

## Welsh Assembly Petitions Committee - P-04-341 Waste and Incineration

To : Abigail Phillips, Clerk to the Petitions Committee

### SUPPLEMENTARY SUBMISSION ON BEHALF OF THE STOP NEWPORT INCINERATOR CAMPAIGN (SNIC), MARCH 2012

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## ***Carbon Footprint & Health : Debunking the Myths***

### Carbon Footprint

It is repeatedly claimed that because incinerators burn waste instead of oil, gas or coal, and produce energy, they are somehow part of the solution to climate change. This myth is coupled with a statement most people would accept – that landfill (or at least landfilling organic waste) has to be reduced or eliminated because methane contributes more to global warming than other emissions of greenhouse gas, including CO<sub>2</sub>.

However incinerators will exacerbate and not reduce carbon emissions. Incinerators burn a mixture of fossil-fuel derived materials (e.g. plastics) and biological materials. A waste to electricity incinerator actually releases more fossil-fuel derived CO<sub>2</sub> per unit energy produced than a gas-fired power station. They do not produce energy efficiently and neither of the incinerators proposed for SE Wales has a credible market for heat. Using data from DECC, SNIC estimate that In 2018 waste incinerators will produce about 850 gCO<sub>2</sub> per kWh of fossil carbon compared with 350 gCO<sub>2</sub> /kWh fossil carbon from the UK 'Average Mix' in a power station. These figures are likely to be closer to the actual outputs to be used for reporting Wales "Waste Sector" emissions under the European 20:20:20 Climate Action Plan. **There is no room within the agreed Wales Waste Sector limit (with 3% p.a. cut to 2020) for high-CO<sub>2</sub> emissions from incinerators.**

Incinerators have been compared against other waste disposal options using the latest modelling technology. The most recent study<sup>1</sup> published by economists at DEFRA in June 2011 reached the conclusion that ***“ MBT (mechanical biological treatment)-landfill provides the best [greenhouse gas] emissions performance in terms of the treatment/disposal of residual waste. It essentially involves land filling somewhat stabilised wastes with some material recovery. The magnitude of the environmental impact depends on the extent to which the waste is stabilised.”***

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<sup>1</sup> *The Economics of Waste and Waste Policy*, Waste Economics Team, DEFRA June 2011

This conclusion is confirmed by the league table in *Greenhouse Gas Balances of Waste Management Scenarios*<sup>2</sup>, in **which incinerator options occupy 4 of the bottom 5 places above landfill while all the top 10 places are taken by MBT and gasification disposal methods.** Defra and GLA's use of this comprehensive report illustrate that it is widely accepted as the definitive assessment of the relative performance of different types of waste disposal process in relation to greenhouse gas emissions, and hence contribution to climate change. Note Eunomia's conclusions **that "Scenarios incorporating MBT (AD with maturation) perform most consistently well both under our central assumptions and in each form of sensitivity analysis.....Under our central assumptions and the five forms of sensitivity analysis... incineration with CHP reaches a high of only 15th place in the scenario rankings."**

As petitioners we also submit that the comparisons above – unfavorable though they are to incineration – may even underestimate the contribution of incinerators to greenhouse gas in the context of Prosiect Gwyrdd. This is because waste is due to be transported over substantial distances to a 5 county incinerator in Cardiff or Newport. Both the current proposals for incinerators in Cardiff and Newport would involve all the waste generated nearby being transported by road either in refuse collection vehicles or bulk lorries. In addition, between 20 and 30% of the original tonnage of this waste will be re-exported, again by lorry, as partially toxic ash for use in the construction industry and/or for landfill. A smaller percentage of highly toxic flue or fly ash will also be exported by lorry over long distances to special sites in England licensed to store dangerous waste. Yet more lorries will ship out metals recovered from the ash which have not been incinerated into the atmosphere.

A mass-burn incinerator serving 5 counties will generate considerably more transport by road of waste and waste products than the current system, or than alternatives such as MBT, largely because of the larger catchment area required to service a mass-burn incinerator, the constant financial incentive to maintain input waste tonnages and the high proportion of waste which has to be transported a second time as ash. This inevitably means a higher proportion of greenhouse gas will be emitted by lorries, in addition to the amounts gushing into the atmosphere from the incinerator chimneys.

PG has not given sufficient weight to greenhouse gas emissions, resulting in proposals which make no serious attempt to avoid high emission levels. A striking example is the failure to deploy rail transport in the Cardiff or Newport proposals. In the case of Veolia, this is in spite of the fact that the Llanwern steel processing mills have a freight siding with an immediate link to the main rail network. How can this Project describe itself as "Green" or "Gwyrdd" in either of our languages, when it has allowed bids which are so prone to high greenhouse gas emissions and which fail to make use of even of existing rail infrastructure ?

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<sup>2</sup> *Eunomia Consulting, Jan 2008*

In conclusion we would ask the Petitions Committee to reject assertions based on fictitious “offsets” which wrongly claim that MBT is the “worst option from a climate change point of view” and that incineration is the best. *The opposite is the truth.*<sup>3</sup>

## Health

The health arguments alone justify a precautionary approach which avoids the risks inherent in mass-burn incineration which have damaged health for the last 150 years since the technology was invented by the Victorians.

We will not repeat the extensive arguments which SNIC gave in our original evidence last December or our supplementary note sent to the Committee earlier this month on health. However we do draw the Committee’s attention to the devastating “Sniffer” report on particles discussed on pages 11-12 of SNIC’s original evidence. We are still hearing little but silence from officials on this report despite its clear warning that millions of lives are being shortened by exposure to the very particles produced in concentration and profusion by mass-burn incinerators. The EU Directive covering particles requires reductions in their emissions not the construction of new incinerators which will produce more particles. Fines will be inevitable if the Directive is ignored. The only argument we hear amounts to saying “because there are a different sources of particles we shouldn’t worry about incinerators”, ignoring the evidence that incinerators can account for a high proportion of particles in their vicinity, and the fact the incineration – unlike some other processes producing particles – is a totally unnecessary technology when safer, viable alternatives exist. The Environment Agency for Wales conceded in their oral evidence to the Prosiect Gwyrdd Joint Scrutiny Panel in March 2012 that 6.3% of PMs come from incinerators.

SNIC also draw attention to a new Italian article by Silvia Candela<sup>4</sup> published in November 2011, not yet available in English as far as we know. A copy of the original is attached. The study is part of a series studying the impacts on the local population of 6 modern waste incinerators in Italy, which is of course subject to the same EU legislation on air quality and incinerators as Wales. **This particular study shows significant relationships between exposure to incinerator emissions and stomach, pancreatic, and other forms of cancer.** It is not the first study to show a correlation between incinerators and cancers based on epidemiological area studies. There is a steady flow of such findings : indeed the HPA’s own *volte face* on area studies in January

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<sup>3</sup> We would also refer to the extensive discussion of the advantages of MBT, including the new plant at Avonmouth, given in our original evidence of December 2011

<sup>4</sup> ***Studio di coorte sulla popolazione residente. Mortalità e incidenza dei tumori nei soggetti residenti intorno agli inceneritori per rifiuti solidi urbani in Emilia-Romagna*** Silvia Candela (Azienda Usl di Reggio Emilia, Dipartimento di Sanità Pubblica, responsabile Linea progettuale 4)

2012, when they commissioned a study of birth events around UK incinerators, suggests that doubts about the safety of incinerators are growing even within bodies which have previously been reluctant to accept that there are real risks to the public.

SNIC stand by their evidence, and still believe that Wales has a unique opportunity to build on its progressive policies in other areas of waste generation (eg the restrictions on plastic bags and high kerbside recycling) and move forward with the safest greenest waste disposal policy in Britain and perhaps Europe based on recycling, mechanical and biological processing with energy-from-gasification. Such a policy would create desperately needed new jobs. It would be light on capital investment, and flexible enough to modify economically as and when technology improves further.

These and other issues, concerning cost as well as health and the environment, need to be fully aired in the Senedd as it still appears to be the Administration's resolve to construct mass-burn incinerators throughout Wales to burn residual black bag waste for the next 25-30 years. Like the other petitioners, SNIC hopes that the Committee can be a catalyst in adopting a much greener, safer and less costly approach.