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Sustainability Policy Unit
Department of Premier and Cabinet
15th Floor Governor Stirling Tower
197 St Georges Terrace
PERTH WA 6000

Dear Sir or Madam,

RE: WESTERN AUSTRALIAN STATE SUSTAINABILITY STRATEGY

Please find enclosed my submission to the Sustainability Policy Unit on the draft Western Australian State Sustainability Strategy. My submission relates to the Reducing and Managing Waste area of the sustainability and Settlements Chapter.

I also enclosed for your review a copy of the publication *incineration and Human Health: State of Knowledge of the Impacts of Waste Incinerators on Human Health,* a detailed study of the health impacts of incineration to which my submission relates.

Yours Faithfully,

Sue Connor

Submission on draft Western Australian State Sustainability Strategy:

Reducing and Managing Waste

By leaving the door open for high temperature treatment technologies, the State Sustainability Strategy inherently contradicts its own goal of zero waste. Mass burn incineration, pyrolysis, gasification and other technologies whereby waste is broken down by heat ("incineration") should be specifically excluded under the Strategy.

The use of incineration as a method of waste disposal ensures that there will always be a contaminated residue to dispose of. Matter cannot be destroyed but on being incinerated, it is transformed into harmful compounds, emitted to air and converted to toxic ash. Incineration can only be seen as an intermediary whereby the visible volume of waste is reduced. This waste is then left to be dealt with as more concentrated and more toxic ash as it enters the population surrounding the air. While the ecological and health impacts of the emissions may not be immediately evident, their magnification through the food web into the bodies of humans will become evident with time as has been apparent in the United States and Europe.

In this respect the application of the precautionary principle to inform policy should be of paramount importance. There are hundreds of chemicals emitted from the stacks of incinerators, and for the large majority there is little if any information on the impacts on human health and the environment. The application of the precautionary principle to the activity of incineration should lead to a rejection of the technology on the basis of potential harm to human health and environment. In terms of dioxins, furans and PCBs, there is sufficient information to reject incineration outright.

Problems of initial toxicity of the waste to be incinerated are not solved and are often exacerbated by incineration. The incineration process concentrates toxic material in the ash, releases toxic substances (particularly dioxins and heavy metals) into the atmosphere and creates new toxic substances not present in the initial feedstock.

Today, most incineration is marked under the tagline of "Waste to Energy" or "Energy from Waste". The accompanied production of energy by the incinerator undermines all efforts to adhere to the waste management hierarchy. The need and market demand for energy becomes the driver of the use of the waste resource as these facilities demand a higher volume waste stream. A financial interest will exist in diverting waste from recycling and reuse into incineration, resulting in profits for a few incinerators proponents at the expense of the common good and ecologically sustainable development.

Despite the tagline, incineration is still just a method of waste disposal and accordingly, falls to the bottom of the waste hierarchy. This is in line with two recent decisions of the European Court of Justice (Case C-228/00 *Commission of the European Communities v Federal Republic of Germany* and case C-458/00 *Commission of the European Communities v Grand Duchy of Luxembourg).* It was held that where the primary use of the incinerator is the reduction of waste, this waste should be considered to be disposal. Incinerators in Western Australia would be established to reduce waste and incinerator proponents would earn their money through tipping fees and the like. The energy is a mere by-product of this method of disposal.

Furthermore, two studies undertaken in the United States (Morris, J. and Canzoneri, D. (1993). "Recycling versus incineration: and energy conservation analysis", SRMG Inc., 5025 California Ave, SW, Seattle, WA 98136; Franklin Associates, Ltd. (1994) "The role of recycling in integrated solid waste management to the year 2000", prepared for Keep

America Beautiful, Stamford Ct, September, 1994) examined the consequences of the currently marketable recyclable material, which is typically burned in a modern municipal waste incinerator, being reused and recycled instead. It was found that three to five times the amount of would be saved by reuse and recycling compared to the energy produced for the material being incinerated. The rationale behind this big difference is that incineration can only recover some of the calorific value contained in the waste. Incineration cannot recover any of the energy invested in the extraction, processing, fabrication and chemical synthesis involved in the manufacture of the materials in the waste stream. Reuse and recycling can.

Form a Western Australian, national or global perspective, an incinerator is more accurately described as a "waste-of-energy" facility than a "waste-to-energy" facility. From a closed local perspective there is seen to be a net local production of energy. This is particularly the case when compare to land filling. A larger vision is needed to see the loss of energy that incineration represents. The State Sustainability Strategy must provide this vision. Every time a local community burns something the larger community has to replace that energy with all the huge energy costs of primary processing and fabrication. It is only through reuse, recycling and composting of waste that the energy (and pollution) costs of primary processing and fabrication can be partially reduced.

The only place for energy recovery in the waste stream is through the anaerobic digestion and composting of green waste. In these instances, the end product is still usable as compost (provided suitable protocol exist to prevent its contamination), there is no net energy loss and there is no further creation of toxic materials.

The tagline that the waste entering and incineration facility is a "renewable" resource is similarly deceptive. Waste is not renewable. Burning plastics in and incinerator is burning fossil fuel and the calorific value of municipal waste needed for energy extraction derives from these petrochemical based 'wastes' (or 'resources').

The health impacts of incineration are well established. "After pollutants from an incineration facility disperse into the air, some people close to the facility may be exposed directly through inhalation or indirectly through consumption of food or water contaminated by depositions of the pollutants from air to soil, vegetation, and water. For metals and other pollutants that are very persistent in the environment, the potential effects may extend well beyond the area close to the incinerator. Persistent pollutants can be carried log distances from their emission sources, go through various chemical and physical transformations, and pass numerous times through soil, water, or food." (National Research Council (2000) Waste incineration and Public Health. ISBN 0-309-06371-X, Washington DC, National Academy Press).

It is only when the materials entering the waste stream can all be reused or recycled that we will achieve zero waste. There is no role for incineration of waste on the path to Zero Waste. It must remain outside any acceptable Waste Hierarchy and be rejected as a 'renewable' source of energy.

The aim of Zero Waste is the elimination rather than the "management" of waste.

Leading edge work is occurring on the development of Zero Waste worldwide and explicitly rejects incineration being on the zero waste pathway. (see www.zerowaste.co.nz - Wasted Opportunities: A closer look at land filling and incineration.) It is important that Councils and States do not allow the incineration industry "greenwash" of the concept of zero waste to enter their policies and processes.

If incineration was established as a waste disposal method in Western Australia, future attempts to reach zero waste will be continually frustrated by the impact of incinerators on waste management infrastructure and their long tenure over waste streams.