Lake Macquarie City Council

From the Office of

Her Worship the Mayor of the City of Lake Macquarie, Councillor Jodie Harrison

27 February 2013

Committee Secretary
Senate Standing Committees on Community Affairs
P O Box 6100
Parliament House
Canberra ACT 2600

Dear Sir/Madam

Subject: **Submission to the Senate Inquiry into the impacts on health of air quality in Australia**

At its meeting of 25 February, Lake Macquarie City Council resolved to make a submission to the Senate Community Affairs References Standing Committee Inquiry into the impacts on health of air quality in Australia.

Please find below Council's submission. Thank you for the opportunity to provide input on this important issue.

Recommendations

Addressing the health impacts of air quality is an issue that requires the collaboration of all levels of government. This submission makes the following recommendations:

1. Initiate further studies into the health impacts and costs to communities from air pollution, including attention to the dispersal patterns and health impacts of fine and ultrafine particulates;
2. Address the absence of a PM2.5 (particulate matter less than 2.5 micrometers in size) exceedance limit in the *National Environment Protection (Ambient Air Quality) Measure (NEPM),* on which planning guidelines can be established;
3. Establish national PM0.1 monitoring guidelines;
4. Work with State governments to identify and fill gaps in the network of air quality monitoring stations (AQMS) throughout Australia and particularly between Newcastle and Sydney to enable determination of air quality risks and prioritisation of investment in pollution reduction programs;
5. Establish national regulatory standards for air quality modeling and monitoring by approval agencies;
6. Provide financial assistance to local governments to build capacity to address air quality issues, including enabling local governments to engage in-house air quality professionals for development assessment roles and to up-skill existing staff;

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7. Promote a transition to renewable energy, including increasing renewable energy targets, stimulating investment in new technologies and removing tax-related and other incentives to fossil fuel use which contributes to air pollution;
8. Significantly increase investment in public transport in urban centres, such as the Glendale Transport Interchange, to reduce car dependency and resulting air pollution; and
9. Significantly increase investment and support for urban design that facilitates cycling and walking to promote public health through active lifestyles and pollution reduction.

Background

The City of Lake Macquarie is located in the Lower Hunter region of New South Wales. It has a population of over 200,000 residents, is experiencing rapid population growth, and is among the top 7% of Australia's urban growth centres.

The City and surrounds host a number of significant air pollution sources including two operating coal-fired power stations (Eraring, and Vales Point power stations) and 11 mining operations (including quarries and coal mining with related operations such as mineral washing, handling, and rail and road coal transport infrastructure), and has a high dependence on motor vehicles. The City's air quality is also affected by emissions from surrounding LGAs, which include coal-fired power stations; coal mines; coal transport and handling facilities; road, air and sea transportation; and agricultural activities.

Lake Macquarie City Council has assessed the cost to Council for all dominant environmental security risks, including air pollution. The health cost of air pollution was the second highest environmental security risk facing the City and its residents. Based on a World Health Organisation (1999) methodology that uses PM10 (coarse airborne particles with diameters less than 10 micrometres) as a proxy for total health costs, the current cost of air pollution to the City, in terms of morbidity and mortality, was estimated to be almost $70 million per annum in 2010. This present value cost was estimated to be almost $500 million over the decade 2010-2019 (Cardno, 2010).

The City is living with the legacy of the Pasminco Cockle Creek Lead Smelter (PCCS), which resulted in atmospheric elemental-lead fallout over neighbouring suburbs, for over a century, and prompted a series of management actions to reduce exposure to hazardous air pollutants and related environmental and public health issues. Having learnt from the PCCS legacy, and recognising the extensive number of significant pollution sources in the City, and a large population within close proximity to these pollution sources, Council works diligently with key stakeholders to identify and manage air pollution sources before they become a local public health issue.

Term of Reference 1 - Particulate Matter, its sources and effects

Particulate matter of significant health concern includes:

- PM10 (coarse particles), which are below 10 micrometers in size and capable of entering the upper respiratory tract;
- PM2.5 (fine particles), which are below 2.5 and capable of entering the lungs; and
- PM0.1 (ultrafine particles), which are below 0.1 micrometers in size and capable of entering the lower respiratory tract.

These particles are known to exacerbate existing heart and lung conditions, such as asthma and angina, with potentially fatal outcomes. Importantly, the ability of particulate matter to affect human health is directly related to its ability to enter the depths of the respiratory tract, and correspondingly, the inability of the body to expel the pollutants. For this reason, PM2.5 and PM0.1 pose the most significant risk to health.

Presently, the NEPM adequately provides advice on exceedance limits of PM10, but lacks an advisory goal for PM2.5 and there is no guidance on PM0.1.

Given the health issues related to such particles, the absence of an exceedance limit for PM2.5 and PM0.1 is recognised as a significant issue by air quality professionals.

Council recommends that the Federal Government:

- Initiate further studies into the health impacts and costs to communities from air pollution, including attention to the dispersal patterns and health impacts of fine and ultrafine particulates;
- Address the absence of a PM2.5 exceedance limit in the NEPM, on which planning guidelines can be established; and
- Establish national PM0.1 monitoring guidelines.

Term of Reference 2 - Those populations most at risk and the causes that put those populations at risk

The City has some of the highest air pollutant emissions in the NSW Greater Metropolitan Region. For instance, the City has the state's highest oxides of nitrogen emission levels; the second highest sulphur dioxide emissions after Muswellbrook; and the fourth highest PM_{10} emissions after Singleton, Lithgow, and Muswellbrook (National Pollutant Inventory, 2010).

Although the City is host to a range of significant pollution sources, currently there is no public ambient air quality monitoring station (AQMS) in the City, and therefore, the ambient air quality is unknown. Ambient air quality is inferred from surrounding areas (largely from the City of Newcastle – Wallsend AQMS) and monitoring at premises licensed under the Protection of the Environment Operations Act 1997.

Given the relatively high population and the number of significant air pollution sources within or surrounding the City, residents may be exposed to air pollutants above national health standards, as described in the NEPM.

To assist Council in identifying populations at risk from air pollution above the national standard, and to help Council devise planning conditions to ensure the health and wellbeing of its residents, Council adopted an air quality modelling approach, based on NSW Air Emissions Inventory data, to identify properties where the NEPM is predicted to be exceeded. The air quality maps are available for review on Council's website (www.lakemac.com.au).

This information identifies residential areas with predicted exceedance to NEPM guidelines in a standard year, which was largely limited to those residing close to major air pollution point sources (power stations and some mining operations).

Council has proposed to use this information to influence the development-planning framework via the incorporation of air quality exceedance maps into its planning instruments and guidelines.

While this modelling approach provides a wealth of information on regional air quality, and will undoubtedly assist Council to protect the health and wellbeing of local residents, the project may be cost prohibitive for smaller councils.

Council recommends that the Federal Government:

- Work with State governments to identify and fill gaps in the network of air quality monitoring stations (AQMS) throughout Australia and particularly between the Upper Hunter Valley and Sydney to enable determination of air quality risks and prioritisation of investment in pollution reduction programs.

Term of Reference 3 - The standards, monitoring, and regulation of air quality at all levels of government

As discussed above, Lake Macquarie is the thirteenth most populous city in Australia with over 200,000 residents. The City is located in the Lower Hunter air quality region. This region includes the City of Newcastle, which has three (3) State supported AQMS (at Wallsend, Newcastle, and Beresfield). This number of monitoring stations meets the allocation entitlement of the region; However, the clustering of the AQMS to the north of the City of Lake Macquarie, and the lack of a sufficient geographic spread of AQMS between Newcastle and Sydney means there is a significant data gap in one of Australia's most populous, fast-growing, and polluted areas.

While the NEPM provides an algorithm that dictates the number of AQMS required per region, it also includes a caveat, stating "*additional performance monitoring stations may be needed where the pollutant levels are influenced by local characteristics such as topography, weather or emission sources".* Council considers that, given the significant number of pollution sources in the City and the lack of AQMS relevant to the City, Lake Macquarie should be prioritised for an AQMS. This stance should also be relevant for other local government areas with similar air pollution concerns.

Council recommends that the Federal Government:

- Establish national regulatory standards for air quality modeling and monitoring by approval agencies; and

- Provide financial assistance to local governments to build capacity to address air quality issues, including enabling local governments to engage in-house air quality professionals for development assessment roles and to up-skill existing staff.

Term of Reference 4 - Any other related matters

A considerable amount of pollution in Australia is emitted by coal-fire power power stations and supporting industry (mining, materials handling etc) and from motor vehicles. Yet, Australia's landscape offers exceptional potential for moving to a clean energy future with increased reliance on solar, wind and other energy sources.

Moving from fossil fuels to renewable energy should be governed by economic forces, whereby renewable energy products will enter the market as they become cost competitive with fossil fuel alternatives. However, there are existing externalities in the fossil fuel industry, including pollution costs to human health, as well as tax deductions, and tax treatments, such as diesel fuel tax credits, that artificially lower the costs of fossil fuels and thereby encourage their use and resulting pollution.

Additionally, under-developed public transport systems in major metropolitan regions further exacerbates pollution. Heavy dependence on car transport is likely to continue unless significant investment is made in an efficient, accessible and affordable public transport system, and urban design that facilitates cycling and walking.

Council recommends that the Federal Government:

- Promote a transition to renewable energy, including increasing renewable energy targets, stimulating investment in new technologies and removing tax-related and other incentives to fossil fuel use, which contributes to air pollution.
- Significantly increase investment in public transport in urban centres, such as the Glendale transport Interchange, to reduce car dependency and resulting air pollution; and
- Significantly increase investment and support for urban design that facilitates cycling and walking to promote public health through active lifestyles and pollution reduction.

Yours faithfully

Cr Jodie Harrison
Mayor