



ACT Waste-to-Energy Policy 2020-25





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1. Introduction

The ACT generates around 1 million tonnes of waste each year. Resource recovery rates in the ACT have plateaued at around 70% for the last decade, which means that approximately 300,000 tonnes of waste are going to landfill each year.

The ACT set an ambitious target to reach 90% resource recovery by 2025 in the *ACT Waste Management Strategy 2011-2025*. The Waste Feasibility Study was completed in May 2018 with the release of the Waste Feasibility Study Roadmap (the Roadmap), which outlines different approaches the Government could take to move toward its 90% resource recovery target by 2025. The key initiatives in the Roadmap focus on reducing waste and improving recycling rates. The Roadmap also identified that the ACT is unlikely to meet the 90% target, or move beyond 80% resource recovery, without some form of waste-to-energy.

In May 2019 the ACT Government ‘acknowledged that we are in a state of climate emergency that requires urgent actions across all levels of Government.’ As a result, all decisions made by the ACT Government should consider impacts on climate change. The *Climate Change and Greenhouse Gas Reduction Act 2010* sets the ACT’s greenhouse gas emission reduction and renewable electricity targets. The ACT has a goal of achieving net zero greenhouse gas emissions by 2045 and has set interim targets to guide progress towards this goal, the first of which was reducing emissions by 40% from 1990 levels by 2020. The ACT achieved this in 2020 through the procurement of 100% renewable electricity.

In September 2019, the Government released the ACT Climate Change Strategy 2019-25 (the Climate Change Strategy). The Climate Change Strategy outlines how the ACT will further reduce its greenhouse gas emissions, once emissions from electricity have been reduced to zero in 2020. The Climate Change Strategy identifies

that the waste sector produces about 4% of the ACT’s greenhouse gas emissions. The ACT Government is committed to reaching its emissions targets and waste-to-energy may have a role in reducing emissions from waste. This policy seeks to support world class waste management solutions while working to achieving these targets.

To develop this policy the ACT Government engaged with community and industry over ten weeks. This policy considers feedback received through the engagement process and gives effect to a policy which provides certainty to industry and the community. It generally prohibits thermal treatment of waste, promotes the waste hierarchy and supports investment in anaerobic digestion in the ACT. The policy establishes underlying principles and outcomes to guide the transition to a circular economy and provides clear direction about the types of activities that are permitted.

An important element of this policy is that it respects the waste hierarchy. Waste reduction, reuse and recycling of materials will take precedence over energy recovery applications. Thermal treatment of waste including, incineration, gasification and pyrolysis will not be permitted in the ACT. Non thermal means of energy recovery such as anaerobic digestion, or the production of refuse derived fuel (RDF) will be permitted. Landfill gas capture and electricity generation will also continue as best practice management of the ACT’s landfills. Where waste-to-energy activities are permitted in the ACT, only residual waste will be eligible as a fuel.



2. Setting the Scene

Internationally the recovery of energy from waste plays a larger role in waste management than it does in Australia. The European Union, which is generally recognised as using best practice waste management techniques, is reliant on waste-to-energy technologies for diverting a portion of their residual waste streams from landfill. This is important in the European context due to a scarcity of land and suitable sites for new landfill, and the beneficial recovery of energy.

Overseas markets for recyclable materials are changing rapidly. Some countries are no longer accepting mixed recyclable waste or are considering prohibitions on accepting contaminated recyclable waste. In the short term, this will put pressure on the waste management sector in Australia to find markets for these materials. The Australian Government has set a timeline for banning the export of some types of recyclable materials and instead proposes that Australia builds capacity to generate high value recycled commodities and associated demand.

Waste management at a national level in Australia is guided by the National Waste Policy 2018¹ (the National Waste Policy) and an Action Plan announced in 2019. The National Waste Policy sets out a path for Australia to transition toward a circular economy by introducing 14 strategies. The primary focus of the policy is on reducing and reusing waste and improving recycling. The National Waste Policy also recognises the embodied energy in waste as a valuable resource and that waste-to-energy may play a role in diverting waste from landfill.

In 2018 the ACT Government released an information paper on waste-to-energy and undertook an engagement process with the community and industry to determine what role waste-to-energy should have in the future of waste management in the ACT. The waste-to-energy engagement process used a range of different methods across a wide cross-section of the community including an online survey, public information stalls, one on one sessions and focus groups for both community and industry. Several written submissions were also received from both the community and industry.

The results of the engagement process show that there could be a role for waste-to-energy in the ACT for treating genuinely residual waste. However, the community has concerns around the use of thermal technologies and their potential impact on human health, the local environment as well as their long-term impact on climate change. There was also strong community support for focusing on higher order waste avoidance and recycling activities before introducing waste-to-energy in the ACT.

Over the next five years the Government will investigate and implement the key recommendations from the Waste Feasibility Study Roadmap including the investigation of a FOGO scheme, ban certain single use plastic products and seek to create markets for recycled products through Government procurement. These initiatives will continue the focus on improving avoiding, reusing and recycling waste in line with the waste hierarchy.

1 Commonwealth Government of Australia (2018) National Waste Policy <https://www.environment.gov.au/system/files/resources/d523f4e9-d958-466b-9fd1-3b7d6283f006/files/national-waste-policy-2018.pdf>



3. Underlying principles

Key principles that should be considered when defining what best practice waste management looks like in the ACT include:

- > The waste minimisation principle, which means that waste is handled in a way that minimises and, if practicable, eliminates harm to the environment.
- > The precautionary principle, which means that a lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.
- > The inter-generational equity principal, which means that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.

The ACT Government continues to facilitate the transition to a circular economy in its waste management practices. The key initiatives identified in the Roadmap primarily focus on reducing waste, better recovery of resources and creating markets for recycled products and these initiatives will be the core focus moving forward.



4. Existing regulatory framework



Facilities proposing general waste-to-energy activities will be subject to the existing regulatory framework. The primary pieces of legislation governing such activities are the *Waste Management and Resource Recovery Act 2016* (WMRR Act), *Environment Protection Act 1997* (EP Act) and the *Planning and Development Act 2007* (PD Act). Other ACT legislation will need to be considered depending on the nature of the activity, including being consistent with the emissions reduction targets legislated under the *Climate Change and Greenhouse Gas Reduction Act 2010*. It is the intention of the Government to undertake a legislative review on the basis of this waste-to-energy policy in 2021.

Waste management in the ACT is governed by the WMRR Act. The WMRR Act states that waste is to be managed in accordance with the waste hierarchy, which prioritises minimising the generation of waste, maximising the recovery and reuse of resources and minimising the amount of waste sent to landfill. It also supports innovation and investment in waste management and promotes best practice in waste management.

Any facility proposing to handle waste in the ACT is required to hold a waste facility licence under the WMRR Act. If the proposed operation/activity requires the transport of waste to or from the site by the operator, a waste transporters licence will also be required. Waste licences are issued and regulated by ACT NoWaste. Section 18 of the WMRR Act sets out the requirement to hold a licence and section 23 sets out what conditions may be placed on waste activities.

The EP Act governs how potentially polluting activities are regulated in the ACT, including emissions and air quality, water quality and noise. If a proposed development involves an activity which is listed as a scheduled activity under the EP Act, an environmental authorisation will be required from the ACT Environmental Protection Authority (EPA).

These activities can be found in Schedule 1 of the EP Act. Part 8 of the EP Act sets out the requirements of an environmental authorisation. Applications for environmental authorisations are publicly notified.

The PD Act governs the planning process in the ACT. Any waste-to-energy proposal would be required to lodge a Development Application under the PD Act. Waste-to-energy projects may also be required to go through an environmental impact assessment process under the PD Act. Both processes include legislated community consultation processes and referral entity consultation, for example, to the Environment Protection Authority, Conservator of Flora and Fauna and Health Directorate.

4.1 How will the policy be implemented?

As discussed above there is already a robust regulatory framework for waste-to-energy facilities. All waste-to-energy facilities will be required to have a licence under the WMRR Act. In issuing these licences the waste manager will consider this policy. Any proposal that is not consistent with the policy will be refused a waste licence.



5. Policy Outcomes

The ACT waste-to-energy policy will complement the initiatives contained in the Roadmap. In line with the National Waste Policy and transitioning to a circular economy, the initiatives outlined in the Roadmap will be a strong focus for the next five years. During this time, non-thermal waste to energy will be investigated but will not be placed ahead of higher order resource recovery methods.

A key insight from the 2018 engagement process was that the ACT waste-to-energy policy should be outcomes focused. Through consultation with relevant stakeholders and the context of the National Waste Policy, key outcomes of a waste-to-energy policy were identified.

The key outcomes of the policy are:

- > Thermal treatment of waste is prohibited
- > Anaerobic digestion of waste is permitted and encouraged
- > Production of, but not burning of RDF is permitted
- > The waste hierarchy is respected and recycling is not undermined
- > The health of the community and the environment are protected, and the impacts of climate change are minimised
- > The importation of waste into the ACT and surrounding regions for energy recovery is minimised
- > Improved resource recovery rates
- > Existing waste-to-energy operations are not negatively impacted



6. Policy Position

The outcomes listed over the page will lead to an environment within the resource recovery sector which supports the waste hierarchy and enables beneficial use of residual waste. This can only be achieved if appropriate measures are taken to support and guide its development.

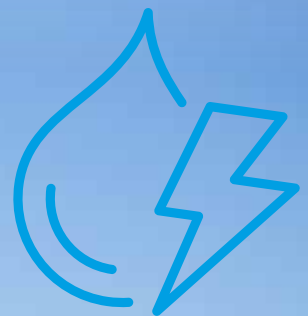
6.1 Scope of Policy

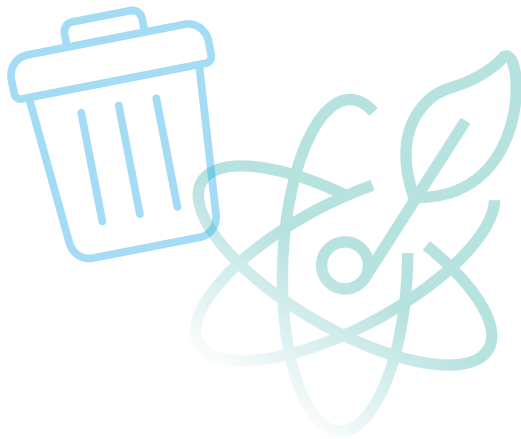
This policy will cover all thermal waste-to-energy technologies including incineration, gasification or pyrolysis of waste, seeking to recover energy, chemically transform or reduce the volume of waste before disposal. It will also cover the production and processing of RDF, including processed engineered fuel (PEF), non-thermal technologies such as anaerobic digestion and the use of landfill gas capture.

New facilities, proposing thermal treatment of waste, by means of incineration, gasification, pyrolysis or variations of these for energy recovery, chemical transformation, volume reduction or destruction will not be permitted in the ACT. The only exception to this is for the safe disposal of medical and biological waste.

The ACT is a small jurisdiction, which generates relatively small quantities of waste. Improvements to waste management in the future will focus on further reducing the volume of waste going to landfill, starting with waste avoidance in line with the waste hierarchy. Therefore, waste management solutions which promote thermal treatment of waste are not considered to be appropriate in the ACT context at this time.

Waste-to-energy facilities / activities established before the date this policy takes effect including thermal treatment of waste in the ACT are outside the scope of the policy and will not be impacted by it. The objects of the EP Act require people engaging in polluting activities to make progressive environmental improvements. Existing waste-to-energy activities will be encouraged to improve their environmental impact over time.





Proposals to treat waste streams using non-thermal technologies, such as anaerobic digestion and landfill gas capture, are covered by this policy. However, these activities are already covered as scheduled activities under the EP Act and will not be further restricted by this policy.

The policy does not cover activities such as the treatment of hazardous or toxic waste, the destruction of medical waste or the destruction of diseased animals. These activities are already regulated by the *Dangerous Substances Act 2004*, the *Animal diseases Act 2005* or as scheduled activities under the EP Act and will not be further restricted by this policy.

6.2 Refuse derived fuels (RDF)

The production of RDF will be permitted under this policy however, only residual waste is permitted to be used. A definition of residual waste is included in Section 6.4. Thermal treatment of RDF will not be permitted in the ACT.

6.3 Anaerobic digestion

Anaerobic digestion is a proven and widely used technology for recovering energy from food waste and other organic material. It also has the added benefit of producing a compost like digestate which can be applied to land as a soil additive.

There are currently no significant anaerobic digestion activities in the ACT. The ACT Government is investigating the introduction of a food waste service to reduce the amount of organic waste going to landfill. Anaerobic digestion may be a solution for treating the ACT's food waste once it is collected and for other sources of organic waste.

The ACT already processes recyclable material and landfills material from surrounding councils through our Materials Recovery Facility and Mugga Lane landfill, so similar arrangements may be suitable for future waste-to-energy solutions, for example food waste.

The ACT Government will be actively investigating anaerobic digestion opportunities for the ACT and this policy places no additional restrictions on anaerobic digestion in the ACT. Alternative options for processing organic waste without energy recovery such as composting are also being investigated.





6.4 Residual waste

Residual waste is non-hazardous waste materials which can no longer be reused, recycled and for which no alternative markets exist, after genuine source separation from mixed waste and resource recovery operations have occurred, and would otherwise be sent to landfill.

A resource recovery operation includes processing through a dedicated materials recovery facility or similar processing operation.

Source separation using a three bin kerbside system is not considered sufficient source separation to qualify as residual waste.



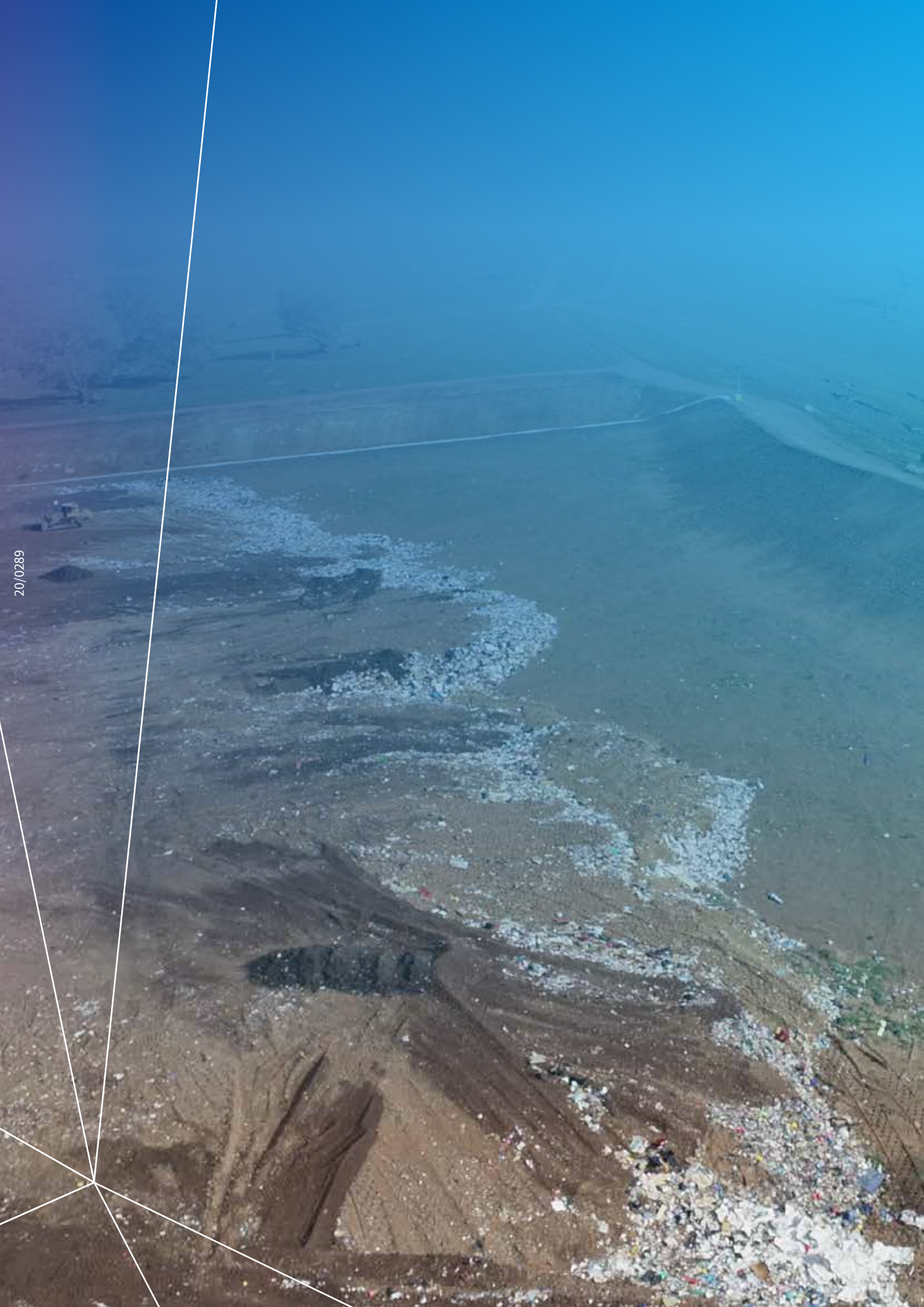
WHAT IS REFUSE DERIVED FUEL?

RDF is a solid fuel made from waste which would otherwise be sent to landfill. Refuse derived fuels can go by several names such as Process Engineered Fuel (PEF) or Solid Recovered Fuel (SRF). These terms have subtly different meanings depending on the specification they are made to, for example, processed engineered fuel is made to a specific standard, but all of them describe a solid fuel made from waste.

RDF's are created through a process that removes incompatible materials like metal and glass. Waste is then processed into a high energy fuel usually involving mechanical separation and shredding into a consistent size. Waste with a high organic component can be squashed into uniform pellets. The fuel can then be transported for use in power plants or other industrial processes such as cement kilns.

Example: a processed engineered fuel facility was established in Wetherill Park in Sydney in 2018. The facility converts a portion of NSW's waste into a processed engineered fuel before it is transported to Berrima for use as a substitute for coal in a cement kiln furnace.





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