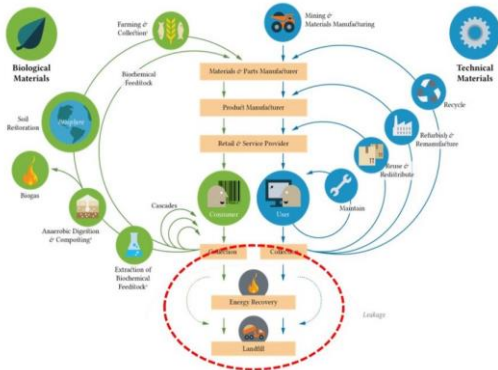


# Energy from waste : A Myth Busting Factsheet

New South Wales is transitioning to a circular economy over the next 20 years. This means we will continue to minimise what we throw away, and use and reuse our resources efficiently, making them as productive as possible.

To achieve a Circular Economy, we need to uphold the waste hierarchy which prioritises waste avoidance, and reduction and promotes composting, reuse and recycling. Waste disposal is a last resort in a circular economy as it represents leakage from the system, wasting finite resources and creating environmental pollution. To create a Circular Economy, services and infrastructure must be put in place to support a sustainable zero waste model as other comparable OECD countries like the EU are pursuing. This means investing in the infrastructure for better collection and source separation. Waste is an essential service so the protection of human health and our environment, ahead of corporate industrial influence is the priority. A circular economy does not include waste to energy incineration. (Image: Ellen McArthur Foundation)



## What is energy from waste?

Energy from waste is a broad term often used to confuse the public about the types of technologies that exist to manage residual waste. Non combustion technologies like Anaerobic Digestion and Material Recovery, Biological Treatment (MRBT) can safely manage residual waste, creating energy without polluting our environment. Waste to energy incinerators burn residual waste creating small amounts of energy but large volumes of greenhouse gases, toxic air pollutants and highly toxic ash requiring secure landfill. This technology destroys resources, entrenches a linear economy and represents the opposite of a circular economy.

Residual waste is the waste left after all the organics, reusable and recyclable waste resources are removed from the waste stream. Many states now have FOGO systems which compost organic waste so it doesn't generate methane in landfill and can sequester this rich carbon compost back into our biosphere where it is safest and desperately needed. Once the reusable and recyclable wastes are removed (ie paper, cardboard, metals, hard plastics) what is left goes to landfill. But much of this waste could be further reused and recycled with better collection and source separation systems. Residual waste is legitimately only around 10% of the MSW. This is an EU waste to energy incinerator that relies on non-recyclable plastic and residual waste as fuel.



## Proven technology



The European Commission classifies waste incineration in the same category as nuclear and coal energy, removing all renewable energy subsidies and funds for this sector, recommending EU states to decommission old incinerators and not build new ones.



Waste to energy incinerators emit more GHG's and toxic air pollutants per unit of energy than most coal, oil and gas technologies.

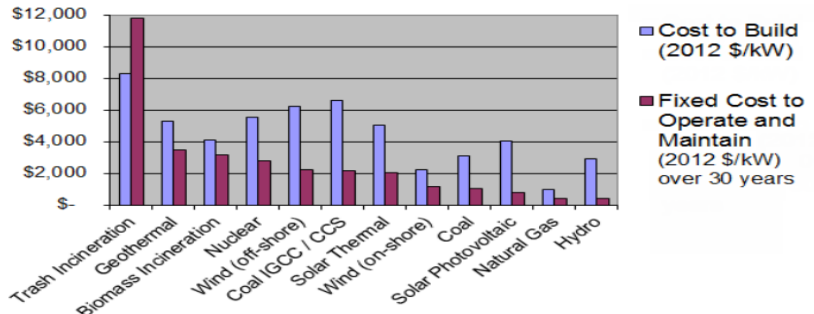
Waste to energy incinerators entrench an unsustainable linear economy based on raw materials extraction and disposal.

This factsheet was originally designed by the NSW Government but has been redesigned by the National Toxics Network to correct misleading information, dispel myths and confirm the facts about waste to energy incineration for 'Community right to know'.

### What about pollution? Is it safe?

Waste to energy incinerators emit a range of pollutants including toxic air pollutants, persistent organic pollutants, and highly toxic ash residues. In fact, waste incineration is the most polluting and expensive way to make energy or dispose of residual waste. Why? Because unlike coal, oil and gas, waste is a highly heterogeneous fuel containing mixtures of chemicals and composite materials that when burnt create dangerous air pollutants like Dioxins, Furans and Bromines. They also emit large volumes of nitrous oxides, and particulates. These pollutants harm human health and our environment, as evidenced by incinerators operating in the EU and US.

### Most Expensive Way to Make Energy

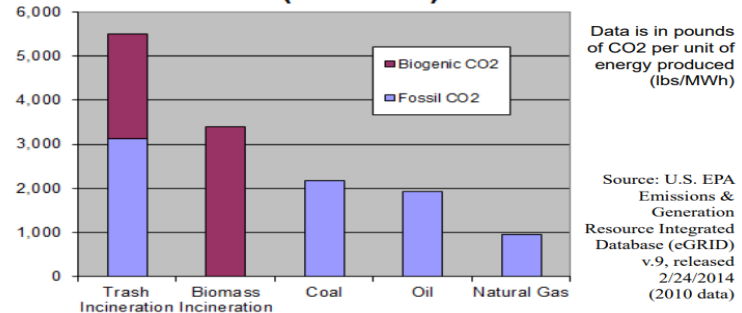


Source: "Updated Capital Cost Estimates for Utility Scale Electricity Generating Plants," Energy Information Administration, April 2013, p.6, Table 1. Full report here: [www.eia.gov/forecasts/capitalcost/pdf/updated\\_capcost.pdf](http://www.eia.gov/forecasts/capitalcost/pdf/updated_capcost.pdf)

### Improved technology means lower emissions?

While the EU has improved standards for incineration since 2000, requiring Advanced Air Pollution Control equipment and stricter regulations, the release of air pollution and toxic ash residues has continued and remains a key challenge for regulators and the industry. Many communities in Europe report air pollution breaches, non-compliant operations and other serious pollution events regularly. In addition, incinerators can emit up to a years' worth of air pollution in just one bypass or OTNOC event. These events can deposit residues of dangerous persistent organic pollutants in the surrounding environment that contaminate the food chain, environment, waterways and can harm human health. The Australian Public Health Association has conducted a systemic review of the impact of waste incineration on human health and concludes: "This systematic review highlights significant risks associated with waste incineration as a form of waste management. Many older incinerators were linked with neoplasia, reproductive issues and other diseases. While the results were not consistent across the literature, based on a precautionary principle there is insufficient evidence to conclude that any incinerator is safe."

### Global Warming Pollution Smokestack CO2 Emissions from U.S. Power Plants CO2 (lbs/MWh)



Data is in pounds of CO2 per unit of energy produced (lbs/MWh)

Source: U.S. EPA Emissions & Generation Resource Integrated Database (eGRID) v.9, released 2/24/2014 (2010 data)

OTNOC- Other than normal operating conditions, or bypass events.

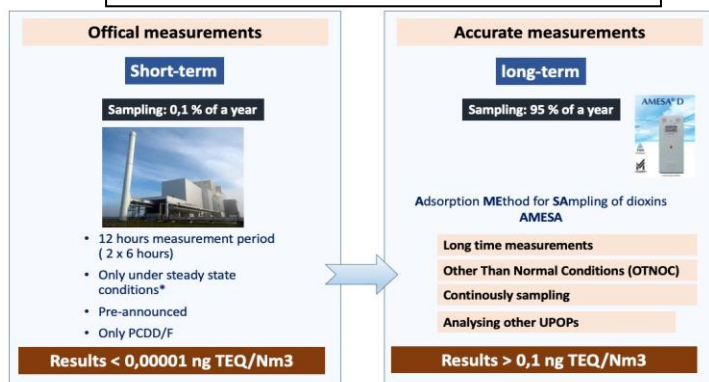


Image courtesy of Toxicowatch, [www.toxicowatch.org](http://www.toxicowatch.org)

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