Government of **Western Australia**
Department of **Water and Environmental Regulation**

Issues paper

Waste not, want not: valuing waste as a resource

Consultation to inform development of a legislative framework for waste-derived materials

Department of Water and Environmental Regulation

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Get involved

The Department of Water and Environmental Regulation welcomes your comments and views on the legislative option for waste-derived materials that will work best for Western Australian conditions.

Community feedback promotes transparency in the design of government policy, helping us to improve our programs. It also gives community members the opportunity to put forward innovative ideas to solve problems.

We want to hear from you

You are invited to share your views by providing a written submission. Your feedback will help us to develop a preferred legislative option.

We will analyse the responses carefully before determining the department's preferred option and providing advice to government.

The public comment period for this issues paper will be 12 weeks from 12 June 2019.

Submissions should be provided in writing to wastereform@dwer.wa.gov.au **by 5 pm (WST) on 4 September 2019**.

The department will prepare a summary report on the responses for consideration of the government. This report will be published on the department's website.

Feedback from this process will inform the development of, and further consultation on, a legislative framework and legislative amendments for the use of waste-derived materials.

Making a submission: your legal rights and responsibilities

If you make a submission, please be aware that your name will be published; however, your contact address will be withheld for privacy. If you do not consent to your submission being treated as a public document, you should identify what information you consider to be confidential, and include an explanation. If you do not specifically mark your submission as being confidential in whole or in part, the department will proceed on the basis that you have consented to it being treated as a public document.

Please note that even if your submission is treated as confidential by the department, it may still be disclosed in accordance with the requirements of the *Freedom of Information Act 1992*, or any other applicable written law.

The department reserves the right not to publish any particular submission and to redact any content that could be regarded as racially vilifying, derogatory or defamatory, or otherwise legally problematic before publishing a submission.

Introduction

Waste reform

The department is progressing a range of legislative reforms to meet the objectives of the *Waste Avoidance and Resource Recovery Strategy 2030* (Waste Strategy 2030), including to improve the waste management and waste levy legislative framework in Western Australia.

This issues paper relates to the Waste Strategy 2030's objective to encourage the use of waste-derived materials, including by developing product specifications for them, to build confidence in recycled products, increase demand for them and develop relevant markets while protecting the environment.

Valuing waste as a resource

The Waste Strategy 2030 envisages that the state will become a sustainable, low-waste, circular economy in which human health and the environment are protected from the impacts of waste.

To achieve this, much of the waste that is generated in the state must be valued as a resource that can be reused or recycled for the benefit of the state's economy.

Although Western Australians support better management of waste, recent per capita figures show the state is still generating waste at the highest rate and recovering resources at the second lowest rate in Australia (Pickin & Randell 2017, cited in the Waste Strategy 2030).

Some materials that could be recovered are being sent to landfill, stockpiled indefinitely or disposed of illegally. Some of these materials, although waste, might be valuable as fit-for-purpose products if they do not create a risk to human health or the environment ('waste-derived materials').

Unlike the legislative frameworks in some other jurisdictions, the current legislative framework in the state does not provide for 'resource recovery exemptions' nor risk-based assessment and approvals of waste-derived materials. This contributes to industry uncertainty about the purposes of the licensing and waste levy regimes and discourages the uptake of, and market development for, waste-derived materials.

The effect of this industry uncertainty is contrary to the circular economy approach encouraged by the Waste Strategy 2030. It is potentially driving a preference for the use of virgin raw materials and resulting in valuable non-virgin resources being sent to landfill.

The establishment of a waste-derived materials legislative framework is a priority in the state government's waste agenda and supports the objectives of the Waste Strategy 2030.

Purpose

This paper outlines legislative approaches for a waste-derived materials framework so as to seek public comments on the legislative option that will work best for the state. The aim is to encourage the use of fit-for-purpose, waste-derived materials and Western Australia's move to a circular economy. This will include providing greater certainty about when waste-derived materials will not trigger licensing and levy obligations.

Comments provided in response to this paper will inform the legislative direction for waste-derived materials.

Waste performance

The Waste Strategy 2030 notes that Western Australia's per capita waste generation rates are higher compared to other jurisdictions, while its recovery rates are lower, and acknowledges there are significant opportunities to improve waste generation and recycling practices and performance, including through the development of a legislative framework to encourage the use of waste-derived materials.

The state's waste performance indicates that, while a significant amount of waste is generated, only a small proportion of that is recovered. The *Recycling Activity Review 2016-17* (RAR) estimates that, in 2016–17, 4.71 million tonnes of waste was generated, with only 2.43 million tonnes of that waste recovered.

Recycling

The source and types of material recycled for the 2016–17 period (as reported in the RAR) are provided below in Table 1 and Table 2.

Table 1 Waste recycled by material sector

Material sector	Tonnes recycled
Construction & Demolition	1 223 500
Commercial & Industrial	718 100
Municipal Solid Waste	485 700
Total	2 427 300

Table 2 Categories of materials recycled

Material category	Tonnes recycled
Masonry materials	1 092 500
Organics	468 000
Paper & cardboard	211 100
Metals	567 000
Glass	55 700
Textiles	2 200
Rubber	17 800
Plastic	13 100
Total	2 427 300

Stockpiling

Stockpiling of waste rather than its diversion as recovered material is a concern in Western Australia. The *National Waste Report 2018* acknowledged that substantial stockpiling of Construction and Demolition (C&D) waste is understood to be occurring in the state. This report and the RAR note that, at the end of 2016–17, 646 800 tonnes of processed C&D materials and 372 800 tonnes of unprocessed C&D materials were stockpiled in Western Australia – an increase of 182 900 tonnes and 85 600 tonnes respectively.

The RAR noted that the reported quantity of stockpiled processed waste from other material categories (most significantly glass and metals) declined by 51 400 tonnes from 2015–16 to 2016–17.

However, an accurate picture of stockpiling is limited by a lack of data, which is potentially leading to underestimates of waste generation and overestimates of recycling when drawing on recorded data for waste stockpiles.

The 2018 National Waste Report noted that the C&D industry surpassed the previous Waste Strategy 2030's C&D diversion target of 75 per cent by 2020; however, industry reported its performance is affected by growing stockpiles of processed and unprocessed C&D materials due to weak demand for recycled products. Feedback from industry indicates this lack of demand is, at least partly, due to uncertainty as to whether the material will be regulated as waste.

Landfill

A significant amount of waste is disposed of to landfill in Western Australia: 2.29 million tonnes in 2016–17, as reported in the RAR. While the RAR does not provide information of the composition of material being disposed to landfill, the 2018 National Waste Database provides an estimate of the source and nature of waste disposed of in 2016–17, summarised in tables 3 and 4 below.

Table 3 Composition of waste to landfill by material sector

Material sector	Tonnes disposed
Construction & Demolition	350 497
Commercial & Industrial	699 833
Municipal Solid Waste	961 609
Total	2 011 940*

Table 4 Composition of landfill by material type

Material category	Tonnes disposed
Masonry materials	424 299
Metals	76 732
Organics	788 730
Paper & cardboard	240 896
Plastics	327 579
Glass	77 998
Textiles, leather & rubber (excluding tyres)	75 775
Total	2 011 940*

*Rounded totals

Opportunities

Across Australia, the waste sector contributes more than $10 billion a year to the economy. At the same time, materials worth hundreds of millions of dollars are lost to landfill each year (Australian Bureau of Statistics 2014, as referenced in the Waste Strategy 2030). In terms of job creation, it is estimated that for each 10 000 tonnes of waste recycled, 9.2 full-time equivalent jobs are created compared to only 2.8 jobs for each 10 000 tonnes of waste landfilled (Access Economics 2009, as referenced in the Waste Strategy 2030).

Clearly, the re-entry of waste-derived materials into the economy presents significant economic opportunity for Western Australia.

The current legislative framework

The legislative framework for regulation and management of Western Australia's waste consists of the *Environmental Protection Act 1986* (EP Act), *Waste Avoidance and Resource Recovery Act 2007* (WARR Act), *Waste Avoidance and Resource Recovery Levy Act 2007* (WARR Levy Act) and their regulations. There are complex relationships between these Acts and Regulations, some of which are briefly outlined below.

The department regulates emissions and discharges to the environment under Part V of the EP Act.

The department also monitors and audits compliance with the EP Act including works approvals and licence conditions, taking enforcement action as appropriate and developing and implementing licensing and industry regulation policy.

Licensing

Premises on which certain activities are carried out and from which emissions or discharges are made are known as 'prescribed premises' and listed in Schedule 1 of the *Environmental Protection Regulations 1987* (EP Regulations) because of their potential to cause emissions and discharges to air, land or water.

These categories include premises on which waste is generated, stored or buried such as premises where:

- certain biomedical waste is incinerated or destroyed
- waste, excluding clean paper, cardboard and certain biomedical waste, is incinerated
- liquid waste produced on other premises (other than sewerage waste) is stored or irrigated
- solid waste produced on other premises is stored or discharge onto land
- solid waste is stored pending its final disposal or re-use
- waste is stored pending processing, mixing, drying or composting to produce commercial quantities of compost or blended soils
- waste is accepted for burial.

An occupier of any 'prescribed premises' who causes, or permits to be caused, a discharge of waste or an emission of noise, odour or light onto or into land, water, the atmosphere or living things on, in, under, above or part of the premises is required to hold a licence authorising the relevant emission.

Waste levy

The WARR Levy Act and *Waste Avoidance and Resource Recovery Levy Regulations 2008* (WARR Levy Regulations) impose a levy on waste disposed of to landfill at certain categories of landfill in the metropolitan region and on waste

generated and collected in the metropolitan region and disposed of to landfill at certain categories of landfill outside of the metropolitan region.

The relevant categories of landfill are premises specified in categories 63, 64 or 65 of Schedule 1 to the EP Regulations.

Category 63, 64 and 65 prescribed premises are defined in Schedule 1 to the EP Regulations as follows:

- Category 63 – Class I inert landfill site: premises (other than clean fill premises) on which waste of a type permitted for disposal for this category of prescribed premises, in accordance with the *Landfill Waste Classification and Waste Definitions 1996*, is accepted for burial;
- Category 64 – Class II or III putrescible landfill site: premises (other than clean fill premises) on which waste of a type permitted for disposal for this category of prescribed premises, in accordance with the *Landfill Waste Classification and Waste Definitions 1996*, is accepted for burial; and
- Category 65 – Class IV secure landfill site: premises (other than clean fill premises) on which waste of a type permitted for disposal for this category of prescribed premises, in accordance with the *Landfill Waste Classification and Waste Definitions 1996*, is accepted for burial.

The waste levy is payable by the licensee of a licensed category 63, 64 or 65 landfill or by the occupier of an unlicensed category 63, 64 or 65 landfill.

Clean fill premises means premises on which all of the waste that is, or has ever been, accepted for burial is uncontaminated fill or clean fill, as determined by reference to the Landfill Waste Classification and Waste Definitions 1996: EP Regulations r.2AA.

Definition of ‘waste’

’Waste’ is defined in both the EP Act and the WARR Act to *include* matter:

a) whether liquid, solid, gaseous or radioactive and whether useful or useless, which is discharged into the environment; or

b) prescribed to be waste.

The decisions of Justice Beech and the Court of Appeal in *Eclipse Resources Pty Ltd v the State of Western Australia [No. 4]* [2016] WASC 62 and *Eclipse Resources Pty Ltd v The Minister for Environment [No 2]* [2017] WASCA 90 (Eclipse case) provided guidance on the matters relevant to determining whether certain material is waste at a particular point in time for the purposes of the licensing and levy legislative regimes. These decisions confirmed that whether or not material is waste in a particular case will depend on all the facts and circumstances of that case.

In the Eclipse case, the courts had regard to the above inclusive statutory definition and the ordinary meaning of the term ‘waste’ and held that for the purposes of the licensing and levy legislative regimes, ‘waste’ means:

a) anything left over or superfluous, as excess material, by-products etc., not of use for work in hand (summarised by Justice Beech as follows: 'unwanted or excess material, viewed from the perspective of its source'); and

b) any matter whether useful (i.e. serving some purpose or of practical use) or useless which is gotten rid of into the environment.

Amendments to the EP Regulations gazetted on 27 April 2018 allow for the burial of clean fill, or uncontaminated fill that is shown by testing, to meet certain environmental and health thresholds at a site, without the site needing to be licensed as a landfill and without the occupier becoming liable to pay the waste levy. (The department is conducting a review of the thresholds in Table 6 of the Landfill Waste Classification and Waste Definitions 1996 – amended 2018 – in consultation with industry stakeholders).

Further information on the above 2018 amendments, including frequently-asked questions, is available in the factsheet: *Amendments to the Environmental Protection Regulations 1987 – clean fill and uncontaminated fill*.

Further information on considerations for determining whether material is waste is available in the factsheet: *Assessing whether material is waste*.

Policy framework

The former Department of Environmental Regulation developed an end-of-waste framework in 2014 to provide policy guidance on when the department would consider certain materials to have ceased to be waste in its regulatory decision making within the licensing and levy legislative regimes. This framework included:

- *Guidance Statement: Regulating the Use of Waste-Derived Materials* (November 2014, updated January 2016), which set out how the former department would regulate the use of waste-derived materials
- *Material Guideline: Clean fill* (December 2014), which provided guidance on when DER would consider clean fill generated from waste as no longer being waste
- *Material Guideline: Construction products* (December 2014), which provided guidance as to when the former department would regard road base and drainage rock produced from waste as no longer being waste
- *Guideline: Submitting an application for the use of waste-derived materials (case-by-case determination)* (July 2015), which set out the process and the minimum information requirements for submitting an application to the former department for a determination that a waste-derived material had ceased to be waste
- *Manufactured fill Addendum to the Guideline: Submitting an application for the use of waste-derived materials (case-by-case determination)* (August 2015), which set out specific issues associated with manufactured fill that may require additional information as part of applications for manufactured fill

- *Environmental Standard: Assessing leachates from waste-derived materials* (September 2015), which identified and outlined the leachate testing methods for waste-derived materials proposed to be applied to land or used as soil amendment agents.

The end-of-waste framework was policy-based and did not provide legal certainty or a legal defence for industry using waste-derived materials. It was suspended following the decision of Justice Beech in the Eclipse case so that it could be reviewed. Following that review, it was not re-activated as it was considered preferable that a legislative framework be introduced instead.

The key issue

The current legislation does not include a framework for waste-derived materials. It does not prescribe when waste-derived materials will cease to trigger the licensing and waste levy regimes under the EP Act, WARR Act, WARR Levy Act and their regulations made under these Acts.

Industry has reported that the uncertainty around whether material is waste (and hence, whether its storage, burial, discharge onto land, irrigation or incineration will attract licensing and waste levy requirements) is inhibiting the uptake of and market development for waste-derived materials. This is potentially driving a preference for the use of virgin raw materials, and resulting in valuable non-virgin resources being sent to landfill.

This uncertainty is contrary to the circular economy approach encouraged by the Waste Strategy 2030, where most waste generated is valued as a resource that can be reused or recycled for the benefit of the state's economy.

Currently, the department receives occasional requests to 'approve' the use of waste-derived materials in certain circumstances. While the department is able to give advice and indicate its general views regarding the use of such materials, the legislation does not allow the department to approve such requests, even if the use is beneficial and has very low risk to the environment and human health.

Feedback from industry indicates support for the development of a legislative framework that provides for a risk-based assessment and approval process for bespoke use of waste-derived materials.

Other jurisdictions

New South Wales, South Australia and Queensland provide examples of comprehensive legislative frameworks to encourage the use of waste-derived materials. Table 5 below summarises their approaches. Your views are sought on which legislative framework (or aspects of it) you think would work for the state.

Table 5 Approach to waste-derived materials in other jurisdictions

Overview	Current materials approved and changes	Notes
NEW SOUTH WALES		
The legislative framework includes: • a broad definition of 'waste', which has the scope to capture waste-derived materials • a system of 'resource recovery orders' and 'resource recovery exemptions' ('orders and exemptions') issued by the NSW Environmental Protection Authority (NSW EPA) issued as two separate documents as a package. Exemptions operate to exempt consumers of certain wastes/waste-derived materials from particular legal requirements (e.g. relating to the licensing of premises and the payment of waste contributions). They also place conditions on how consumers use the materials. Orders impose requirements (conditions) on the producers/suppliers of those wastes/waste-derived materials e.g. requirements as to the chemical attributes of the materials, specifications for the end product including testing, and information to be provided to consumers of the materials. Orders and exemptions may be general or specific. General orders and exemptions may be relied upon by anyone who is covered by their terms without any further approval from the NSW EPA being necessary. Specific orders and exemptions apply to specified persons only and are made by the EPA on an application-basis. Specific orders and exemptions are only issued for the particular use of a particular material (i.e. on a case-by-case basis for bespoke usage) if no general order and exemption is available for that use and material.	The NSW EPA has issued general orders and exemptions for the 'commonly recovered and reused wastes' of: Acetylene gas lime slurry; Ash from burning biomass; Basalt fines; Biosolids; Bulk agricultural crop waste; Cement fibre board; Coal ash; Coal washery rejects; Coal washery rejects (coal mine void); Compost; Effluent; Excavated natural material; Food waste (liquid); Food waste (solid); Foundry sand; Gin trash; Manure; Mulch; Pasteurised garden organics; Plasterboard; Processed animal waste; Rapidly decomposed food waste (closed loop); Rapidly decomposed food waste (Greentech Industries); Rapidly decomposed food waste (Eco Guardians); Reclaimed asphalt pavement; Recovered aggregate; Recovered fines (continuous); Recovered fines (batch); Recovered glass sand; Recovered railway ballast; Slag (blast furnace); Slag (electric arc furnace); Slag (electric arc furnace ladle); Slag (electric arc welding); Slag (steel furnace); Stormwater, Treated drilling mud; Treated grease trap waste; Tyres. In 2018, following a comprehensive technical review, the NSW EPA withdrew the order and exemption for the use of mixed waste organic material on agricultural land and for mine site rehabilitation until further controls can be considered.	General and specific orders and exemptions are only issued by the NSW EPA if a proposed use of a waste/waste-derived material is genuine, rather than a means of waste disposal, beneficial or fit-for-purpose and will not cause harm to human health or the environment. General orders and exemptions are published in the NSW Government Gazette. Specific orders and exemptions are issued in writing to the person concerned and the details are not made publically available. Specific orders and exemptions are reviewed every two years on a rolling basis. **Further information** New South Wales Environmental Protection Authority – Resource Recovery Framework

Overview	Current materials approved and changes	Notes
SOUTH AUSTRALIA		
The legislative framework includes: • a broad definition of 'waste', which has the scope to capture waste-derived materials • a system of standards for waste-derived materials • an approved recovery resource system. The system of 'standards' establishes that a waste-derived material is not considered to be 'waste' for the purposes of the SA legislation governing the licensing of premises and payment of waste levy if it: (a) is a product that meets specifications/standards published/approved by the SA Environmental Protection Authority (SA EPA); or (b) if no standard/specification published or approved by the SA EPA applies, it constitutes a product that is 'ready and intended for imminent use without the need for further treatment to prevent any environmental harm that might result from such use'. The SA EPA uses the standards to assess proposals and determine compliance with legislation. Proponents must demonstrate that they meet requirements in the standards, including suitability of a proposed use of a material (i.e. beneficial properties and minimisation of risks to the environment and human health). In 2017, legislative amendments were made to clarify that if the SA EPA alleges specified matter is waste that it is waste in the absence of proof to the contrary. The amendments also provided for the approved recovery resources system. Under this, the SA EPA has the power to declare that a specified matter is an 'approved recovered resource' and therefore does not constitute 'waste' for the purposes of the SA legislation governing the licensing of premises and payment of waste levy. Regulations supporting the making of such declarations are currently being developed. It is envisaged that these will be used for specific materials, in comparison with the standards, which are broad in character.	Standards have been published by the SA EPA for the production and use of: refuse-derived fuel; waste-derived fill; and waste-derived soil enhancer. These standards do not contain a set of clear, easily applied criteria (e.g. specifications of quality, size or contamination) that, if met, would mean the material is no longer waste. Rather, they function as procedures to be applied by the SA EPA when determining whether to grant further approvals in respect of waste-derived materials to a proponent. A draft specification for waste derived fill has been the subject of industry consultation but is yet to be finalised. Recently, the SA EPA published the *Waste-derived fill (water treatment solids – SPACE) specification*. No 'approved recovered resource' declarations have been made by the SA EPA to date, as the supporting regulations are under development.	The SA EPA has published guiding principles setting the approach for determining acceptable methods for waste processing and reuse standards. These 'are intended to ensure that resource recovery is suitable for an intended beneficial use, will maximise value and minimise any adverse impacts'. The principles include taking a risk-based approach to regulation and requiring that waste recycling and reuse must demonstrate that it is genuine, beneficial and fit-for-purpose. Where there is no applicable published or approved standard (as per clause (b) in the Overview column), producers/suppliers and users are able to make a determination on whether a material is a product (and hence no longer waste) on the basis that it complies with the requirements of this clause. They can then proceed without applying to the SA EP for approval. However, they must be able to demonstrate all the elements of clause (b), i.e. that the material constitutes a product that is 'ready and intended for imminent use without the need for further treatment to prevent any environmental harm that might result from such use'. The SA EPA is considering charging an assessment fee under the system of approved recovered resources. **Further information** **South Australia Environmental Protection Authority**

Overview	Current materials approved and changes	Notes
QUEENSLAND		
The legislative framework includes: • a system of 'end of waste codes' (EOW codes) and 'end of waste approvals' (EOW approvals) whereby a waste-derived material will not be considered to be 'waste' for the purposes of the QLD legislation governing the licensing of premises, and will instead be considered an 'end of waste resource' if it is: a) managed by a registered resource producer in accordance with an EOW code; or b) managed by the holder of an EOW approval in accordance with the approval • a definition of 'waste' that explicitly excludes 'an end of waste resource' managed in accordance with EOW codes and EOW approvals from being 'waste' • a provision that a resource will revert back to being a waste when it is disposed of at a waste disposal site or deposited at a place or in a way that would constitute a convention of general littering or illegal waste dumping provisions. The EOW codes are outcome-focused and specify outcomes to be achieved in order for a waste to be deemed a resource. The EOW codes provide requirements on the registered resource producer and, where necessary, conditions for the use of the resource. A waste producer may supply a waste as a resource under an EOW code provided they have registered with the Department of Science and Environment (DSE) and can comply with the requirements of the EOW code.	EOW codes are currently in place for fertiliser wash water and slurry, oyster shells, sugar mill by-products, foundry sand, coal combustion products, coal seam gas drilling mud, biosolids, irrigation of associated water (including coal seam gas water), and associated water (including coal seam gas water). Public consultation has been completed or about to be completed for EOW codes on concrete washout waste, treated timber waste (solid timber), water treatment residuals, dunder and tyres.	Proponents can seek an EOW approval from the DSE. These are issued to a particular person in respect of a particular waste-derived material. These approvals are primarily intended to be used on a trial basis, when there is a potential market/demand for a resource and an EOW code for that resource has not been developed. EOW approvals can be reviewed once and amended or transferred to another party but are intended to be developed into EOW codes following a successful trial. The holder of the EOW approval may make a submission for development of an EOW code. Where the use of a waste as a resource has been demonstrated to have benefits through sustainable use and negligible environmental risks, consideration may be given to developing an EOW code. A technical panel may be used for development and a public consultation process allows for comments on a draft EOW code. An application fee is charged for EOW approvals, depending on the particular waste and use. **Further information** Queensland Department of Environment and Science

Your feedback

You are invited to share your views on the best legislative approach for waste-derived materials for Western Australia through provision of a written submission.

To assist in making comments, you may wish to refer to Table 5 in this issues paper, which provides information on comprehensive legislative frameworks in Australia that encourage the use of waste-derived materials.

Written submissions should be sent to wastereform@dwer.wa.gov.au

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