

TOPIC	RESPONSE
COMPANY	<p>Prospect Hill International is an Australian private company located in Melbourne, established in 2017 specifically for the development of the proposed Prospect Hill EfW Project in Lara.</p> <p>Prospect Hill is working with leading design company, Jiangsu Power Design Institute (JSPDI), to provide technical and design services for the proposed plant. JSPDI brings considerable EfW project development experience, having worked with numerous large EfW technology suppliers and project developers, including Everbright International, on more than 100 EfW projects worldwide.</p> <p>Locally, Prospect Hill has partnered with Jacobs, a technical professional services consultancy, to provide engineering support and undertake the environmental and social assessments required to support the regulatory approvals process for this Project.</p> <p>Prospect Hill International's three directors are:</p> <p>Honourable Ken Smith, AM. Mr Smith has had an outstanding political career in the Victorian Parliament having served as the Member for South Eastern Province from 1988-2002 and as the Member for Bass from 2002-2014 and as Speaker of the Legislative Assembly from 2010-2014. During his time in Parliament Mr Smith served as the Shadow Minister for Local Government, Gaming and Fisheries. He also served as Chairman of Government and Parliamentary Committees. Mr Smith brings to the Project his vast experience in working with State and Local Government. He is passionate about finding a solution to the waste crisis in Australia and is driven to bring Investment and jobs to Victoria and the Geelong region through this excellent proposal.</p> <p>Mr. Jian Qi. Mr Qi is a chemical engineer and petrochemical expert who gained decades of experience in large scale engineering and industrial projects while working with Petrochina, Shell Global Solutions, and GE Oil & Gas. He brings vast experience in project development, including feasibility, design, construction and commissioning phases for heavy industrial projects. Mr Qi's vision is to bring the best energy from waste technology from around the world to Victoria.</p> <p>Mr. Wendong Huang. Mr Huang has had a career in the mining and construction development industry which has provided him with a rich experience in engineering and project development. In recent years, he has been involved in environment protection in Tasmania and Victoria and is passionate about finding a sustainable waste solution for Victoria.</p>
LOCATION	<p>There are many factors that influence the selection of a suitable site for an energy from waste plant. During the feasibility stage of this project we assessed several potential project sites using the following key criteria: zoning of the land, road access, availability of services, site readiness and potential social and environmental impacts. The selected project site in Lara scored well on all criteria.</p> <p>The key factors that make the Lara site suitable for this project are:</p>

- The site is located within the Geelong Ring Road Employment Precinct (GREP). The GREP is Geelong’s largest designated industrial development precinct and includes over 500 hectares of land zoned for heavy industrial purposes.
- The site is located within an industrial planning zone (Industrial 2 Zone or “IN2Z”) which is designated for large industrial purposes like an energy from waste plant. Under the planning scheme, one of the purposes of the IN2Z is “*To provide for manufacturing industry, the storage and distribution of goods and associated facilities*”.
- Geelong and the surrounding region have suffered from the closure of large manufacturing plants over recent years. Prospect Hill International sees this project as an opportunity to bring back some of those skilled jobs to the area and hopes to employ people who may have been impacted by skilled job losses in recent years.
- The site is located close to potential waste sources, including Geelong, the Surf Coast and Bellarine as well as the growing region of western Melbourne.
- The site has good transport links, being close to the Princes Freeway and Geelong Bypass.
- Trucks that transport waste to the plant will be able to access the site through roads in the industrial zone and not have to travel on residential streets.

Experience with these types of plants around the world shows that they have very low amenity impacts to surrounding communities. Modern energy from waste plants include sophisticated measures to minimise impacts on surrounding communities, like noise reduction and sound proofing design elements, state-of-the-art air emissions controls and advanced odour controls.

There are many locations around the world, including London, Paris, Copenhagen and Zurich, where energy from waste plants are located within tens or hundreds of metres of residents. Our fact sheet shows one example of an energy from waste plant in London that is within metres of many thousands of residents. These examples show that energy from waste plants can co-exist with residential areas with minimal impacts.

COMMUNITY

This project will contribute to the community by creating hundreds of jobs during the construction of the plant and around 30 ongoing roles during its operation. It is anticipated that people for these jobs will be recruited from the Lara/Geelong area.

Experience with energy from waste plants around the world shows that they have very low amenity impacts on surrounding communities. Modern energy from waste plants like our proposed plant include sophisticated noise reduction and sound proofing design elements, state-of-the-art air emissions controls and advanced odour controls.

Prospect Hill International’s proposed plant will provide improved energy security for all Victorians by generating approximately 35MW of baseload electricity to the grid, which is enough to power up to 50,000 homes. This will have the benefit of increasing electricity capacity for Victoria and put downward pressure on electricity prices. As the electricity from the plant will be fed into the national electricity grid as baseload power, we don’t have direct influence on the distribution of the electricity. This means that unfortunately it is outside of our control to offer free electricity to locals.

WASTE

Prospect Hill International's energy from waste plant will use waste made up of household rubbish and waste from commercial buildings such as schools, shopping centres and offices.

The expected amount of waste to be treated at the proposed plant is 300,000 – 400,000 tonnes per year. We anticipate that the waste will come from a number of Victorian councils, with a preference for waste from the Geelong, Surf Coast and Bellarine areas as well as western Melbourne. The exact councils will be confirmed following tender processes.

We expect waste deliveries on the following days and times (though there may be occasions when waste deliveries are outside of these times):

- Monday – Friday: 7:00am – 7:00pm
- Saturday: 7:00am – 1:00pm.

Waste deliveries will either be made from waste transfer facilities or from nearby councils. The plant is designed to receive B-doubles, semi-trailer bulk haul vehicles, A-doubles and refuse collection vehicles (standard rubbish trucks). We anticipate that most waste will be delivered by B-doubles with an average capacity of 39 tonnes.

The waste delivery protocol will involve a range of measures to assess the quality and type of waste that is delivered, including:

- Number plate recognition software to track incoming and outgoing vehicles. The location of waste origin and vehicle will be recorded for auditing purposes and to identify trends (if any) in the disposal of unsuitable wastes
- Random waste delivery audits for quality control
- All hazardous wastes will be stored correctly while onsite
- Before entering the tipping hall, waste will be visually inspected by staff for any obvious contamination, problems or hazards. If a problem or hazard is suspected, the vehicle will move to an inspection area. If the waste is unsuitable but not hazardous (e.g. oversized waste like fridges) it will be loaded into a skip, and if hazardous (e.g. batteries) it will be loaded into a hazardous waste storage container. Waste will be inspected again as it is tipped into the bunker and removed to a separate area if necessary

Even after this process, we know that small amounts of harmful materials, like batteries, can be found in household waste. The plant's design takes this into account, and the high temperature of the boiler and the emissions control equipment mean these materials can be processed and harmful substances removed.

Finally, around one third of the plant is taken up by emissions control equipment like filters and reactors. Sophisticated control systems set the emissions levels below strict European and Victorian emissions limits and can adjust automatically if pollutant levels from the boiler increase toward licence limits.

<p>BY-PRODUCT</p>	<p>Energy from waste plants are very effective at diverting large amounts of waste from landfill by processing it in the plant boiler to produce heat and electricity.</p> <p>Solid residue (called bottom ash and air pollution control residues (APCr)) are generated by this process and will be managed as part of the plant operations.</p> <p>Metals will be separated from the bottom ash and recycled or reused. Initially, the remaining bottom ash will be collected in bins and APCr in silos for disposal at suitably licensed landfills.</p> <p>After 1-2 years of operation, we aim to have the bottom ash and APCr reused. In many European and international energy from waste plants, the ash residues are reused leading to 100% diversion of waste from landfill. Bottom ash is typically reused as an ingredient for road base, while APCr can be reused in bricks or ceramics.</p> <p>To reuse bottom ash and APCr, we will regularly test and characterise it in accordance with Environment Protection Authority (EPA) Victoria requirements to ensure the quantity of pollutants in the ash is below the guideline limits. We'll also work with EPA and the construction industry to develop a market in construction materials created from bottom ash and APCr.</p>
<p>GREENHOUSE</p>	<p>While energy from waste plants generate carbon dioxide (CO₂) like many thermal plants that produce energy, the benefits of diverting waste from landfill far outweigh the impact of these emissions. Reducing the amount of waste destined for landfill means reducing decomposing waste in landfills, which leads to far less methane and carbon dioxide releasing to the atmosphere and less toxic chemicals leaking into the ground and contaminating water and soil.</p> <p>We completed a greenhouse gas assessment in accordance with Environment Protection Authority Victoria and National Greenhouse Accounts guidance. This found that the Prospect Hill International's energy from waste plant will result in a net reduction of Victoria's greenhouse gas emissions of over 300,000 tonnes CO_{2-e} each year.</p>
<p>NOISE</p>	<p>Modern energy from waste plants include sophisticated noise reduction and sound proofing design elements to minimise noise. The appropriate management of noise levels is also a key element of regulatory approvals and will be assessed as part of these processes.</p> <p>While the noise assessment will be made available to the local community via our website when completed, we can confirm that the initial assessment indicates that the noise levels from the plant will meet Environment Protection Authority Victoria limits.</p>

AIR QUALITY – MODELLING	<p>We are completing detailed air pollutant dispersion modelling in accordance with Victorian policy and Environment Protection Authority (EPA) Victoria air quality assessment guidelines. In accordance with policy, the assessment includes a detailed analysis of existing meteorological conditions and prevailing winds. Five years of hourly meteorological data has been used as input to the modelling.</p> <p>We used meteorological data from the nearby Bureau of Meteorology weather station at Avalon Airport and the EPA's monitoring station at Geelong South for the air dispersion modelling for the plant.</p> <p>The current air dispersion modelling results indicate there would be negligible air quality effects from the operation of the plant at distances as far away from the site as Werribee and Newtown.</p>
AIR QUALITY – EMISSION LIMITS	<p>Energy from waste (EfW) plants like the one being proposed by Prospect Hill International have been operating in Europe and other parts of the world for decades. This enables us to learn from those experiences and design state of the art technology to minimise emissions from the proposed plant.</p> <p>We used detailed stack emissions data and analysis from many similar EfW plants in Europe as input to the design of this plant and to guide the air quality impact assessment. As a precautionary measure, worst case emissions have been used for the assessment for this project – this is where emissions have been modelled at the highest end of theoretical operations. However, the plant is being designed to produce lower emissions than what has been modelled.</p> <p>As well as complying with Environment Protection Authority (EPA) Victoria limits, our proposed plant will also comply with European Union emissions limits (EU IED – Industrial Emissions Directive). These are stricter, more extensive and mean that the EPA and the public can compare our proposed plant with operating plants around the world.</p> <p>In the event of plant malfunction, the plant would automatically shut down and there would be no release of toxic emissions to the environment. We are also completing a health impact assessment to determine the risk of the emissions from the proposed plant, which includes emissions to atmosphere and deposition (fallout).</p> <p>The substances modelled in the air quality assessment and monitored by EPA include:</p> <ul style="list-style-type: none"> ▪ carbon monoxide ▪ oxides of nitrogen, nitrogen dioxide ▪ sulfur dioxide ▪ particles as 'PM10' and 'PM2.5' ▪ hydrogen fluoride ▪ hydrogen chloride ▪ volatile organic compounds

	<ul style="list-style-type: none"> ▪ heavy metals (including mercury, cadmium, chromium and lead) ▪ dioxins and furans <p>The air quality impact assessment indicates that all emissions will be below EPA and EU limits. We will share this assessment when completed, which will also detail model results for predicted ground level concentrations for the above pollutants and provide comparisons with EPA's design criteria.</p>
<p>AIR QUALITY – EMISSION CONTROL</p>	<p>We are committed to managing emissions from our energy from waste plant to reduce potential impacts to the community. The air pollution control system will cover approximately one third of the plant's footprint and accounts for a large proportion of the plant's construction and operational costs.</p> <p>The project is in the early planning and design phase, with the design of the air pollution control system currently being worked through. The system will include bag filters, chemical addition (e.g. bicarbonate, activated carbon or lime) and reactors to treat the emissions prior to being exhausted from the chimney (or stack). When these details are finalised, Prospect Hill International will be happy to share the details with the local community.</p> <p>The important aspect to note is that the air pollution control system will be designed so that the stack emissions comply with the European Union emissions limits (EU IED – Industrial Emissions Directive) and Environment Protection Authority Victoria limits.</p> <p>As with the operation of all industrial plants, there will be normal wear and tear over time which will be monitored. The air pollution control system will be fitted with a continuous emissions monitoring system (CEMS) which will monitor the performance of the control system and the pollutants emitted from the plant. This system will identify reductions in performance and alert the plant of any issues.</p> <p>Regular calibration checks on equipment and national association of testing authorities (NATA) accredited tests will also occur on the CEMS, and an operation and maintenance program will provide the framework required to undertake regular maintenance on the plant.</p>
<p>AIR QUALITY – MONITORING</p>	<p>Continuous emissions monitoring and other monitoring techniques will be used for monitoring concentrations of substances in the chimney (or stack). These will be regulated using the relevant European Union emissions limits (EU IED – Industrial Emissions Directive) and Environment Protection Authority (EPA) Victoria emissions limits.</p> <p>The plant will operate using control systems that continuously measure and monitor plant parameters, such as temperature, pressure and emissions concentrations. All of these parameters will be managed to levels (or 'set points') that ensure compliance with the EPA and EU IED limits – in fact the levels will be set below the limit values. If the levels start to rise, the plant can automatically (and manually) adjust the emission controls to revert the levels back to the set points. This can be done by the addition of chemicals (e.g. bicarbonate, activated carbon or lime) to the air pollution controls system.</p> <p>When the plant is operational, Prospect Hill International will make the emissions data available to the public.</p>

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ODOUR	<p>There will be no odour released from the plant during normal energy from waste operations because the tipping hall and waste bunker will be maintained under negative air pressure – that is, air is drawn into the building from outside and used in the boiler.</p> <p>The trucks that transport waste to the plant will use sealed containers so that there will not be odour or other leakage from these either.</p>
HEALTH	<p>Prospect Hill understands that potential health impacts are a concern for the local community. Accordingly, we are conducting a health impact assessment to determine the potential health impacts of the proposed project on the health of the surrounding local and regional community. This will include assessment of potential air quality, odour, noise and traffic impacts. Additionally, the health impact assessment will also include assessment of acute, chronic and carcinogenic risks to the community.</p>
REGULATORY	<p>The project is in the early planning and design phase and will go through a rigorous planning and environmental approval process over the next 18 months. We have had preliminary discussions with relevant agencies in recent months and we will continue this as the project progresses. We hope to lodge an application for a council planning permit and Environment Protection Authority Works Approval by August/September 2020.</p>
OPERATION	<p>The expected lifespan of the plant is 25 years. After that time, the plant can be refurbished to extend its lifespan or decommissioned. Any refurbishment or decommissioning will be conducted in accordance with the relevant legislative requirements of the time.</p> <p>The energy from waste plant will operate 24 hours per day, 7 days a week, except for maintenance outages.</p> <p>Prospect Hill International has no plans for future expansion. If there is a need to increase the plant’s capacity in the future, proposed changes to the plant would go through the legislative approval requirements of that time.</p> <p>The plant is anticipated to start construction in 2022 and to be in operation in 2025.</p>
GRID CONNECTION	<p>A connection to the electricity grid will be required for this project we are currently investigating connection options and routes. There are numerous power lines near the site which we are investigating for suitability for connection.</p>

<p>TECHNOLOGY</p>	<p>The project plans to use conventional, moving-grate, boiler technology, with a steam boiler and steam turbine to create energy. This technology is well established and proven and is used widely in energy from waste plants around the world. The technology does not involve gasification of the waste.</p> <p>Waste will be put onto a moving grate, where the energy in the waste will be converted into heat via a combustion process. This heat is then used to generate the steam needed to drive the turbine.</p> <p>The design of the furnace will comply with Environment Protection Authority Victoria requirements as well as the European Union Industrial Emission Directive (EU IED). A key element of this directive is that combustion air must reach a minimum of 850 degrees Celsius for at least two seconds to destroy pollutants, particularly dioxins and furans.</p> <p>The estimated net electrical power output of the plant is ~35 MW. This equates to a rating of approximately 39 mega volt amp (MVA). While we know that the plant will connect into nearby electrical infrastructure, we are investigating the voltage size and location of the electrical connection.</p> <p>At this stage the plant is proposed to only produce electricity. The plant will not be supplying any process steam to industrial users as presently there is limited opportunity to do so within practical steam transmission distances of the site.</p> <p>Natural gas will be used when starting up the plant after an outage or shutdown and occasionally to provide combustion stability during operation.</p>
<p>TRAFFIC</p>	<p>We are currently completing a traffic impact assessment for the project. The assessment assumes around 70 waste delivery trips a day to the site during operations.</p> <p>The key transport routes from Melbourne to the site are anticipated to be:</p> <ul style="list-style-type: none"> ▪ Princes Freeway, Geelong CBD exit, Broderick Rd, Production Way ▪ Princes Freeway, Geelong Ring Rd, Bacchus Marsh Rd, Heales Rd, Broderick Rd, Production Way <p>From the Geelong direction the transport route is anticipated to be:</p> <ul style="list-style-type: none"> ▪ Princes Highway/La Trobe Terrace, Bacchus Marsh Rd, Heales Rd, Broderick Rd, Production Way
<p>VISUAL</p>	<p>The heights of the plant buildings are 40-50m and the chimney (or stack) is 80m.</p> <p>Given that the project is located within the Geelong Ring Road Employment Precinct (GREP) and the Industrial 2 Zone, this type of project is well suited to the selected site.</p> <p>We are also completing a landscape and visual impact assessment, looking at the sensitivity of the project to the surrounding landscape.</p>

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WATER	<p>We anticipate that the plant will use approximately 2.5 megalitres of water a day for operation. Water will be supplied by Barwon Water via a potable main pipeline.</p> <p>The main wastewater source for the plant will be the cooling tower blowdown. This water will be directed to a wastewater holding pond to cool before being discharged to the sewer under a trade waste agreement. Stormwater on site will be collected and used for the plant or discharged to the council stormwater system via a stormwater detention pond in the northwest corner of the site.</p>
COMMERCIAL	<p>Prospect Hill International’s energy from waste plant is proposed to operate within the environmental, social and economic policy settings defined by all levels of government. The project will co-exist with the Recovered Energy Australia project at Laverton North and any other projects that may be proposed in and around Melbourne.</p> <p>Under the Victorian Government’s figures for current generation of waste and the government’s future projections, there will be a significant amount of residual waste generated in the coming years. We see this project providing a societal benefit by diverting this residual waste from landfill and contributing to the improvement of Victoria’s environment.</p>
CONSULTATION	<p>Prospect Hill International is committed to engaging with the community by answering your questions and getting your feedback about the project throughout its development.</p> <p>While we haven’t been able to conduct face-to-face community engagement activities as planned due to COVID-19 restrictions, we are engaging with the community via our online sessions, phone calls and responses to online enquires. We hope to hold face-to-face consultation in the future with the Lara community once Victorian Government restrictions are lifted and it is safe to do so.</p> <p>The online information session on Tuesday 28 July was scheduled for 7.30pm to allow for the maximum number of people to be able to attend. We are following up with phone calls for people who have contacted us to say they could not connect or were not able to attend.</p> <p>The introductory fact sheet and letter were distributed via Australia Post to a distribution zone based on property proximity to the project site, including all properties (residential and commercial) in the area bounded by Elcho Road, Patullos Road, Forest Road South, the Princes Freeway and Bacchus Marsh Road. This area included over 1200 residences and businesses.</p> <p>If you have any questions or queries, please do not hesitate to contact the Prospect Hill team on 1300 060 008, info@prospecthill.com.au or the contact form on our website.</p>