

For consultation

Thermal energy from waste (EfW) activities

Issued April 2019

EPA 1113/19: This position statement will assist planning authorities, licensees and proponents of development understand the position of the Environment Protection Authority (EPA) and the regulatory requirements for thermal energy from waste (EfW) activities.

Purpose

The EPA will use this position statement to assess development assessment referrals and activities of prescribed environmental significance requiring a licence as per Schedule 1 of the *Environment Protection Act 1993* relating to thermal energy from waste (EfW) activities.

The aim of this position statement is to ensure that the recovery of EfW in South Australia supports the Objects of the EP Act and the Waste Management Objective of the *Environment Protection (Waste to Resources) Policy 2010*. This position statement meets those objectives by promoting the waste management hierarchy (Figure 1) to drive circulation of materials through the material resource recovery process and back into the productive economy prior to undertaking EfW activities.

As discussed in the *South Australia's Waste Strategy 2015–2020*, the state government believes that EfW should support any viable options for higher order beneficial uses, and have regard to impacts to resource recovery businesses and supply chains that compete for the same feedstock materials. As such, enhanced material resource recovery and the circulation of materials through the economy are preferred policy outcomes ahead of energy recovery and disposal in accordance with the waste management hierarchy. The volumes of waste required by EfW activities must be sustainable, given the need to not compete with, nor undermine, higher order beneficial uses of waste, and to avoid an underutilised or stranded EfW asset.

In keeping with the waste management hierarchy and circular economy objectives, the combustion of waste without sufficient resource recovery is not supported. The production and use of refuse derived fuel from waste that would otherwise be disposed to landfill will be supported where it includes appropriate material resource recovery, as set out by this position statement.

Introduction

This position statement sets out the policy context and environmental assessment criteria applying to thermal EfW activities and describes how these activities are to be sited, designed, and operated to ensure that the requirements of the *Environment Protection Act 1993* (EP Act), *Environment Protection Regulations 2009*, and the *Environment Protection (Waste to Resources) Policy 2010* (Waste to Resources Policy) are met.

This position statement aligns with the objects of the EP Act and is consistent with the *South Australia's Waste Strategy 2015–2020* (Waste Strategy) including the waste management hierarchy as defined by section 4B of the EP Act (Figure 1).

The Waste Strategy supports the efficient recovery of energy from residual waste and niche waste streams through best available technologies that suit local conditions, and can deliver environmental benefits and economic opportunities. The Waste Strategy iterates that EfW should support and not disregard any viable options for higher order beneficial uses of waste and have regard to impacts to businesses and supply chains that compete for the same feedstock materials.

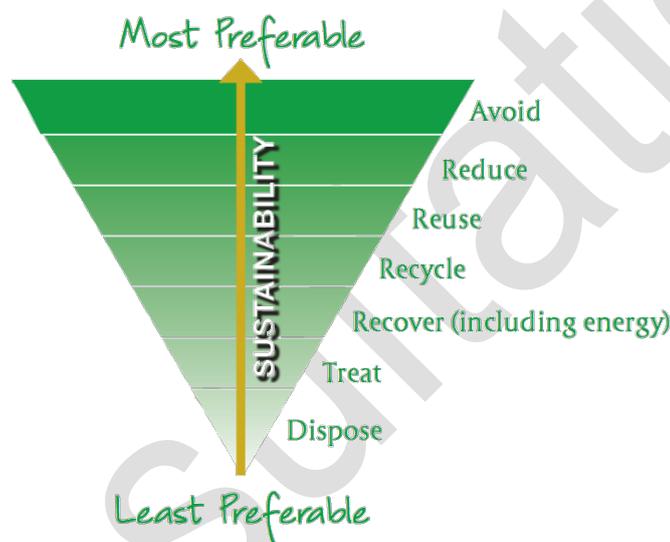


Figure 1 The waste management hierarchy

While the recovery of EfW is preferable to disposal, it is less desirable than avoidance, reuse, recycling and after material recovery activities that better contribute toward a more circular economy.

This position statement is not legally binding and cannot be used to alter, broaden or narrow the exercise of the EPA's functions and powers.

Scope

EfW or Waste to Energy are terms often used to describe a range of mechanical, thermal, and biological waste processing activities undertaken for the primary purpose of generating and maximising the production of a usable form of energy including heat, electricity or fuel.

This position statement addresses thermal EfW technologies including direct combustion of waste, gasification, pyrolysis, the production and use of refuse derived fuel (RDF), and the mechanical biological treatment of waste where this activity results in the production of RDF.

This position statement must be read in conjunction with the *Standard for the production and use of refuse derived fuel* (EPA 2010)¹.

¹ RDF Standard available at: https://www.epa.sa.gov.au/files/4771351_standard_rdf.pdf

Out of scope

Anaerobic digestion and other non-thermal EfW activities are out of scope.

The combustion, gasification, and pyrolysis of raw untreated biomass materials such as woody biomass from forestry, straw, and grain husks are out of scope. Similarly, untreated timber and sawdust generated by sawmills are out of scope. The use of these materials in thermal activities can be assessed by the EPA under existing regulatory instruments including the *Environment Protection (Air Quality) Policy 2016* (Air Quality Policy) and the EP Act and associated development assessment referrals process.

Landfill gas extraction and combustion is also excluded from this position statement as it is regulated by the EPA under conditions of environmental licence relating to landfill activities.

Development assessment and environmental authorisation

The conduct of a thermal EfW activity that triggers one or more prescribed activities of environmental significance as per Schedule 1 of the EP Act will be referred to the EPA for environmental assessment following formal lodgement of a development application with the relevant planning authority. Those prescribed activities most likely to be triggered by thermal EfW activities and development proposals are summarised in [Appendix 1](#).

When assessing a development application referral involving one or more prescribed activities, the EPA as a referral body has the power to request further information, direct conditions for approval by the planning authority, or direct the refusal of the application.

Following the receipt of formal development approval, the conduct of any prescribed activity will also require an environmental authorisation from the EPA in the form of a licence.

For specific advice on EPA licensing or development assessment referral triggers with regard to thermal EfW activities contact the EPA directly on (08) 8204 2004 or 1800 623 445 (free call for non-metropolitan callers) or email epainfo@sa.gov.au.

Community consultation and ongoing engagement

A proposal to undertake a thermal EfW activity has the potential to generate interest and concern within the community including among non-government environmental organisations or other interest groups. EfW projects that require development approval will be subject to community consultation and/or notification as required by section 38 of the *Development Act 1993*², and section 39 of the EP Act during the development assessment and licensing notification processes respectively.

Proponents of thermal EfW activities must engage in a genuine dialogue with the community ensuring the provision of accurate and reliable information about the proposal and during the establishment and operation of the activity. Proponents of thermal EfW activities are required to develop a dedicated communications and engagement strategy or framework.

Community views, concerns and acceptance of EfW facilities may vary over time in response to changes in regional contexts. The EPA expects good neighbour and corporate citizen principles to be implemented during all stages of design, development, construction and operation of thermal EfW activities.

The community consultation approach must emphasise the building of respectful relationships with the community and encourage active participation from community representatives in order to understand community perceptions and

² The *Development Act 1993* is being progressively repealed and will be replaced by the *Planning, Development and Infrastructure Act 2016*.

expectations, which can then be used to inform project decisions. An understanding of community expectations will greatly improve the relationship between the proponent or operator and the community.

The EPA's Partnership and Engagement Framework³ provides a model on the role of communications and engagement takes in the EPA's work and supporting positive working relationships with all of its stakeholders.

Environmental assessment and design

Siting

The siting of an EfW activity must have regard to the [Evaluation distances for effective air quality and noise management](#) (EPA 2019). However, the EPA requires an individual assessment to be undertaken for all thermal EfW proposals. An individual assessment of potential air emissions (including odour) and noise impacts must be undertaken to the satisfaction of the EPA. The following sections detail further requirements of the EPA when undertaking an individual assessment.

Noise

It is a requirement for all new development and prescribed activities of environmental significance to meet the requirements of the *Environment Protection (Noise) Policy 2007*. The [Position statement: Noise and the South Australian Planning System](#) (EPA 2016) should be used by proponents to inform the siting and design of a thermal EfW activity with regard to noise at the development application stage.

Potential sources of noise associated with EfW activities include low frequency sounds from thermal processes, movement of vehicles to/from and within a site, loader buckets scraping hard surfaces, reversing alarms, and impulse noises caused by moving or dropping materials. Low frequency noise can travel across long distances, penetrate buildings and become more problematic in the quiet of night when other ambient noise is reduced.

Odour, air quality and emissions management

In determining any matters relating to licensing and development assessment, the EPA must take into account clause 18 of the Air Quality Policy which sets out the following considerations: ground level concentrations, odour levels, stack emissions, evaluation distances (individual assessment), localised air quality objectives, and any other kind of air pollution requirements to be imposed by legislation on all relevant persons. For further details on each of these considerations see [Appendix 2](#) which states clause 18 of the Environment Protection Air Quality Policy.

The potential for odour to be caused by the receipt, loading, unloading, storage, sorting, treatment, and processing of waste must be addressed by a thermal EfW activity proponent. The [Position statement: Air quality and the South Australian Planning System](#) (EPA 2016) provides relevant advice to proponents of thermal EfW activities.

Thermal EfW activities will, at some stage, involve the production of exhaust gases or gas combustion emissions including the release of particulates and gases from a stack or flue. The EPA uses a range of regulatory instruments for assessing development applications and monitoring required by conditions of environmental authorisations (licences) with regard to air quality. This includes assessing applications against maximum non-mandatory stack emission levels and ground level concentrations (GLCs).

In order to demonstrate compliance, potential air emissions including particulates, gases, and odour from a proposed thermal EfW activity must be assessed. The guidelines on [Ambient air quality assessment](#) (EPA 2016)⁴ must be consulted for further information on air emissions impact assessment during the siting and design stage and will assist in informing a development application.

³ https://www.epa.sa.gov.au/about_us/communications_and_engagement_framework

⁴ https://www.epa.sa.gov.au/environmental_info/air_quality/assistance_and_advice

Thermal EfW activities are required by licence conditions to undertake the following air emissions monitoring requirements (where relevant):

- Continuous monitoring of air emissions for key parameters. For example nitrogen oxides (NO_x), carbon monoxide (CO), total particles, total organic carbon (TOC), hydrogen chloride (HCl), hydrogen fluoride (HF), and sulphur dioxide (SO₂).
- Air emissions data from continuous monitoring available to the public in real-time, eg published live on the internet. This is consistent with international best practice according to the European Parliament Industrial Emissions Directive⁵.
- Continuous measurements of other relevant critical operational parameters undertaken, including temperature at a representative point in the combustion chamber, concentration of oxygen, pressure and temperature in the stack and water vapour content of the exhaust gas.
- All data obtained by these monitoring requirements held by the licensee for a minimum of three years.

Feedstock eligibility criteria

The feedstock eligibility criteria set out in Table 1 applies to those waste streams proposed for use in a thermal EfW activity including the production of RDF. These criteria ensure that thermal EfW activities will support the waste management hierarchy and continued investment in higher value material resource recovery infrastructure.

Municipal solid waste criteria rationale

The Waste Strategy sets a landfill diversion target of 70% for total municipal solid waste, which comprises 60% diversion from high performing kerbside bin systems and 10% from hard waste collections. This target provides the rationale for the feedstock eligibility criteria as per Table 1. In order to maximise opportunities for material resource recovery prior to undertaking a thermal EfW activity the achievement of this diversion target must continue to be attainable into the future.

Table 1 Feedstock eligibility criteria for waste used by thermal EfW activities including the production of RDF

Feedstock type	Eligibility criteria
Refuse derived fuel	May be used in thermal EfW activities provided that it is produced in accordance with the RDF Standard and the feedstock eligibility criteria set out by this table.
Municipal solid waste (MSW) – kerbside bin collection	A maximum of 40% by weight may be eligible for use in thermal EfW activities provided that it is generated by a council collection system: <ul style="list-style-type: none"> • with a mandatory 3-bin collection system per household including the separate collection of green waste and food organics, and kerbside collected recyclable material, and • where this waste would otherwise be disposed to landfill.

⁵ Directive 2010/75/EU of the European Parliament and the Council on industrial emissions (the Industrial Emissions Directive or IED) is available at: <http://ec.europa.eu/environment/industry/stationary/ied/legislation.htm>

Feedstock type	Eligibility criteria
<p>Non-recoverable waste arising from a materials recovery facility (MRF) processing MSW, commercial industrial waste, or construction and demolition waste operating under an EPA Resource Recovery Approval according to the Waste to Resources Policy ⁶</p>	<p>May be eligible for use in thermal EfW activities provided that:</p> <ul style="list-style-type: none"> it can be demonstrated that there is no market available⁷ for the material resource recovery, recycling or reuse of this waste in accordance with the waste management hierarchy, and this waste would otherwise be disposed to landfill.
<p>Waste arising from the mechanical and/or biological treatment (MBT) of waste operating under an EPA Resource Recovery Approval according to the Waste to Resources Policy</p>	
<p>Source separated or homogeneous waste materials such as:</p> <ul style="list-style-type: none"> rubber (tyres or other discrete rubber material) wood, timber, or other homogeneous organic waste. 	<p>May be eligible for use in thermal EfW activities provided:</p> <ul style="list-style-type: none"> this waste must be homogeneous, and it can be demonstrated that there is no market available for the material resource recovery, recycling or reuse of this waste in accordance with the waste management hierarchy, and the waste would otherwise be disposed to landfill.
<p>Aggregated recoverable materials as described by Schedule 4 of the Waste to Resources Policy⁸</p>	<p>Must not be used in a thermal EfW activity</p>

Waste levy liability

The waste levy is an important economic instrument for promoting waste minimisation and resource recovery in South Australia, by providing an incentive to reduce the amount of waste sent to landfill, and ensuring material resource recovery activities remain viable. The waste levy encourages markets to be created for recovered material resources by providing a financial incentive for industry to seek alternatives to the disposal of waste and to facilitate investment in future technologies, processes and resource recovery systems.

The primary function of thermal EfW activities utilising mixed, unprocessed or minimally processed waste feedstock is for the disposal of the waste. Therefore, the waste levy as legislated, applies to the thermal destruction of waste whether or not any energy is recovered.

Table 2 outlines the EPA's position on the applicability of the waste levy to thermal EfW activities.

⁶ The EPA intends to amend the Waste to Resources Policy to require waste to undergo treatment to recover material resources with approval under the upcoming Approved Recovered Resources regulations prior to that waste being eligible for use in a thermal EfW activity.

⁷ Note on 'market availability': Thermal EfW activities can require waste supply contracts of 20–30 years in duration. Where referenced by Table 1, the EPA requires that the potential availability of a market for material recovery of these waste streams is critically assessed by a proponent, addressing potential market availability from the present up to 10 years and as otherwise reasonably foreseeable. Economic viability of accessing a potential material recovery market should also be taken into account in this assessment.

⁸ Those aggregated recoverable materials referred to by the Waste to Resources Policy are set out in the [Glossary](#).

RDF produced with EPA approval in accordance with the RDF standard and feedstock eligibility criteria is no longer considered to constitute a waste as per clause 4(a) of the Waste to Resources Policy, and its use does not attract the payment of the waste levy. Note that ash produced by the combustion of RDF will incur payment of the waste levy upon subsequent disposal.

All waste streams produced as a result of an EfW activity, requiring subsequent disposal to landfill, will attract the payment of the waste levy accordingly⁹.

Table 2 Waste levy liability

EfW Activity	Waste levy applies
Incineration, thermal destruction, or thermo-chemical decomposition of waste including by thermal oxidation (combustion), gasification or pyrolysis whether-or-not energy recovery is undertaken	✓
Incineration, thermal destruction, or thermo-chemical decomposition or any other 'use' of RDF where the RDF is produced in accordance with the RDF standard and feedstock eligibility criteria	✗
Dedicated thermo-chemical decomposition/conversion of source-separated or homogeneous waste materials including by gasification or pyrolysis where energy or waste derived products are generated including syngas, oil, char and any other recovered resources ready and intended for imminent use	✗

For clarification or further regulatory advice please contact the EPA directly to discuss the nature of any proposed EfW activity.

EPA publications

Guidelines

Stockpile management: Waste and waste derived products for recycling and reuse (2017), https://www.epa.sa.gov.au/environmental_info/waste_management/solid_waste/storage_and_stockpiling.

Ambient air quality assessment (2016), https://www.epa.sa.gov.au/files/12194_ambient_aq_assessment.pdf.

Evaluation distances for effective air quality and noise management (2019), https://www.epa.sa.gov.au/files/12193_eval_distances_2019.pdf.

Waste definitions (2009), https://www.epa.sa.gov.au/files/4771336_guide_waste_definitions.pdf.

Information Sheets

Undercover storage requirements for waste/recycling depots (2010), https://www.epa.sa.gov.au/files/4771348_info_storage_waste.pdf.

⁹ A reduction may be available for subsequent landfill disposal of bottom ash and fly ash from a direct combustion activity, ensuring that the same material is not effectively levied twice. The net levy liability will be calculated by the EPA upon reconciliation of all related waste receipt and disposal data.

Position Statements

Air quality and the South Australian Planning System (2016),
https://www.epa.sa.gov.au/files/11363_aq_position_statement.pdf

Noise and the South Australian Planning System (2016),
https://www.epa.sa.gov.au/files/11364_noise_position_statement.pdf

Waste and the South Australian planning system (2016),
https://www.epa.sa.gov.au/files/12329_waste_position_statement.pdf.

Waste depots and the South Australian planning system (2016),
https://www.epa.sa.gov.au/files/12328_waste_depot_position_statement.pdf.

Standards

Production and use of refuse derived fuel (2010), https://www.epa.sa.gov.au/page/view_by_id/4251.

Production and use of waste derived soil enhancer (2009), https://www.epa.sa.gov.au/page/view_by_id/4257.

Glossary

Aggregated recoverable materials: in accordance with Schedule 4 of the *Environment Protection (Waste to Resources) Policy 2010*):

- Cardboard and paper waste aggregated for resource recovery separately from other waste.
- Glass packaging aggregated for resource recovery (whether alone or with other recyclables).
- Metals such as aluminium, copper, steel or iron, or a blend or alloy of any such metals aggregated for resource recovery (whether alone or with other recyclables), other than metal products with components of different metals that cannot be readily separated.
- PET or HDPE plastic packaging aggregated for resource recovery (whether alone or with other recyclables).
- Vegetative matter aggregated for resource recovery and collected by a council by a kerbside waste collection service operated as a separate collection service for such waste, other than such waste collected from within a quarantine area declared under the *Fruit and Plant Protection Act 1992*.
- PP or LDPE plastic packaging aggregated for resource recovery (whether alone or with other recyclables).
- PVC or PS plastic packaging aggregated for resource recovery (whether alone or with other recyclables).

Anaerobic digestion: involves a series of processes in which micro-organisms break down biodegradable material to biogas in the absence of oxygen. It is used for industrial, agricultural or domestic purposes to manage waste and/or produce fuels for energy generation.

Commercial and industrial waste: the solid component of the waste stream arising from commercial, industrial, government, public or domestic premises (not collected as municipal solid waste or MSW).

Construction and demolition waste: the solid component of waste stream arising from the construction, demolition or refurbishment of buildings or infrastructure but does not contain municipal solid waste, commercial and industrial waste, listed waste, hazardous waste or radioactive waste.

Direct combustion of waste: the most commonly used technology for converting fuel to heat and/or electrical energy. During direct combustion, waste or a fuel derived from waste is burnt in excess oxygen (from air) to produce heat or release the energy contained in the fuel. Excess oxygen/air means there is more air available than necessary for the combustion process. See also Thermo-chemical conversion/decomposition.

Gasification: a process that converts organic or fossilised organic materials such as coal, at elevated temperatures and with controlled amounts of oxygen, into a synthetic gas (syngas) comprising carbon monoxide, hydrogen, carbon dioxide, nitrogen, methane and other low molecular weight organic molecules.

Hazardous waste: listed waste having a characteristic described in Schedule A, List 2 of the *National Environment Protection (Movement of controlled waste between States and Territories) Measure*, as amended from time to time. Hazardous waste includes any unwanted or discarded material (excluding radioactive material), which because of its physical, chemical or infectious characteristics can cause significant hazard to human health or the environment

Incineration: the thermal destruction of waste for the primary purpose of disposal, with or without recovery of energy. The direct combustion of waste is incineration. The term 'incineration' generally means 'the act of burning to ashes' however the above definition is the meaning used by the EPA in relation to waste.

Kerbside collected green waste: means green waste collected during the regular domestic council waste collection.

Kerbside collected recyclable material: means the segregated portion of municipal solid waste – kerbside bin collection consisting of dry recyclable materials including beverage containers, paper, cardboard, plastics, glass and metals.

Listed waste: wastes listed in Part B of Schedule 1 of the *Environment Protection Act 1993*.

Materials recovery facility (MRF): a depot for the treatment of waste for resource recovery, other than a composting depot.

Medical waste: listed in Part B of Schedule 1 of the *Environment Protection Act 1993*.

Municipal solid waste – kerbside bin collection: the solid component of the waste stream arising from mainly domestic but also commercial, industrial, government and public premises including waste from council operations, services and facilities that is collected by or on behalf of the council via kerbside collection, but does not contain commercial and industrial waste, listed waste, hazardous waste or radioactive waste.

Pyrolysis: is described as a thermo-chemical decomposition of organic or inorganic material – eg synthetic tyres – at elevated temperatures in the absence of oxygen. Pyrolysis can occur in a vacuum or under any pressure and typically occurs at operating temperatures of 250–430°C and generates oils, tars, char residue and syngas.

Refuse derived fuel (RDF): a fuel material produced from waste that is otherwise destined to landfill and which will not cause harm to the environment or human health when used to beneficially replace or supplement a fossil or other standard commercial fuel in an industrial process. RDF must be produced to an approved consistent and fit for purpose specification with sufficiently high net calorific value by segregating, targeting and processing specific wastes. The EPA regulates RDF through its standard for the production and use of refuse derived fuel.

Thermo-chemical conversion/decomposition: gasification and pyrolysis are thermo-chemical conversion/decomposition processes.

Waste: as defined under the *Environment Protection Act 1993*;

(1) For the purposes of this Act, waste means—

- (a) any discarded, dumped, rejected, abandoned, unwanted or surplus matter, whether or not intended for sale or for purification or resource recovery by a separate operation from that which produced the matter; or
- (b) any matter declared by regulation to be waste for the purposes of this Act (following consultation by the Minister on the regulation with prescribed bodies in accordance with the regulations); or
- (c) any matter declared by an environment protection policy to be waste for the purposes of this Act, whether or not of value.

(2) *However, waste does not include—*

(a) *an approved recovered resource whilst it is being dealt with in accordance with the declaration of that resource— see section 4A; or*

(b) *anything declared by regulation or an environment protection policy not to be waste for the purposes of this Act,*

even though the resource or the thing so declared might otherwise, but for the declaration, fall within the definition of waste in subsection (1).

Further information

Legislation

[Online legislation](#) is freely available. Copies of legislation are available for purchase from:

Service SA Government Legislation Outlet
Adelaide Service SA Centre
108 North Terrace
Adelaide SA 5000

Telephone: 13 23 24
Facsimile: (08) 8204 1909
Website: shop.service.sa.gov.au
Email: ServiceSAcustomerservice@sa.gov.au

General information

Environment Protection Authority
GPO Box 2607
Adelaide SA 5001

Telephone: (08) 8204 2004
Facsimile: (08) 8124 4670
Freecall: 1800 623 445 (country)
Website: <https://www.epa.sa.gov.au>
Email: epainfo@sa.gov.au

Appendix 1 Prescribed activities

Prescribed activities of environmental significance potentially triggered by thermal EfW activities.

Note: These activities have been summarised in order to quickly identify where/how they may be applicable to thermal EfW activities. See Schedule 1 of the *Environment Protection Act 1993* for full text¹⁰.

- 3(3) Waste or Recycling Depots: ... the conduct of a depot for the reception, storage, treatment, or disposal of waste....¹¹
- 8(2) Fuel Burning: the conduct of works or facilities involving the use of fuel burning equipment, including flaring ... or incineration, where the equipment alone or in aggregate is capable of burning combustible matter – at a rate of heat release exceeding 5 megawatts
- 3(1) Incineration: the conduct of works for incineration by way of thermal oxidation using fuel burning equipment, being— ...
 - (d) works for the destruction of solid municipal waste
 - (e) works for the disposal of solid trade waste with a processing capacity exceeding 100 kilograms per hour”.
- 1(2) Chemical Works: the conduct of—
 - works with a total processing capacity exceeding 100 tonnes per year involving either or both of the following operations:
 - manufacture (through chemical reaction) of any inorganic chemical, including sulphuric acid, inorganic fertilisers, soap, sodium silicate, lime or other calcium compound;
 - manufacture (through chemical reaction) or processing of any organic chemical or chemical product or petrochemical, including the separation of such materials into different products by distillation or other means....
- 3(4) Activities Producing Listed Wastes: an activity in which any of the substances or things listed in Part B of [Schedule 1 of the *Environment Protection Act 1993*] are produced as or become waste....

¹⁰ <https://www.legislation.sa.gov.au/LZ/C/A/ENVIRONMENT%20PROTECTION%20ACT%201993.aspx>.

¹¹ Waste is defined by Section 4 of the *Environment Protection Act 1993* as:

- (a) any discarded, rejected, abandoned, unwanted or surplus matter, whether or not intended for sale or for recycling, reprocessing, recovery or purification by a separate operation from that which produced the matter; or
- (b) anything declared by regulation (after consultation under section 5A) or by an environment protection policy to be waste, whether of value or not.

Appendix 2 **Clause 18 of the *Environment Protection (Air Quality Policy) 2016***

18—Matters relating to Part 6 of Act

- (1) In determining any matters under Part 6 of the Act in relation to an activity (including a related development), the Authority must take into account the following matters (to the extent to which they are relevant):
- (a) **ground level concentrations** – whether the activity has resulted, or may result, in the concentration of a pollutant specified in column 1 of the table in Schedule 2 clause 2 exceeding the maximum concentrations specified in column 4 or 5 for that pollutant over the averaging time specified in column 3 for that pollutant (based on evaluations at ground level using a prescribed testing, assessment, monitoring or modelling methodology for the pollutant and activity);
 - (b) **odour levels** – whether the activity has resulted, or may result, in the number of odour units specified in column 2 of the table in Schedule 3 being exceeded for the number of persons specified in column 1 over a 3 minute averaging time 99.9% of the time (based on evaluations at ground level using a prescribed testing, assessment, monitoring or modelling methodology for the pollutant and activity);
 - (c) **stack emissions** – if the Authority is satisfied that it is not reasonably practicable or feasible to make evaluations in relation to the activity under paragraph (a) or (b) – whether the activity (being an activity specified in column 2 of the table in Schedule 4) has resulted, or may result, in the emission to air of a pollutant specified in column 1 of the table in Schedule 4—
 - (i) at a level exceeding that specified for the pollutant in column 3; or
 - (ii) in contravention of a requirement (if any) specified for the pollutant in column 4,(based on evaluations at the stack using a prescribed testing, assessment, monitoring or modelling methodology for the pollutant and activity);
 - (d) **evaluation distances** – whether the assessment requirements set out in the document entitled Evaluation Distances for Effective Air Quality and Noise Management (2019) prepared by the Authority give rise to requirements for separation distances between the activity and other premises;
 - (e) **localised air quality objectives** – any localised air quality objectives (within the meaning of clause 14) that apply in relation to the activity;
 - (f) **any other kind of air pollution** – whether the activity has resulted or may result in the pollution of the air in any other manner;
 - (g) **requirements to be imposed on all relevant persons** – the requirements that should, in the event of an environmental authorisation being granted, be imposed on all relevant persons for the purposes of preventing or minimising the pollution of the air or its harmful effects.
- (2) In this clause—
- prescribed testing, assessment, monitoring or modelling methodology, for a pollutant or activity, means—
- (a) a testing, assessment, monitoring or modelling methodology set out for the pollutant or activity in—
 - (i) Ambient Air Quality Assessment 2016 prepared by the Authority; or
 - (ii) Emission Testing Methodology for Air Pollution 2012 prepared by the Authority; or
 - (b) some other testing, assessment, monitoring or modelling methodology approved by the Authority for the pollutant or activity.

Appendix 3 Policy framework summary for thermal EfW activities

Thermal EfW activity	Feedstock eligibility criteria	Waste levy liability	Policy framework outcome
Production of RDF	Criteria applies	N/A	✓ Supported in accordance with RDF standard and feedstock eligibility criteria
Use of RDF	N/A	N/A	✓ Supported
Incineration, direct combustion, gasification or pyrolysis of non-homogeneous waste	Criteria applies	✓ Levy applies	× These thermal EfW activities are not supported
Dedicated thermo-chemical decomposition ie pyrolysis or gasification of homogeneous waste material	Criteria applies	N/A	✓ Supported in accordance with feedstock eligibility criteria
Raw biomass combustion (or other thermal EfW activity, eg gasification)		N/A	Out of scope