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Portfolio Committee No.6 - Planning and Environment
'Energy from Waste' Technology

Question on Notice:

The CHAIR: *I do not mind who answers it. I wrote half of it down and have missed a bit, but I want to know whether we have some sort of legal redress system.*
Ms BREMMER: *When we talk about air quality for public health protection, we are talking about ambient air quality. Our only legally enforceable ambient air quality criteria exist under the National Environmental Protection Measures [NEPMs] air criteria. They are very small. There is a range of maybe five or six key pollutants that have strict guidelines that are legally enforceable. The other piece of legislation there is for ambient air toxics. However, they are not laws; they are guidelines. They cannot be legally enforced and they are really to guide industry, but they are not a legal tool to force industry to comply. We are deeply concerned that in terms of air toxics, Australia does not have legally enforceable standards and has a very small range of ambient air criteria for some key pollutants.*
The CHAIR: *I find it hard to believe.*
Ms BREMMER: *This is all available on the National Pollutant Inventory and the National Environmental Protection Measures under the Federal environment—Department of Environment and Heritage, I think it is now. It is well known, and it is all available on its website. I would be happy to provide links.*

Answer:

The Australian government manages air pollution from industrial and other point sources through the National Pollutant Inventory[1], implementing stack emission limits via industrial facility licenses.

'Waste to Energy' incinerators are classified as prescribed premises requiring a license to operate in Australia. With the exception of WA, there has been no federal or state investigation into the expected air pollutants, nor any analysis of regulatory requirements to effectively regulate this particular industry prior to its establishment in Australia. As such, NTN has significant concerns about the regulatory capability of Australian state governments to safely regulate and protect air quality for this industry.

The Australian Government implements the National Environmental Protection (Ambient Air Quality) Measure[2] for the protection of human health. The Table below lists the current limited number of ambient air quality protection standards in Australia.

[1] http://www.npi.gov.au/about-npi

[2] https://www.legislation.gov.au/Details/F2016C00215

Table 1: Standards for Pollutants

Column 1 Item	Column 2 Pollutant	Column 3 Averaging period	Column 4 Maximum concentration standard	Column 5 Maximum allowable exceedances
1	Carbon monoxide	8 hours	9.0 ppm	1 day a year
2	Nitrogen dioxide	1 hour 1 year	0.12 ppm 0.03 ppm	1 day a year None
3	Photochemical oxidants (as ozone)	1 hour 4 hours	0.10 ppm 0.08 ppm	1 day a year 1 day a year
4	Sulfur dioxide	1 hour 1 day 1 year	0.20 ppm 0.08 ppm 0.02 ppm	1 day a year 1 day a year None
5	Lead	1 year	0.50 µg/m^3	None
6	Particles as PM_{10}	1 day 1 year	50 µg/m^3 25 µg/m^3	None None
7	Particles as $PM_{2.5}$	1 day 1 year	25 µg/m^3 8 µg/m^3	None None

Source: National Environment Protection (Ambient Air Quality) Measure

The abolition of the Standing Council on the Environment and Water in 2013, and the subsequent abolition of the NEPC Service Corporation in 2014, has resulted, in our opinion, in a lack of focus on air quality protection standards for public health in Australia. This is a grave concern since air pollution is globally acknowledged as a major environmental health risk.[3]

The UK's Royal College of Physicians estimates that 40,000 deaths per year are attributable to outdoor air pollution in the UK.[4] It has been linked to cancer, asthma, stroke and heart disease, diabetes, obesity, and changes linked to dementia. WHO IARC has classified outdoor air pollution and Particulate Matter as Group 1 Carcinogens.[5]

Australia's ambient air quality protection standards

National Environment Protection (Ambient Air Quality) Measure

Part 2 ***National environment protection goal***

4 Purpose of Part

The purpose of this Part is to set out a goal:

(a) that relates to the desired environmental outcomes; and

(b) that guides the formulation of strategies for the management of human activities that may affect the environment.

5 Desired environmental outcome

The desired environmental outcome of this Measure is ambient air quality that allows for the adequate protection of human health and well-being.

[3] http://www.who.int/mediacentre/factsheets/fs313/en/

[4] https://www.rcplondon.ac.uk/projects/outputs/every-breath-we-take-lifelong-impact-air-pollution

[5] http://www.iarc.fr/en/media-centre/iarcnews/pdf/pr221_E.pdf

As can be seen in the 2016 WHO database (included as an attachment) Australia's average levels of PM10 continue to be very close to the WHO annual standard of 20 micrograms/m3 and, in many locations, exceeds this standard.

Australia's NEPM standard for PM10 is higher (less protective) than the WHO standard at 25micrograms/m3. Consequently, these annual PM10 ambient air levels have not been captured by the Australian government in their annual NEPM ambient air reporting.[6]

As can be seen in the NEPC Ambient Air quality review[7], despite considerable input from all stakeholders involved, no substantial improvements, apart from the addition of a PM2.5 standard has occurred since its creation 19 years ago in 1998. Consequently, the Australian government has failed to improve or increase monitoring of particulates in the ambient environment or act on these documented exceedances of the WHO standards.

See also the attached NEPC power point presentation highlighting the inadequacy of current NEPMs to protect public health, declared in 2010 but for which there has been no action to address the issues raised or improve the standards to date.

The NEPC Annual report states[8]:

NEPC Annual report 2014-2015 (latest available from the website)
NEPM details Title: National Environment Protection (Air Toxics) Measure.
Made by Council: 3 December 2004. Commencement date: 20 December 2004 (advertised in Commonwealth of Australia Special Gazette No. S 52904, 20 December 2004).
NEPM goal (or purpose) The goal of the National Environment Protection (Air Toxics) Measure is set out in clause 5 of the measure: The national environment protection goal of this Measure is to improve the information base regarding ambient air toxics within the Australian environment in order to facilitate the development of standards following a Review of the Measure within eight years of its making.

The goal of the NEPM for Air Toxics has not been met. The measure was created in 2004 and in 2017 no standards have been developed. Only Victoria, Queensland and WA undertook air toxics monitoring in the period 2014-2015 but only for a single substance and no other jurisdiction undertook any monitoring and no action was taken by any state for this reporting period.

Table 2: Monitoring investigation levels

Column 1 **Pollutant**	**Column 2** **Averaging period**	**Column 3** **Monitoring investigation level**	**Goal**
Benzene	Annual average*	0.003ppm	8-year goal is to gather sufficient data nationally to facilitate development of a standard.
Benzo(a)pyrene as a marker for Polycyclic Aromatic	Annual average*	0.3ng/m^3	8-year goal is to gather sufficient data nationally to facilitate development of a

[6] http://www.nepc.gov.au/system/files/resources/e3da1ed8-68f0-48e5-937a-5de0045feb62/files/nepc-annual-report-2014-15.pdf

http://www.nepc.gov.au/system/files/resources/3405e986-afe9-bdb4-5d2c-383f3ea1e911/files/aaq-review-report-2011.pdf

[8] http://www.nepc.gov.au/system/files/resources/e3da1ed8-68f0-48e5-937a-5de0045feb62/files/nepc-annual-report-2014-15.pdf

Hydrocarbons			standard.
Formaldehyde	24 hours#	0.04 ppm	8-year goal is to gather sufficient data nationally to facilitate development of a standard.
Toluene	24 hours# Annual average*	1 ppm 0.1 ppm	8-year goal is to gather sufficient data nationally to facilitate development of a standard.
Xylenes (as total of ortho, meta and para isomers)	24 hours# Annual average*	0.25ppm 0.2 ppm	8-year goal is to gather sufficient data nationally to facilitate development of a standard.

The stack air emissions associated with the waste to energy incinerator industry are internationally recognised and documented, but from the information provided above it can be seen that Australia does not have ambient air protection standards for the majority of the expected emissions, some of which are known to accumulate and concentrate in the environment.

Of particular concern is the lack of any standards for Persistent Organic Pollutants – ie dioxin, furans, bromines, heavy metals (other than lead) and air toxics – which are the most harmful to health and the environment locally and globally. [9]

Supplementary information

EU and USA positions on 'energy from waste' incineration

As NTN has already highlighted in our submission and evidence, we continue to urge the NSW government to promote the policy direction that the EU Commission is taking in respect to the awarding of renewable energy credits and subsidies to the 'energy from waste' incinerator industry.

In both the EU and US government subsidies have been essential to keep this industry economically viable. Yet burning residual waste is not a renewable form of energy and this fact has been globally recognised through recent EU policy changes. Please see attached papers from Zero Waste Europe. The EU Commission report on these policy changes has already been provided.

In addition, recently in the USA, a consensus position was taken by 250 City Mayors to reject waste to energy incinerators as eligible for Renewable Energy subsidies.[10]

[9] http://www.bsem.org.uk/uploads/IncineratorReport_v3.pdf

[10] http://www.no-burn.org/incinerators_denied/