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Committee Environment
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World Clean Air Congress 2004

1. Purpose

To inform the Committee of recent developments in air pollution, global warming and other lessons learnt at the World Clean Air Congress in London.

2. Background

During August 2004 I attended the 13th World Clean Air and Environmental Protection Congress in London. Funding for this travel and accommodation was covered by a scholarship from Victoria University and the conference registration fees were paid by Greater Wellington. Attending the Congress provided me with the opportunity to present some of my work on air pollution and its sources in the Wellington Region, and to gain first hand experience of the air pollution issues and problems faced by other countries around the world.

The World Clean Air Congress is a triennial conference hosted and organised by the International Union of Air Pollution Prevention and Environmental Protection Associations (IUPPA). Greater Wellington is an organisational member of the Clean Air Society of Australia and New Zealand (CASANZ), the Australasian arm of IUPPA. Interestingly enough, Gavin Fisher, a New Zealand air pollution expert, is now President of both CASANZ and IUPPA as the next congress is to be hosted by CASANZ in Brisbane in 2007.

The Congress was well attended with over 400 scientific presentations in seven concurrent streams. The following sections highlight some of the outstanding issues in air pollution and global warming.

3. Global warming and air pollution

Dr Klaus Toepfer, Executive Director UNEP, provided the opening keynote address and set the scene by describing the link between all forms of air pollution and global warming. The message was clear, global warming is here and human activities are directly responsible for this. The real questions now are; to what extent is our climate going to be affected, how fast will this occur;

and, how will human populations be affected? Climate models are currently predicting increased frequency of drought and more violent weather extremes alongside the gradual increase in average global temperatures.

The implications for the world geo-political scene are many-fold, for example;

- populations already suffering from water shortages will reach for dwindling resources that may bring them into conflict with neighbours;
- sea levels will continue to rise and engulf low-lying areas forcing populations to migrate, for example inhabitants on the Bangladeshi delta and, closer to home, the Pacific Islands;
- the spread of tropical diseases into traditionally more temperate zones will have consequences for public health.

Extreme weather events and coastal inundation are likely to affect the Wellington region and to have implications for our activities and responsibilities as a regional council (e.g. flood protection and civil defence).

4. Air pollution and human health

Another keynote address, this time by Dr Joel Schwartz of the Harvard School of Public Health, explored the health effects of air pollution. The primary pollutant of concern for public health around the world today is fine particles. Epidemiological studies have already confirmed the link between various respiratory and cardiovascular diseases and fine particle concentrations. Figure 1 shows the health consequences of increasing fine particle concentrations in our air. Even at low concentrations there is potential for subtle sub-clinical health effects in exposed populations.

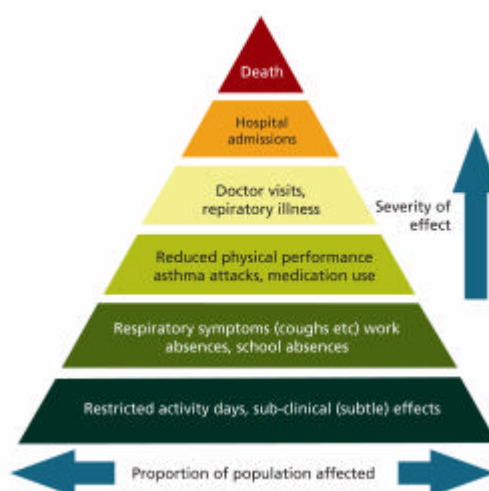


Figure 1. Health effects pyramid for fine particles

Ambient air quality monitoring in the Wellington region has shown that there are episodes of fine particle air pollution during the winter at a number of

locations and it is likely that communities in these areas are suffering at least some of the effects associated with this pollution.

There is good news though; further health studies have shown that there is an immediate and measurable benefit in cleaning up air pollution. It has been found that there is about two years lag time and then mortality rates start decreasing in line with reductions in fine particle concentrations. This should be heartening to policy makers and health authorities in that the benefits of doing something about air pollution are immediately tangible.

One of the future issues that was highlighted was the exposure of populations living next to busy roads, particularly with regard to fine particle emissions from diesel engines. It has been shown that there are orders of magnitude differences in air pollution levels immediately adjacent to roadways and consequently for exposure of people living there compared to the wider community. An example is that the incidence of asthma attack has been found to be correlated with traffic density. Dr Schwartz indicated that, tonne for tonne, it is better for public health to reduce motor vehicle particle emissions than industrial particle emissions due to the proximity of human exposure to motor vehicle emissions.

GW has installed an ambient air quality monitoring station aimed at monitoring air quality related to motor vehicle emissions and is in the process constructing a similar, mobile station to move around various traffic 'hot spots' in the region.

5. Strategic context

Clean, fresh air is an objective set for the Region in our strategic plan. The target for that objective is that by 2013 there will be no recorded instances when air pollution reaches the "Alert" levels of the National Ambient Air Quality Guidelines. Achieving this target will have immediate benefits for the health of our communities and the sustainability of the Region as a whole.

6. Conclusion

People in urban communities all around the world face similar issues relating to air pollution. The various causes may be different but the common link is that human health can suffer as a result. The link to global warming also means that human infrastructure may be affected as well, and even though the contribution from the Wellington region may be small, we all have a role in the greater good. Nor can we afford to ignore the health effects on our communities from the air pollution episodes that we do experience. While there is no body count in the streets, the evidence is there that the more subtle effects of air pollution can still have a range of socio-economic consequences.

7. Communication

No further public communication is needed for this report.

8. Recommendation

It is recommended that the Committee:

- 1. receive the report; and*
- 2. note the contents.*

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