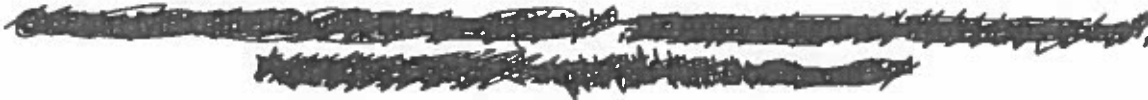




Technological University Dublin response to Government Clean air call

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Rationale/background

The Environmental Sustainability and Health Institute (ESHI) at the Technological University of Dublin welcomes the opportunity to submit responses to the Government clean air act public consultation.

The World Health Organisation (WHO) in their Global Burden of disease (1) list poor air quality as one of the leading causes of avoidable disease and premature death.

Here in Ireland the European Environment agency (EEA) estimate that there are approximately 1300 premature deaths in Ireland each year due to poor air quality. They also estimate 307,000 premature deaths were attributable to fine particles in the 27 EU Member States (2). When one considers these premature deaths, and the many others who are sick because of poor air quality, there is a significant burden and cost on our health service and society. Indeed, the OECD has predicted that inaction on outdoor air pollution could lead to costs of up to 1 % of global GDP by 2060 (3).

Track record in effectiveness of air quality interventions in Ireland

Ireland has shown previously that with robust evidence, the right will, and appropriate legislation, it can lead the world in tackling these manageable public health problems emanating from poor air quality.

In the 1980s, Dublin, in particular, was plagued with significant periods of poor air quality. This was a consequence of the people moving to solid fuel usage, to reduce our dependence on imported oil, which was supported at that time by government grants. This reliance on the use of solid fuels, and in particular bituminous coal, resulted in significant increased deaths in Dublin due to poor air quality as reported by medics working in Dublin hospitals (4). This situation of poor air quality continued throughout the decade, until a ban on bituminous coal was introduced in Dublin in 1990. This ban resulted in a dramatic improvement in air quality, (73% drop in particulate pollution levels) and a significant reduction in mortality (5).

During the 1990s as the air quality in smaller towns and cities, where no fuel restrictions were in place, was worse than that in the capital, the ban on smoky coal was extended in a stepwise manner to many of these population centres. In each instance there was a marked improvement in air quality, typically about a 50% drop in particulate pollution levels (6).

These successive "coal bans" were all associated with health improvements as well, with less deaths, and less hospitalizations being recorded, the authors reported that Respiratory mortality was reduced by (17%, 9%, and 3%, for the respective bans), while a 4% decrease in hospital admissions for cardiovascular disease associated with the 1995 ban (Cork) and a 3% decrease with the 1998 ban (Various towns) (7).

There is now a significant body of evidence to show that if air quality is improved, less people die prematurely, and less people get ill (8). This is a significant benefit to society and also a significant cost saving to the health service and society.

The WHO REVIHAAP report (9) on air quality and health found that there is no safe level of particulate air pollution, and one must therefore strive to keep levels as low

as achievable. It is therefore imperative that we now strive to achieve clean air and not just meet regulated limits for air quality.

Future of interventions in air quality

Here in Ireland in 2022 we find that we still have problems with poor air quality mostly in our smaller towns. The Irish EPA (10) confirms that domestic heating using solid fuel, and more specifically smoky coal is the main contributor, particularly in locations not covered by the existing bans. This is also evidenced by research carried out examining the air quality of numerous small towns in Ireland, showing that pollutants associated with solid fuel are the dominant driver of these poor air quality findings (11-12)

Based on the above, the best way to address this scenario is to completely ban smoky coal, move away from the use of any solid fuel for heating and ultimately to move away from fossil fuel usage.

Climate change, air quality and health

Air quality and climate change are inextricably linked, the inputs to the atmosphere from our activity do not only have the health implications outlined previously, but many of the pollutants are also important climate forcers.

The European Academy of Science Advisory Council (EASAC) report (13) into Climate change and health says the most immediate way to tackle climate change is to move away from fossil fuel usage. This would have the dual benefit of reducing deaths and illness from air pollution, while at the same time reducing harmful greenhouse gas emissions.

The March 2022 IPCC report (14) on Climate changes also makes the same recommendations, that we need to transition as a matter of urgency from fossil fuels to more sustainable renewables.

When one considers the United Nations Sustainable Development Goals proper implementation of the clean air act as we recommend will assist in achieving the following targets:

Target 3.9: By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

Indicator 7.1.2: Proportion of population with primary reliance on clean fuels and technology

Indicator 3.9.1: Mortality rate attributed to household and ambient air pollution

Indicator 11.6.2: Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population weighted)

Challenges to achieving clean air in Ireland

We are aware of the difficulties experienced by those solely reliant on solid fuels, and or in fuel poverty. We are advocating that those homes are immediately prioritised for deep retrofitting with a 100% grant. This should be completed rather than introducing exemptions to continue the use of the most harmful and damaging solid fuels. Homes that are upgraded will result in dwellings that are more comfortable and healthier to the occupants. Should the continuations of the use of the most polluting solid fuels be allowed it will result in illness and deaths from what is preventable exposure affecting the most vulnerable in society.

Recommendation

This is the opportunity for Ireland to again show it can be a leader internationally by using innovative approaches to improving air quality, just like we did with the workplace smoking ban, the plastic bag levy, and the original Dublin coal ban.

Based on the extensive scientific evidence both within Ireland and internationally we are recommending that smoky coal, and all other solid fuels be banned with immediate effect everywhere on the island. However, we do accept that a transitional period will be needed for those currently reliant on solid fuel or

suffering from fuel poverty. We are recommending that a transition from fossil fuel to sustainable sources be completed by 2030 at the absolute latest.

We also recommend that an expert oversight committee is formed comprising of the leading experts in the area of air quality and public health to oversee the implementation of the act and to make further recommendations (similar to COMEAP in the UK). This would benefit the policy implementation by providing advice and awareness of new issues as new research evidence comes to life.

One does not have a choice when it comes to the air we breathe, we have to breathe what there is where we live/work.

Clean Air Strategy Questions as listed in the discussion document

- **Do you agree with the five strategic priorities outlined in the draft strategy?**

These are fine, but more emphasis on actions to improve air quality and timelines for these would be beneficial to the plan

- **Do you feel there are additional strategic priorities which should be included?**

As mentioned above, timelines and target values should be listed. The co-benefits of reducing/eliminating fossil fuel usage and reduced greenhouse emissions should be considered, together with more ambitious and binding timelines.

- **How can pollutant emissions data be better used to inform actions at local and national levels?**

We know that Ireland can do better, so smaller urban areas have worse air quality than larger towns and cities, clearly indication that local sources, mainly fossil fuel usage for space heating are responsible, compared to traffic sources.

Thus, a speeding up of retrofitting of the housing stock is essential. Again, clear timelines and targets need to be set. This will again facilitate the move away from fossil fuel usage (particularly solid fuels).

More detailed data on more parameters at more locations can serve to inform policy and evaluate interventions.

- **What do you feel are the most important current and emerging air quality issues in Ireland that require further research?**

Source apportionment. Size resolved particle number concentrations, bio-aerosols, black carbon should be considered for more detailed spatial

monitoring. The emphasis should not be solely on the monitoring of pollutants as recommended in legislation and should follow the advice of the advisory committee.

- **How can we better increase awareness of the health impacts of air pollution?**

Improve air quality, education, public engagement, development of Apps on air quality and warnings, e.g. for those with Asthma etc.

- **What issues might a national clean air awareness campaign encompass and how could its impact be measured?**

If the public become proactive and report when high pollution is observed, it can lead to a cessation of high pollution events, also a rapid response and measurements when such incidents are reported, will better inform the policy makers and will also input to appropriate health advice for the most vulnerable.

- **What particular metrics or benchmarks do you think should be considered in tracking the progress of a Clean Air Strategy?**

WHO guideline values should be used immediately. Strict timelines for adoption of the metrics will need to be part of any plan.

Again, this needs to be overseen by the expert advisory committee

- **Are there any other comments you have in relation to the draft national Clean Air Strategy?**

There are some aspects which have not been fully considered;

- The co-benefits on health and the environment of moving from fossil fuel usage (health benefit from improved Air Q and less Greenhouse emissions)
- This is a real opportunity for Ireland to lead by example.
- As an island on the edge of Europe, connectivity with the rest of Europe is not well addressed.
- There is very little mention of the aviation sector and of shipping. The policy in respect of these needs to be expanded.
- Further extension of electrification of the rail fleet would seem to make sense for a number of different aspects, pollution emissions, greenhouse emission, noise.
- Indoor air quality would need to be more specifically addressed.

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