

The Case against Incineration

Ten reasons to say NO to the TEST Incinerator

April 16, 3002

1. Executive Summary

This briefing sets out why the decision to allow the construction and commissioning of a waste incinerator in Tasmania should be reversed and instead a policy framework, which aims towards Clean Production and Zero Waste, should be implemented.

1. The volume of ash produced by the incinerator is grossly underestimated

There is no explicit calculation of projected ash generation from the incinerator in any of the publicly available documents, including Test Energy's Development Proposal & Environmental Management Plan (development proposal) and the Department of Primary Industry, Water and Environment's (the department) Environmental Impact Assessment.

In the absence of any supporting data inputs and calculations, the department states that the incinerator will produce a mere 18 tonnes of highly contaminated fly-ash and residues a year.

Test Energy does provide a "block diagram" which shows ash generation figures relative to the amount of waste entering the incinerator complex, with no supporting calculations. When the data in the block diagram are explicitly calculated the total ash generation is 19,000 tonnes per year, with 3,000 tonnes of this being highly toxic fly ash and residue. This is over 150 times more than the department's estimation. [verified by EnviroTest, Dr Miller,G: [Re: Ash Calculations for Proposed Brighton incinerator - Total Energy Services Tasmania Pty Ltd.](#)]

2. Incineration cannot virtually eliminate landfill

- Because of the need to dispose of thousands of tonnes of toxic waste ash every year, incineration will never eliminate landfill.
- The Test Energy incinerator does not propose to deal with all of Tasmania's waste - 60% of Southern Tasmania's municipal waste and 37% of all of Tasmania's industrial waste would *not* be diverted from landfill.
- Incinerators will not remove the responsibility and costs from councils of maintaining current landfill sites.

3. The incinerator may burn hazardous substances

Hazardous substances could find their way into the Test Energy incinerator through various waste streams including;

- Industrial waste [which will now make up 70% of the feed stock waste supply]
- Plastics in household and industrial waste
- Sewage sludge – which contains industrial contaminants

4. Incinerators overseas have breached international dioxin standards

The Test Energy incinerator will use Segher technology. Seghers incinerators in the USA and Belgium have had serious emission and safety problems, causing some incinerators to be shut down.

The Seghers incinerator in Davis County USA that Test Energy refer to in the development proposal has failed stack emission tests for dioxin for five consecutive years and has been fined over a million US dollars for breach of environmental permits causing air pollution [Rogers, R., *Davis burn plant is fined \$1,098,954* Deseret News]

A 'state-of-the-art' Seghers incinerator in Belgium referred to by Test Energy in their development proposal breached dioxin emission standards by 1,300 times in August last year, and has been closed down. Reports said that a 12 kilometre zone was contaminated, including schools and residential housing.

Two Belgian scientists have re-assessed the dioxin emissions from the Seghers Belgian incinerators in Ghent and Wilrijk, which again Test Energy refer to in the development proposal, showing that these incinerators have greater emissions than reported. The study also shows that single point sampling for dioxins, rather than continuous sampling, can **underestimate the actual dioxin emissions** sent into the atmosphere by **30 to 50 times**.

5. No independent health risk assessment was undertaken.

The predicted health impacts of Test Energy's proposal are based upon a "multi-path health risk assessment (air, soil, food, water) for a waste to energy plant in Western Australia". Originally prepared by Global Olivine, this health risk assessment was based largely on the operation of two Global Olivine municipal waste incinerators in Washington USA, and Nova Scotia, Canada.

Video evidence held by Greenpeace shows serious operational problems with both of those incinerators. The Canadian plant has been criticised by workers and community and showed dangerous operational procedures. The USA plant is visibly falling to pieces, failed its pollution limits, was illegally dumping its toxic ash, and as a consequence was shut down. The site is now needs to be decontaminated.

This information raises the question of whether it is acceptable for Test Energy to rely on this health risk assessment for the Tasmanian incinerator.

It has been reported that Kwinana council is no longer in negotiations with the Global Olivine proposal in WA after the planning approval for the incinerator expired. The council has made a long term commitment to using the Southern Metropolitan Regional Council Resource Recovery Centre.

6. Incineration is not clean energy, and if petrochemical products are burnt the energy is not legally "renewable"

Test Energy presents the burning of waste and plastics as having positive environmental outcomes in terms of energy recovery. However there are flaws in this approach;

1) Test Energy are required by their permit to ensure recyclable materials are recycled.

The "resource recovery" scenario is used by Test Energy as to claim the incinerator is an environmentally friendly and green option for Tasmania. Burning materials does not further this objective.

2) Test Energy are prevented by law from claiming renewable energy credits for any electricity created from fossil fuel based products. Plastics are derived from fossil fuels, which are the main source of the greenhouse gas, carbon dioxide.

3) Burning products can recover some of the calorific value of a product, however the energy used to make the product is wasted. This uses finite resources in a linear way rather than re-using materials and creates an additional environmental burden. New raw materials must be extracted, energy used to transport and manufacture the new products. These processes will also create toxic pollution in transport and manufacturing processes.

Materials such as paper and wood should be recycled and re-used. Recycling paper in a modern mill uses 3-7 times less energy than a primary paper mill and costs 35% less to produce a paper product. Recycling plastics saves 3.7 to 5.2 times more energy and recycling metal saves 30 to 888 times more energy than is gained through incineration.

7. Incineration could prevent employment and business opportunities in resource recovery in Tasmania

It is expected that the incinerator plant itself will be highly mechanised and automated, and require a reasonably low level of staffing compared with employment in current waste management techniques. There will be employment opportunities in the "front end" recycling and sorting plants. However these jobs will be provided by those recovery and recycling businesses that may join the project should it proceed, rather than Test Energy.

Employment and business opportunities in resource recovery can occur without an incinerator. Indeed, it is probable that jobs and small business opportunities will be lost in the Hobart region if the incinerator is built. Injecting more infrastructure into re-use and recycling, instead of incineration, will lead to more jobs in this sector. Reports show that recycling can produce up to ten times as many jobs as incinerators, given the same amount of waste

8. Incineration is expensive

The economics of incineration do not stand up to scrutiny. Incinerators are formidably expensive. Local authorities that invest in incinerators often find they have less money to invest in more sustainable forms of waste management, such as reuse and recycling. Incinerators rely on the continued generation of waste to support their high building and operating costs.

Aside from the huge capital costs, many incinerators are plagued by unexpected maintenance costs, explosions and unanticipated down-time, an extra cost burden on local economies. Incineration does not generate as many jobs in local communities as waste reuse, recycling and composting schemes do. In addition, the human costs of damaged health and the environment are impossible to measure.

9. Is the incinerator a viable proposal?

Recent media statements (Mercury, 8 March 2003) by Test Energy's Managing Director, that the plant may need to be halved in size due to inability to gain sufficient waste contracts, calls into question the viability of the proposed incinerator business. Test Energy said in publicly available papers that the plant requires 120,000 tonnes of waste to be viable.

Halving of the size of the proposal indicates a capacity of 90,000 tonnes of waste per annum. Although a smaller plant will reduce the initial capital outlay, halving the size of the plant does not necessarily halve the cost of the plant, because the expensive pollution control equipment and infrastructure will still be required.

10. There are non-incineration solutions underway in Australia and around the world which divert up to 85% of waste away from landfill and create hundreds of jobs

A new Greenpeace report shows that "state of the art" waste management is possible, based on available technology, without the use of incineration. The methodology is based on maximum source separation of waste for re-use and recycling, then a further screening of residual waste to remove recyclables and hazardous elements of waste. Green waste and organic matter are also removed and processed into garden mulch, compost and methane recovery.

This approach of harvesting the valuable resources in the waste stream can divert 80% or more waste from landfill. It also provides significant economic benefits such as job creation and creating new business opportunities. It's an approach that's working in Canberra, New Zealand and Canada.