

**NEW ENERGY CORPORATION PTY LTD**

ABN: 16 139 310 053

Suite 1, 12 Parliament Place, West Perth, WA 6005  
PO Box 1036, West Perth, WA 6872

**T** +61 8 9226 0722 **F** +61 8 9481 8023

[www.newenergycorp.com.au](http://www.newenergycorp.com.au)



27 January 2017

Ms Helen Butterworth  
Office of the EPA  
Senior Environmental Officer  
Mining and Industrial Branch - South

**Referral of Revised Proposal - East Rockingham – Waste to Energy Facility (EPA Assessment 1513, Ministerial Statement 994)**

Dear Helen,

Further to our meeting with you and Richard Sutherland on 21 December 2016, please find below a brief summary of the revised basis for our proposal for the East Rockingham Waste to Energy Facility together with a completed referral form.

As discussed at the meeting, New Energy is seeking environmental approval for the revised proposal and wishes to pursue the simplest and quickest possible approach to achieving approval while ensuring compliance with EPA policy and practice and ensuring the community is appropriately consulted.

Please contact me directly with any questions regarding the information we have provided and we look forward to discussing this with you and the EPA Chairman as discussed.

Yours sincerely,

Jason Pugh  
CEO



## **East Rockingham – Waste to Energy Facility (EPA Assessment 1513, Ministerial Statement 994) Proposed Revision**

### **Purpose**

This document summarises the nature of changes proposed by New Energy Corporation (NEC) to its approved Waste to Energy Facility in East Rockingham and the reasons the changes are required.

New Energy wishes to gain approval for the revised project in the shortest possible time.

### **Reasons for the Change**

Since obtaining final environmental approval for the facility, New Energy has completed the following tasks:

- Appointment of an EPC contractor
- Completion of a Front End Engineering and Design Study
- Lodgement of a Tender to secure the rights to 150,000 tpa of waste from the Rivers regional Council
- Discussions with numerous other suppliers of waste including several local governments and Government authority
- Protracted negotiations with significant power users to secure long term power contractors
- Negotiations with a number of debt and equity finance providers

It has become clear to NEC that there is sufficient uncertainty in regard to the ability of the Entech technology to reliably treat MSW and produce power at the proposed scale that NEC is highly unlikely to secure contracts for sufficient waste to achieve financial closure for the facility.

NEC is also aware that several local and regional councils will seek tenders for processing of the waste under their control over the next 18-24 months and if NEC is not in a position to offer a credible tender, then it will have missed the opportunity to secure sufficient waste to underpin the project. The Councils are demanding that tenderers offer proven technologies for waste to energy and that means tenderers must offer best practice grate combustion technologies.



As a result NEC determined that it was necessary to revise the project design to utilise a proven grate based incineration technology in order to be able to compete effectively with other players in the market.

NEC has undertaken a comprehensive review of the available grate incineration technologies to identify technologies that represented the smallest possible departure in design philosophy from the Entech gasification system while also having a large installed base of facilities handling municipal waste.

NEC finally selected the HZI technology because of the following factors:

1. HZI was highlighted in the EPA Section 16 advice as “State of the Art Technology”. The technology was highlighted as one of the case studies in the WSP Report dated January 2013. NEC reviewed this document when considering potential technology providers worldwide.
2. HZI has a large installed base of facilities of similar or larger scale successfully handling Municipal Waste (leading project developer in Europe). The reference facilities also include very recent installations to ensure the technology is World’s Best Practice.
3. The HZI technology has some innovative features which mean that it has a similar performance envelop to the Entech gasifier. Key to this is HZI’s LEAP technology which operates the primary grate at sub-stoichiometric conditions in terms of air feed so that the conditions in the primary combustion areas are not dissimilar to that in a gasifier. As a result, a relatively high calorific value syngas is released from the bed which is subsequently burnt high in the incinerator chamber. This approach is quite similar to the Entech technology, although in the case of the Entech gasifier the syngas is burnt in excess air in a separate syngas burner chamber.

The end result is a similar final gas volume with similar characteristics in terms of temperature which is presented to a boiler which is specifically designed for Waste to Energy purposes to achieve the rapid temperature quench that minimises *di novo* synthesis of dioxins.

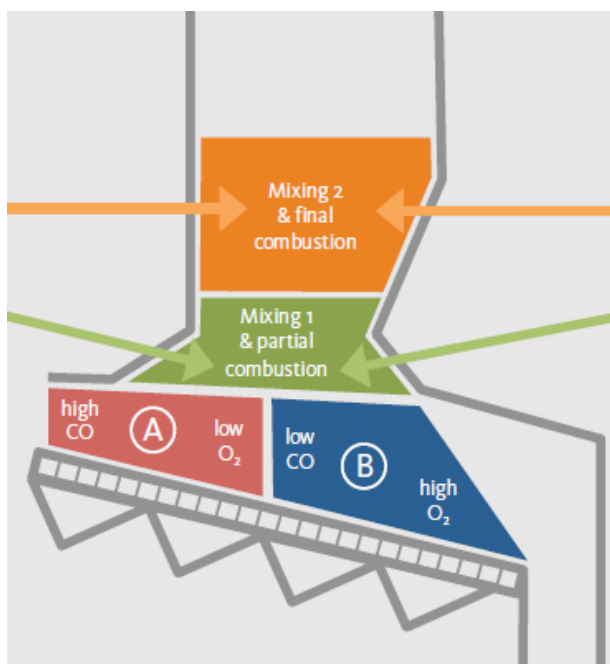
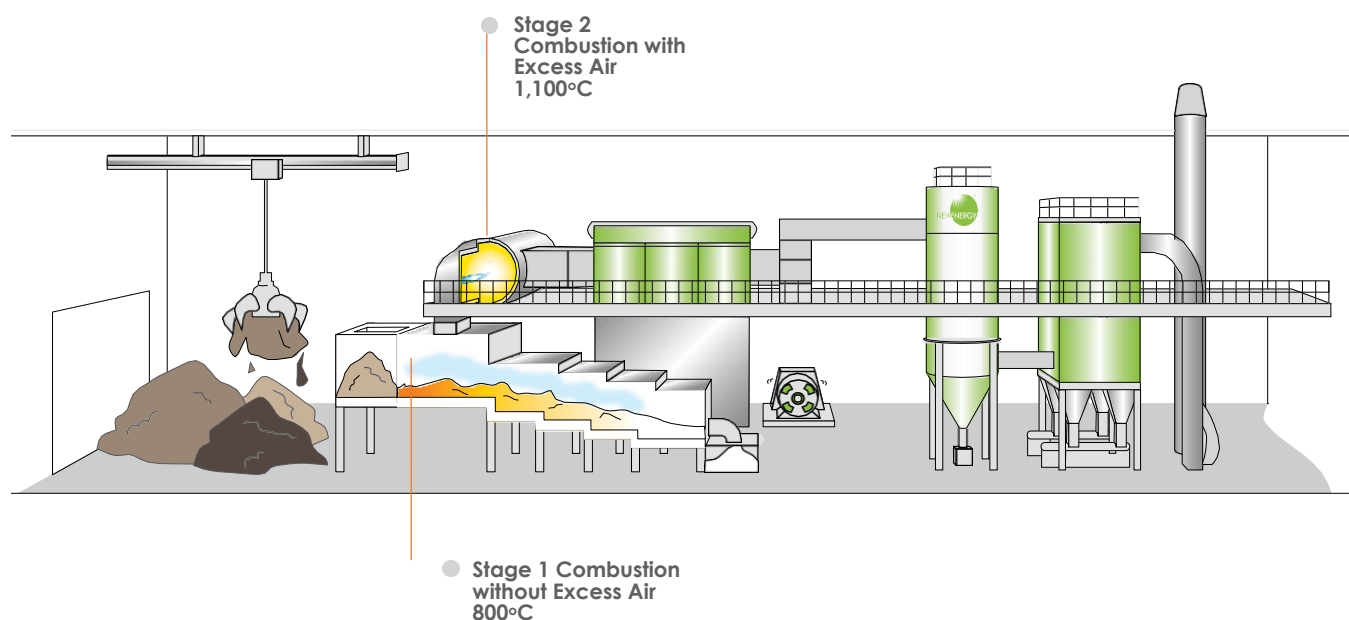


Plate 1: The HZI Low Excess Air Process



It's important to note that the final stage combustions from both processes occur at a temperature of around 1,000°C. This means that both processes will effectively destroy dioxins and other air toxics produced during the combustion process.

While the HZI technology does offer a reduction in turbulence in the area of the grate, there is still a slight increased loading of particulates in the gas stream presented to the boiler and scrubbing system when compared to the Entech system and as result the scrubbing system for the HZI system has enhanced capacity to ensure that the final air quality emitted from the stack comfortably meets the WID emission criteria.

4. A further advantage is that HZI will act as EPC contractor and operator for the facility as well as supplying all the key equipment for the facility. This is particularly pertinent as the Project moves to part V Works approval and the emphasis the EPA has placed on that process.

#### **Comparison of Key Features of the Revised Proposal with the Current Approval**

**TABLE 1 : KEY CHARACTERISTICS TABLE**

ELEMENT	DESCRIPTION	NEW DESCRIPTION	COMMENT
<b>GENERAL</b>			
Proponent	New Energy Corporation Pty Ltd 12 Parliament Place West Perth WA 6005	Unchanged	Unchanged
Proposal Description	Construction and operation of a waste to energy and materials recovery facility	Construction and operation of a waste to energy facility with C&I/C&D MRF	Materials Recovery Facility for MSW removed from the Proposal Description
Project Location	1 Office Road, East Rockingham	Unchanged	Unchanged
Gasifier/Incinerator Thermal Capacity <sup>1</sup>	72 MW Notional	101.8 MW	Increased as a result of increased waste feed capacity.
Generation Capacity	18.5 MW An estimated 16 MW fed into the SWIS	30.8 MW An estimated 27.7 MW fed into the SWIS	The change to HZI BAT grate combustion system provides better energy efficiency than the original proposal. This is achieved by advances in boiler and plant operating systems.

ELEMENT	DESCRIPTION	NEW DESCRIPTION	COMMENT
Construction Period	Approximately 12 months	Approximately 30 Months	The construction period set in the proposal as described in the PER was an estimate developed before the Front End Engineering and Design (FEED) had been completed. Following completion of the FEED, construction time for the project was revised by the appointed EPC Contractor to 18 months. This is consistent with the expected time of construction for the HZI moving grate combustor.
Life of Plant	Notionally 25 years	Unchanged	Unchanged
<b>FOOTPRINT</b>			
Native Vegetation Clearing	10ha	Unchanged	Unchanged
<b>INPUTS</b>			
Power	2.5 MW parasitic load	3.7 MW parasitic load	Due to larger plant capacity.
Water	Approximately 100,000 kilolitres (kL)/annum from scheme water	Notionally Unchanged	No significant change is expected but this will be confirmed during the detailed design phase.
Waste Throughput	225,000 tpa nominal to be received on-site	300,000 tpa nominal to be received on-site	Larger capacity plant in response to expected market demand.
<b>FEEDSTOCK WASTE SPECIFICATIONS<sup>1</sup></b>			
Waste Reveal for Gasification <sup>2</sup>	Nominally 225,000 tpa of MSW, residuals from processed C&I, C&D waste. Residuals from Mechanical Biological Treatment Material	300,000 tpa of MSW, residuals from processed C&I, C&D waste. Residuals from Mechanical Biological Treatment Material	Largely unchanged except for the addition of dewatered biosolids which are available from the adjacent Water Corporation wastewater

<sup>1</sup> Facility capacity is determined by the notional thermal capacity of the gasifiers.

<sup>2</sup> Waste volumes are notional and will vary according to the actual calorific value of waste being processed.

ELEMENT	DESCRIPTION	NEW DESCRIPTION	COMMENT
	Recycling Facilities.	Recycling Facilities. Dewatered biosolids and other high calorific value organic sludges	treatment plant and the option of accepting other organic rich sludges such as tank bottoms from oil refineries.  New Energy will seek to include a mechanism in the revised proposal to allow the addition of other comparable waste types via approvals under the Part V licence.
Waste Disposal – off-site, recycling or re-use <sup>2</sup>	Approximately 94,000 tpa	Approximately 30,000 tpa	Bottom ash will be recycled using proven HZI processes.
<b>PROCESS WASTES</b>			
Bottom Ash	Estimated at 3-10% of waste input to gasifier. Wastes to be collected and disposed to landfill	Estimated at 20% of waste input to incinerator. To be conditioned for reuse as aggregate and road base. HZI currently do this and many operating European facilities.	The % of bottom ash has increased primarily as a function of eliminating the Materials Recovery Facility. The MRF also targeted inert products such as sand, bricks, glass and fines. Both technologies produce an ash with less than 3% carbon (LOI) so it is not accurate to say one is more efficient than the other.
Scrubbing system residues	Estimated as < 1% of waste input. Wastes to be collected and disposed to landfill	Estimated as 4.2% of waste input. Wastes to be collected and disposed to landfill	The % increase in scrubbing system residues comes from an increase in load on the air quality control system.
Wastewater	<ul style="list-style-type: none"> <li>Estimated 2.5 kL/day of wash down water</li> <li>5KL/day of water from the Water Treatment Plant.</li> <li>Boiler feed water circuit blow down to be</li> </ul>	Essentially Unchanged	Unchanged

ELEMENT	DESCRIPTION	NEW DESCRIPTION	COMMENT
	<p>recycled.</p> <ul style="list-style-type: none"> <li>The final disposal option will be determined at Works Approval Stage from following options: <ul style="list-style-type: none"> <li>Off-site disposal via reticulated sewer;</li> <li>Evaporation through the gasifier; or</li> <li>Thermal evaporation using waste heat from the gasifier.</li> </ul> </li> </ul>		
Sewerage / grey water	Disposal via reticulated sewer.	Unchanged	Unchanged
<b>DESIGN SPECIFICATIONS</b>		Unchanged	Unchanged
Scrubbing System	Dry reagent and adsorbent injection (DRI) into a DRI reactor followed by a compartmentalised pulse jet fabric filter baghouse filtration (FFB).	Unchanged with the exception of the addition of SNRC technology for improved NO <sub>x</sub> performance.	The scrubbing system and best practice combustion control will result in excellent emission results which will be very similar to those from the project when based on the Entech gasifier and fully compliant with the requirements of the WID Directive. The ambient concentrations due to these emissions will be modelled and we are confident they will show that the air emissions from the revised proposal comply with relevant standards, be similar to those presented in the PER and will not contribute to a

ELEMENT	DESCRIPTION	NEW DESCRIPTION	COMMENT
			detrimental effect on the environmental in the Kwinana airshed.

### ***Environmental Factors for both the Original and Modified Proposal***

#### **Flora and Vegetation:**

Potential impacts include:

- Direct loss of 10ha of native vegetation;
- Indirect impacts to native vegetation associated with: Introduction and spread of weed species
- Fire; and
- Spread of windblown rubbish.

#### **Fauna:**

Potential impacts include:

- Direct loss of 10ha of native vegetation which may provide habitat for a range of species.
- Direct injury or loss of fauna (particularly sedentary species) during site clearing.
- Potential attraction of feral animals and pests.

#### **Surface and Groundwater:**

Potential impacts include:

- Contamination of surface water or groundwater due to spills on site, drainage from waste storage or the inappropriate management of wastewater.
- Impacts on groundwater levels.
- Stormwater will be generated via the construction of impervious surfaces.
- Promotion of mosquito breeding in water holding infrastructure.

#### **Noise:**

Potential Impacts

- There are numerous adjacent industrial, light industrial and commercial premises within 1km, which could potentially be impacted by noise.
- The nearest residential area is more than 2.5km from the site.
- Cumulative impacts arising from the plant in conjunction with other noise emitters could impact sensitive receptors.
- Modelled noise emissions indicate that the facility will not impact the nearest sensitive receptor. Noise is therefore not likely to be a significant environmental factor.
- The provision of appropriate zoning and reservation in and around the RIZ will mitigate risks associated with urban encroachment.

### **Air Quality:**

#### Potential Impacts

- Potential impacts include:
- Dust emissions during the construction period.
- The waste to energy plant is combusting a range of wastes including plastics and then combusting the syngas. This process has the potential to liberate a range of airborne contaminants in the exhaust gas stream including heavy metals, dioxins, other toxic organic compounds and acid gases including SO<sub>x</sub>, NO<sub>x</sub>, HCl and hydrofluoric acid (HF).
- The plant will handle putrescible material and therefore may result in odorous emissions.

### **Greenhouse Gas Emissions:**

#### Potential impacts include:

- The combustion of waste will generate greenhouse gases. It is estimated that during the construction stage of the waste to energy facility approximately 1,500 tonnes of Carbon dioxide equivalent (CO<sub>2</sub>-e) will be emitted based on diesel consumption by construction machinery.
- Greenhouse gas emissions will result from combustion of carbon in the waste fed to the gasifiers and from the combustion of fossil fuels in the auxiliary burners.
- However, these emissions will be offset when considering:
  - the reduction in greenhouse gas emissions that would have been generated from the decomposition of the waste if it were landfilled; and
  - the emissions that would be generated from a natural gas fired power plant to generate the equivalent quantity of electricity.

### **Waste Management:**

#### Potential Impacts

- In the absence of this project the current situation will continue with valuable resources lost to landfill.
- The implementation of this project allows the recovery of energy from waste that would otherwise be landfilled. This is consistent with the waste hierarchy.
- The project is being driven by demand from local governments who are seeking alternatives to landfill by calling tenders for Waste to Energy Facilities

### ***Changes to the extent of environmental Impact due to the Revised proposal***

**Flora and Vegetation:** no change from the original proposal.

**Fauna:** no change from original proposal

**Surface and Groundwater:** no change from original proposal.

**Noise:** noise will be remodelled to confirm no change from original proposal.

**Air Quality:** air emissions will be remodelled to confirm changes from original proposal. It is



envisaged that there will be little change in the ambient concentrations of the key pollutants from those presented in the PER.

**Greenhouse Gas Emissions:** Little change is expected from original proposal.

**Waste Management:** no significant change in approach or scale of impact

The detrimental impacts from the revised project are in the main similar to the project as originally described in the PER. There are some areas where additional environmental benefits are offered by the revised project while in some other areas the revised project has a slightly larger environmental footprint. The following table summarises the position. NEC will provide detailed information in our formal submission to confirm the positions outline below

Environmental Factor	Expected Outcome
Air Emissions	No significant change
Noise Emissions	No significant change
Flora	No significant change
Fauna	No significant change
Water Use	No significant change
Diversion of Waste from Landfill	The total amount of waste diverted from landfill is expected to be similar given the adoption by local governments of a third bin to recover organics separately.
Solid Waste Disposal (other than Bottom ash and Scrubbing System Residues)	The revised project configuration will produce substantially less solid waste requiring disposal to landfill.
Bottom Ash and Scrubbing System Residue	The quantities of bottom ash will increase due the change in technology from the gasifier and the removal of the front end sorting system.
Energy Efficiency	The revised project has a slightly higher overall thermal and electrical efficiency.
Greenhouse gas emissions	Little overall change other than a slight reduction due to the increased energy efficiency of the HZI technology.
Technology Risk	One of the concerns expressed by EPA in regard to the Entech gasification technology was that it was not proven at the scale of the proposal and in using municipal Waste as a feedstock. This concern is completely removed by adoption of the HZI technology which was selected by NEC because of its huge installed base of facilities of similar or larger scale handling municipal waste.

## Discussion

As mentioned in the covering letter, NEC is keen to achieve the simplest and quickest possible approval process that is consistent with sound Environmental Impact Assessment practice. We see that the that the key environmental factor for both the original proposal

and the revised proposal is Air Quality and the need to demonstrate the revised facility will comply with relevant air quality criteria in terms of both emissions performance and predicted ambient concentrations. This needs to be done for the full suite of emission parameters including:

- Particulates
- Nitrogen Oxides
- Sulfur Oxides
- Carbon Monoxide
- Air Toxics; and
- Odour.

Other areas NEC considers to be important to address in the revised proposal are:

1. Demonstration that the HZI grate combustion technology chosen is consistent with best practice.
2. Justification for the decision not include an up-front Materials Recovery Facility for MSW. NEC will document that this decision has been made based on the fact that local governments in Western Australia are moving to adopt a 3 bin system that greatly improves the separation of wastes at source and largely removes the need for the MRF to deal with municipal solid waste. In the case of feedstocks derived from C&I or C&D waste, the updated facility will continue to accept such material where it is the high calorific value residual arising from processing such material through an off-site MRF. The Rockingham facility will still include an on-site MRF to process C&I and C&D waste to separate recyclables such as glass and metals and ensure that unsuitable materials are removed from the waste stream. The high calorific value residuals from the on-site C&I/C&D MRF will then be utilised as feedstock for the incineration process.

NEC has recently lodged a tender in conjunction with the HZI with the Eastern Metropolitan Regional Council for disposing of the Municipal Waste at the East Rockingham Facility. In order to meet the terms of the Tender, it is likely that NEC/HZI will need to have the final approval for the facility in place by the end of the 3<sup>rd</sup> quarter 2017 or early in the fourth quarter. With this in mind NEC would like to work with the OEPA to develop an assessment process that can be completed in the shortest possible time. To this end NEC will commit to ensuring that it manages those parts of the timeline that are within its ability to control in a manner which achieves a professional outcome in the minimum possible time.

## Instructions for the referral of a Proposal to the Environmental Protection Authority under Section 38 of the Environmental Protection Act 1986

### Purpose of these instructions

To assist referrers to fill out the EPA s38 referral form.

### Purpose of the Referral Form

The Environmental Protection Authority (EPA) requires that referrers use this form for all proposals referred to the EPA under section 38 of the EP Act, to decide whether it is a valid referral and so that it receives sufficient information about a proposal to decide whether or not to assess it.

### How to fill out this form

#### Advice

Proponents may contact the Office of the EPA if they need assistance to fill out this form.

Refer also to the *Administrative Procedures* and *Procedures Manual* for more information about the processes relating to the nomination of a proponent and change of a proponent.

#### Referrer information

##### Who is referring this proposal?

Check the relevant box as the EPA needs to know whether you are a proponent, decision-making authority or community member/third party.

##### Does the referrer request that the EPA treat any part of the referral information as confidential?

If you are a proponent, you may request that the EPA keep any or all of the proposal information confidential by checking the 'Yes' box.

Where the EPA agrees that the information is confidential, the EPA will not publish the confidential information as part of the referral information.

##### Referral declaration

For the EPA to accept a referral from an organisation, proponent or a decision-making authority, it must be signed by an authorised person – either a CEO or a person with evidence to act on behalf of the organisation.

#### Part A: Proponent and proposal description

##### Proponent Information

Complete the details and provide an Australian Company Number (or Australian Business Number for government agencies).

##### Proposal type

Check the relevant box for the type of proposal and any associated existing Ministerial Statement number/s, if relevant.

If you checked 'significant proposal' or 'proposal under an assessed planning scheme', please provide a brief justification (or reference to the section in the supplementary report that explains this). Refer to the EPA's *Statement of environmental principles, factors and objectives* for guidance on 'significance'.

## Proposal description

Provide a clear proposal description, including maps and spatial information.

### Proposal description

Provide a proposal description according to the EPA's *Instructions and template: Defining the key proposal characteristics*, including:

- a *general proposal description* that describes the key elements of a proposal that relate to the environment
- *key proposal characteristics* that quantify the limits or extent of the physical and operation elements (i.e. amount of clearing, rate of emissions and discharges etc).

### Spatial data, maps and figures

The EPA *requires* maps and figures in the referral.

Provide spatial data in GIS format, that is geo-referenced and conforms to the following parameters:

- Data type: closed polygons that represent the proposal boundary (development envelope) and the activity areas for all physical elements of the proposal (footprint).
- Attribution: Name the development envelope and each activity area in the attribute table of the spatial data.
- Format: ESRI geodatabase or shapefile.
- Coordinate System: GDA94 (datum) and projected into the appropriate Map Grid of Australia (MGA) zone.

Provide maps and figures that are clear and readable, of appropriate scale, in either jpeg or pdf format and of good resolution (> 300 ppi).

## Part B: Environmental impacts

The purpose of Part B is to provide sufficient detail for the EPA to decide whether or not to assess the proposal and if it decides to assess the proposal, the level of assessment.

### Environmental factors

Check the boxes for the environmental factors that the proposal may have a significant impact on.

For each factor:

- complete the 'Potential environmental impacts table', or
- provide the information in a supplementary report according to the *Instructions and template: Environmental Review Document*.

Refer to the EPA's *Statement of environmental Principles, Factors and Objectives* for the list of factors and the EPA's *Framework for environmental considerations in EIA* for guidance for each factor.

### Potential environmental impacts

Provide information about the anticipated environmental impacts of the proposal and the proposed application of the mitigation hierarchy to avoid, minimise, rehabilitate (and offset, if appropriate) those impacts.

## EPA policy and guidance

Refer to the EPA's guidance for each factor in the EPA's Framework for environmental considerations in EIA.

### Receiving environment

Describe the current condition, using appropriate baseline studies such as flora and vegetation surveys or water quality data.

This may include: regional context; known environmental values, current quality, sensitivity to impact, and current level of cumulative impacts.

If the proposal will impact increase a cumulative impact (such as on noise levels or air quality parameters) or on conservation significant species or communities, provide relevant information from other developments in the area.

### Proposal activities

List the proposal-specific activities that will impact this environmental factor, considering direct and indirect impacts (e.g. impacts to flora and vegetation can be from clearing, ground water drawdown and dust.

### Mitigation

Describe how you have applied the mitigation hierarchy (avoid, minimise, rehabilitate, offset) to reduce the potential environmental impacts of the proposal activities. Refer to the *WA Environmental offsets guidelines*:

- Avoid – avoid the adverse environmental impact
- Minimise – limit the degree or magnitude of the adverse impact
- Rehabilitate – restore the maximum environmental value that is reasonably practicable
- Offset – actions that provide environmental benefits to counterbalance significant residual environmental impacts or risks of a project or activity.

### Assessment of impacts and identification of residual impacts

Evaluate the significance of the impacts (direct, indirect and cumulative) from the proposal activities on the environmental factor:

- quantify the predicted impacts (extent, duration, etc.) against the baseline condition acknowledging any uncertainty in predictions
- consider the impacts in a local and regional context, incorporating cumulative impacts; and
- compare against established environmental policies, guidelines, and standards.

Identify whether there may be residual impacts after applying the mitigation hierarchy and whether these are significant. If there may be significant residual impacts, discuss whether these may be offset under 'Management measures'.

## Part C: Other approvals and regulation

### State and Local Government approvals

The EPA needs accurate regulatory information to correctly identify decision-making authorities for the proposal. This information is important as it means that the relevant decision-making authorities are informed of decisions under the EP Act in relation to the proposal and the EPA confers with the correct decision-making authorities.

List the approvals required, e.g.:

Proposal activities	Land tenure/access	Type of approval	Legislation regulating the activity
Clearing		Native Vegetation Clearing Permit	<i>EP Act 1986</i> – Part V
Water abstraction / Dewatering		Licence	<i>RiWI Act 1914</i>
Mining		Mining proposal	<i>Mining Act 1979</i>

### Commonwealth Government approvals

Complete this section if the proposal will potentially impact Matters of National Environmental Significance that are protected under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

If the EPA decides to assess a proposal and the Commonwealth Department of the Environment and Energy has decided that the proposal is a controlled action, the proposal can be assessed by the EPA under the bilateral agreement between the State of WA and the Commonwealth Government, or as an accredited assessment.

If there are other approvals from the Commonwealth Government that may be required, such as a sea dumping permit, provide details in the box provided.

### Including a supplementary report/s

A referrer may include a supplementary report/s instead of completing the 'Potential environmental impacts' table in Part B: Potential environmental impacts. The EPA requests that the referrer follow the format of the *Environmental Review Document* template when preparing a supplementary report and that the referrer includes the following:

- appropriate detail required by part B in the supplementary report
- cross-references in the referral form to the appropriate section/s in the supplementary report.

### Submitting a completed Referral Form

Files must be below eight megabytes (8 MB) in size as they may be published on the EPA's website (exemptions apply) for public comment. To minimise file size, "flatten" maps and optimise pdf files.

The EPA prefers that referral forms (and any attachments and supplementary reports) are emailed but will also accept referrals submitted by post.

Email: [Registrar@epa.wa.gov.au](mailto:Registrar@epa.wa.gov.au)

or

Office of the Environmental Protection Authority  
Locked Bag 10, East Perth WA 6892

#### Enquiries:

Telephone: 6145 0800

Fax: 6145 0895


Email: [info@epa.wa.gov.au](mailto:info@epa.wa.gov.au)

Website: [www.epa.wa.gov.au](http://www.epa.wa.gov.au)

**End of Instructions (remove before submitting Referral)**

---

## Form for the referral of a proposal to the Environmental Protection Authority under Section 38 of the *Environmental Protection Act 1986*

Referrer information				
Who is referring this proposal?		<input checked="" type="checkbox"/> Proponent <input type="checkbox"/> Decision-making authority <input type="checkbox"/> Community member/third party		
Name (print) Jason Pugh		Signature 		
Position	Chief Executive Officer	Organisation	New Energy Corporation Pty Ltd	
Email	Jason.pugh@newenergycorp.com.au			
Address	12	Parliament Place		
	West Perth	WA	6005	
Date	January 2017			
Does the referrer request that the EPA treat any part of the proposal information in the referral as confidential? <i>Provide confidential information in a separate attachment.</i>		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
<b>Referral declaration for organisations, proponents and decision-making authorities:</b> I, <b>Jason Garrith Pugh</b> ( <i>full name</i> ) declare that I am authorised to refer this proposal on behalf of <b>New Energy Corporation Pty Ltd</b> and further declare that the information contained in this form is true and not misleading.				
Part A: Proponent and proposal description				
Proponent information				
Name of the proponent/s (including Trading Name if relevant)		New Energy Corporation Pty Ltd		
Australian Company Number(s) <input type="checkbox"/> <b>OR</b> Australian Business Number(s) <input checked="" type="checkbox"/>		16 1399 310 053		
Contact for the proposal (if different from the referrer) <i>Please include: name; physical address; phone; and email.</i>		PO Box 1036 West Perth WA 6872		
Does the proponent have the legal access required for the implementation of all aspects of the proposal? <i>If yes, provide details of legal access authorisations / agreements / tenure.</i> <i>If no, what authorisations / agreements / tenure is required and from whom?</i>		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No LandCorp and New Energy have a contract in place for New Energy to lease the site. A Deed of Variation to extend the Option period has recently been executed. A copy of the lease Deed of Variation of Option is provided in Attachment 1, along with the		

	original contract.
<b>Proposal type</b>	
<b>What type of proposal is being referred?</b> For a change to an approved proposal please state the Ministerial Statement number/s (MS No./s) of the approved proposal  For a derived proposal please state the Ministerial Statement number (MS No.) of the associated strategic proposal	<input type="checkbox"/> significant – new proposal <input checked="" type="checkbox"/> significant – change to approved proposal (MS No./s: <u>_994_</u> ) <input type="checkbox"/> proposal under an assessed planning scheme <input type="checkbox"/> strategic <input type="checkbox"/> derived (Strategic MS No.: <u>                    </u> )
For a significant proposal: <ul style="list-style-type: none"> <li>Why do you consider the proposal may have a significant effect on the environment and warrant referral to the EPA?</li> </ul>	Initial meetings with the OEPA and a subsequent letter from the Deputy Chairman (dated 22 December 2016) indicate that the process and technology changes sought to the original proposal would make the proposal significantly different to the original proposal, and therefore warrants referral to the EPA.
For a proposal under an assessed planning scheme, provide the following details: <ul style="list-style-type: none"> <li>Scheme name and number</li> </ul> For the Responsible Authority: <ul style="list-style-type: none"> <li>What new environmental issues are raised by the proposal that were not assessed during the assessment of the planning scheme?</li> <li>How does the proposal not comply with the assessed scheme and/or the environmental conditions in the assessed planning scheme?</li> </ul>	Not applicable.
<b>Proposal description</b>	
Title of the proposal	East Rockingham Waste to Energy Facility Revised Proposal
Name of the Local Government Authority in which the proposal is located.	City of Rockingham
Location: a) street address, lot number, suburb, and nearest road intersection; or b) if remote the nearest town and distance and direction from that town to the proposal site.	26 Office Road, East Rockingham (Lot 1 on Diagram 62220)
Proposal description – including the key characteristics of the proposal <i>Provide as an attachment to the form</i>	See Attachment 2 – Key Proposal Characteristics
Have you provided electronic spatial data, maps and figure in the appropriate format? <i>Refer to instructions at the front of the form</i>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
What is the current land use on the property, and the extent (area in hectares) of the property?	The site is 10ha and is located in the Rockingham Industrial Zone (RIZ) (Figure 1). The site is currently vacant.
Have you had pre-referral discussions with the OEPA? If so, quote the reference number and/or the OEPA contact.	Yes meetings on 11 November 2016 and 21 December 2016. Reference number: CMS16316. OEPA contacts are Richard Sutherland and

## Part B: Environmental impacts

### Environmental factors

What are the likely significant environmental factors for this proposal?

- ☐ Benthic Communities and Habitat
- ☐ Coastal Processes
- ☐ Marine Environmental Quality
- ☐ Marine Fauna
- ☐ Flora and Vegetation
- ☐ Landforms
- ☐ Subterranean Fauna
- ☐ Terrestrial Environmental Quality
- ☐ Terrestrial Fauna
- ☐ Hydrological Processes
- ☐ Inland Waters Environmental Quality
- ☒ Air Quality
- ☐ Social Surroundings
- ☐ Human Health

*For each of the environmental factors identified above, complete the following table, or provide the information in a supplementary report*

### Potential environmental impacts

1	<b>EPA Factor</b>	Air Quality
2	<b>EPA policy and guidance</b> - What have you considered and how have you applied them in relation to this factor?	<i>Environmental Factor Guideline Air Quality</i> (DER, 2016). This guidance has been considered and subsequently New Energy has commissioned numerical modelling for emissions from the main stack for the change in technology (HZI BAT grate combustion system).
3	<b>Consultation</b> – Outline the outcomes of consultation in relation to the potential environmental impacts	Consultation will be conducted through a public open day following submission of the referral.

4	<p><b>Receiving environment</b> - Describe the current condition of the receiving environment in relation to this factor.</p>	<p>The site is located within the Kwinana Industrial Area air shed.</p> <p>Numerous other industries are located within 5km of the site but air quality is well managed using the <i>Environmental Protection Act 1986</i> licensing system and the Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1999.</p>
5	<p><b>Proposal activities</b> – Describe the proposal activities that have the potential to impact the environment</p>	<p>Dust emissions will be generated during the construction period.</p> <p>The waste to energy facility will have three emission points during operations:</p> <ol style="list-style-type: none"> <li>1. Fugitive odour emissions released from the waste receipt bay when the doors are open for trucks to deliver waste.</li> <li>2. Gaseous emissions from the main stack under normal operating conditions.</li> <li>3. Gaseous emissions under emergency by-pass stack situations caused during extreme plant upset conditions.</li> </ol> <p>Whilst not expected under normal conditions, during an internal fire within the facility, gas emissions will be generated.</p>

6	<p><b>Mitigation</b> - Describe the measures proposed to manage and mitigate the potential environmental impacts.</p>	<p>Impacts will be managed as described in the original proposal through:</p> <p>Development of a CEMP which will detail dust control measures to be implemented during the construction period. These will include clearing controls, traffic controls and the use of water and other controls to suppress dust emissions.</p> <p>The unique design of the incineration technology which results in very low emissions of particulates, heavy metals and organic compounds such as dioxins.</p> <p>Incorporation of a gas cleaning system that meets Best Available Technology standards, including a dry acid gas scrubber, activated carbon injection and a bag filter.</p> <p>Preparation and implementation of an Air Quality Monitoring Plan.</p> <p>Inclusion of a CEMS continuous monitoring system and a sophisticated computerized management system for all aspects for the facility.</p> <p>Key elements of the system have built in redundancy to minimise downtime for the air quality control system.</p> <p>A comprehensive commissioning plan will ensure that the plant is commissioned without uncontrolled emissions.</p> <p>Routine stack testing will be implemented to supplement the continuous data from the CEMS system and verify performance during the commissioning process.</p> <p>Computer dispersion modelling of emissions (based on conservative emissions data) during normal and by-pass operations will be undertaken using local meteorology data and accounting for background contaminant levels to demonstrate that ground level concentrations comply within adopted criteria.</p> <p>Implementation of a company-wide environmental management system and environmental management plan to ensure effective implementation of the site environmental management program and ongoing compliance with all statutory approvals.</p>
---	---	--

7	<p><b>Impacts</b> - Assess the impacts of the proposal and review the residual impacts against the EPA objective.</p>	<p>Although computer modelling has not been completed as yet, it is clear based on the work completed for the previous proposal submitted by New Energy that a modern Waste to Energy facility meeting the Waste Incineration Directive emission criteria will be capable of delivering an air quality outcome that does not result in adverse environmental or health impacts. A comparative assessment of the emissions characteristics for this proposal to those for the original proposal suggests that ground level concentrations of air toxics will be similar or lower than those modelled previously.</p>
8	<p><b>Assumptions</b> - Describe any assumptions critical to your assessment <i>e.g. particular mitigation measures or regulatory conditions.</i></p>	<p>The change to HZI grate combustion system provides better energy efficiency than the original proposal. This is achieved by advances in boiler and plant operating systems.</p>

Part C: Other approvals and regulation			
State and Local Government approvals			
Is rezoning of any land required before the proposal can be implemented? If yes, please provide details.		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
If this proposal has been referred by a decision-making authority, what approval(s) are required from you?			
Proposal activities  e.g. clearing, dewatering, mining, processing, dredging,	Land tenure/access  e.g. Crown land – LA Act, Min Act, CALM Act specify type	Type of approval  e.g. Native Vegetation Clearing Permit, licence, mining proposal,	Legislation regulating the activity  e.g. <i>EP Act 1986 – Part V, RiWI Act 1914, Mining Act 1979</i>
Commonwealth Government approvals			
Does the proposal involve an action that may be or is a controlled action under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act)?		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
Has the proposed action been referred? If yes, when was it referred and what is the reference number (EPBC No.)?		<input type="checkbox"/> Yes <input type="checkbox"/> No Date: _____ EPBC No.: _____	
If referred, has a decision been made on whether the proposed action is a controlled action? If 'yes', check the appropriate box and provide the decision in an attachment.		<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Decision – controlled action <input type="checkbox"/> Decision – not a controlled action	
Do you request that this proposal be assessed under the bilateral agreement or as an accredited assessment?		<input type="checkbox"/> Yes - Bilateral <input type="checkbox"/> No <input type="checkbox"/> Yes - Accredited	
Is approval required from other Commonwealth Government/s for any part of the proposal? <i>If yes, describe.</i>		<input type="checkbox"/> Yes <input type="checkbox"/> No  Approval:	