optional supporting evidence	Commercial-in-confidence?	Relevant question number
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Section D: Declaration

Important: Applicants should be aware that it is an offence under the Act to intentionally or negligently provide incorrect or misleading information to EPA, or to conceal information.

Before you sign the declaration, ensure that:

- you have answered every question
- you have attached any required supporting documentation
- all the information you have given is true and correct to the best of your knowledge
- you have the necessary authority or permission to submit the application.

I declare to the best of my knowledge that the information provided in this form and any attachments is true and correct.			
Full Name	Deane Belfield		
Company Position	Mt Alexander Bioenergy , Project Manager		
Signature		Declared at:	Castlemaine
		Date	20/08/2021

The personal information on this form and any correspondence, notice or other document issued after processing of this information will be stored and used by EPA for the purpose of administering the *Environment Protection Act 2017* and the Environment Protection Regulations 2020. You may access this information by contacting the EPA Privacy Information Officer. This information may be disclosed to another Government organisation, tribunal or court, where required for administering or enforcing the above Act and Regulations or any other relevant laws.

You have the right to access this information by contacting the Environment Protection Authority at 200 Victoria Street, Carlton VIC 3053, or by email contact@epa.vic.gov.au or telephone 1300 372 842 (1300 EPA VIC).



For languages other than English, please call 131 450.
Visit epa.vic.gov.au/language-help for next steps.
If you need assistance because of a hearing or speech impairment, please visit relayservice.gov.au