

Irish Doctors for the Environment submission re the draft Clean Air Strategy 2022

03.05.22

Introduction

Clean air is a fundamental human right (1). The scientific evidence on the damage of polluted air on health is overwhelming. Even at low concentrations, air pollution inflicts enormous harm to nearly every organ in our bodies and is consequently associated with significant morbidity and premature mortality, including in Ireland, where it is estimated that 1,300 deaths annually are due to air pollution (2,3). For this reason, the WHO recently tightened its limits for safe levels of exposure for six pollutants: particulate matter (PM2.5 and PM10), ozone, nitrogen dioxide (N02), sulphur dioxide (SO2), and carbon monoxide (CO). (4)

Importantly, many interventions that can improve air quality, can also mitigate climate change, increase physical activity levels, improve dietary patterns, reduce noise pollution and improve the social and environmental determinants of health such as housing. Systematically tackling the drivers of air pollution can significantly improve population health and protect our environment simultaneously. On the contrary, under a business-as-usual approach, it is estimated global mortality from air pollution could double by 2050 (5).

Given the importance of these issues from a health perspective, Irish Doctors for the Environment (IDE) welcomes the opportunity to submit to the draft Clean Air Strategy Public Consultation which has the stated aim "to enhance and protect the quality of the air that we breathe and realise the full environmental and health benefits of cleaner air" (6). In this submission, we have considered the sectors of residential, transport, agriculture and energy in the context of health and have included priority recommendations for action in each.

1. Residential

In Ireland, residential solid fuel burning is a major contributor to particulate matter (PM) pollution (7). Historically, coal burning was the main fuel source in Dublin. However, following the introduction in 1990 of a "smoky" coal ban in Dublin and subsequently in Cork 1995, now extended to twenty-six cities and towns in Ireland, there has been a 70% reduction in black smoke levels (very coarse PM) and an estimated resultant reduction in respiratory and cardiovascular mortality of 350 fewer deaths annually in Dublin (8). As a result of the ban on "smoky" coal, wood and peat were encouraged as low smoke producing fuels. In fact, the European Parliament added peat and wood to the list of renewable energy sources in 2000. This meant that the composition of air pollution changed from the more visible particulate matter (often referred to as black carbon) produced by bituminous coal to the more invisible, but still clinically significant, PM₁₀ and smaller.

Studies of particulate matter in Ireland have shown that the source of particulate matter varies by season. A 2011 study by Kourtchev et al (9) of particulate matter composition in Cork showed that domestic solid fuel (wood, peat, bituminous and smokeless coal) comprised 10.8% of summertime $PM_{2.5}$ organic carbon mass concentration compared with 74.9% during winter. A 2018 study of particulate matter composition during two days with high particulate matter in Dublin showed that the main source of PM_{10} and $PM_{2.5}$ was peat and wood burning in households (10). This is despite the fact that only 1% of Dublin households rely on solid fuels as their main space heating fuel (11). Therefore, secondary solid fuel burning as an adjunct heat source or for ambience in the home was likely to be the main contributor to these pollution events. The authors also estimated that only a minority of households (under 13%) were responsible for this pollution. Other studies

have confirmed that most of the contribution to pollution events in Dublin (12), Cork (13), and elsewhere in Ireland (12,14) during winter were from domestic solid fuel burning.

The above illustrates that significant improvements in population health can be achieved through effective regulation, and emphasises the importance of implementing the ban on wet wood, smoky coal and peat this year to achieve improvements in air quality.

However, a minority of households in Ireland rely on solid fuels for heating presently. The term "just transition" encompasses the idea of ensuring a fair and socially acceptable transition from fossil fuels to renewable energy. To ensure a just transition, these households need to be identified and provided with viable alternatives to solid fuels to avoid the crippling consequences of fuel poverty which bears consequences for health. The current energy crisis heightens this issue further.

Lastly, the Irish housing stock is of poor quality. Only a small fraction of BER-assessed households achieve a BER rating of B or higher. According to the Central Statistics Office, 59% of Ireland's existing office stock has a BER rating of a "D" or worse (11). In order to effectively reduce air pollution, it is not only necessary to change from fossil fuels to renewable energy sources but also to use energy more efficiently, by ensuring that Irish households are better insulated.

Recommendations

- 1. The ban on sale of wet wood, peat and smoky coal should be brought in nationwide this year.
- 2. The phasing out and transitioning of people from solid fuel heating to more sustainable sources should be urgently brought in in the next five years with an aim to ban the burning of solid fuels by 2030.
- 3. Identify households who are reliant on solid fuels and provide with viable alternatives for heating to avoid fuel poverty. Consideration should be given to grant schemes such as are available in Italy, where 110% of costs are supported. These should be made available to renters and home owners.
- 4. Expedite the availability of, and support retrofitting initiatives.
- 5. Consider specific schemes to encourage landlords to retrofit or switch fuel sources as those who rent often do not have the opportunity to implement changes themselves.

2. Transport

Transport is a major source of air pollution in Ireland and internationally. Air pollutants particularly associated with transport include, but are not limited to, Nitrogen Dioxide (NO2) and Particulate Matter (PM). The health impacts of NO2 and PM are well documented and it is a matter of substantial concern that there has been a recent exceedance of NO2 within Dublin.

At present, cars dominate the transport landscape in Ireland. In 2018, 81.4% of all passenger kilometres were by car (15). In the short term, electric vehicles (EVs) will be an important part of the transition away from internal combustion engines in terms of reductions in air pollution and climate change mitigation. However, cars impact human health negatively in other manners in addition to tailpipe emissions. All cars, including electric vehicles (EVs), produce PM from multiple sources such as tire wear, brake pads and through dust agitation (16). A switch to electric vehicles would reduce exhaust emissions, including some PM and NO₂, however they would not reduce PM generated from sources such as tyre wear and brake pads which have been implicated as being as harmful as combustion produced PM from motorised vehicles (16,17). Thus, the benefit of the mass roll-out of electric vehicles to produce benefits for air pollution may be less than hoped. Secondly, noise pollution is increasingly being recognized as a major health issue, with cardiovascular disease, stroke (18) and dementia (19) among others associated with it. Any noise above 50dB (20) can impact on human health and all cars travelling at speed produce noise pollution through tire rolling on roads. There is little difference between ICE vehicles and EVs at speeds above about 50km/hr. Third, car infrastructure reduces the availability of space in our cities and towns for green space. Urban green spaces are increasingly recognized as important for health from impacts on activity and obesity (21), to mental health benefits and

stress reduction. Trees and green spaces also help us adapt to the effects of climate change by reducing flooding during heavy rain and urban temperatures during heatwaves.

Probably the largest impact of cars and other mechanically propelled vehicles on health is the impact on physical activity. A study recently published by The Lancet Countdown on Health and Climate Change calculated that by prioritizing health in our climate plans we have the opportunity to save 1.6 million lives due to cleaner air and 2.1 million lives due to increased physical activity every year (22). This is of particular importance in the context of Ireland's aging population. Physical activity in combination with a healthy diet can help to reduce the likelihood of frailty and physical dependence. The benefits start accruing at a young age and can persist throughout life, therefore the younger that people start being physically active the better. However, we know that physical activity that is integrated into our daily lives is more sustainable and persistent than having to set time aside in the day for physical activity. With an aging population we will have a more robust population if we can integrate physical activity into our daily lives. But due to multiple reasons we live in a world that is hostile to this. Many of us live in one-off homes with no footpaths or cycle lanes accessible. In our towns and cities car is king. Pedestrians and cyclists are after thoughts in design, in contradiction to national design manuals and best practice. Cars frequently are parked on footpaths. Our footpaths are in a poor state of repair and often a trip hazard. Many of our public benches have been removed despite the fact that many older people need to stop regularly for a rest. These multiple microaggressions create an environment that is unappealing to be in as a pedestrian or cyclist, especially if they are disabled.

Cycling is great for our health. One study from the UK demonstrated a 40% reduction in mortality over 12 years in people who commuted by bike as opposed to those who commuted on public transport or car (23). Similarly, a Danish study has demonstrated an 8% increase in the concentration levels of children who cycle to school versus those that are driven (24). Electric bikes can sometimes be seen as "cheating". However, studies have demonstrated that people will cycle further on e-bikes and often end up exerting themselves just as much as on a regular pedal bike as they travel further and more frequently (25,26).

When we talk about EVs we need to have a more open mind than electric cars, trucks or vans. We need not just to replace internal combustion engine (ICE) vehicles with EVs but to reduce the number of cars on the road. In 1990 we had 900,000 cars on the road, today we have 2.3 million. 1 million EVs alone will not by themselves bring us in line with our 2030 transport emission targets. There needs to be a shift to alternative transport means. Electric bikes, trikes and cargo bikes will have a big impact on our transition away from ICE vehicles. Electric bikes can extend the cycling range of people, reduce the effort required to get up hills or carry heavy loads, and also extend the range of people who can cycle.

Not every trip needs to be by car. In 2019, 56.9% of short journeys (under 2 km) were made by car (27). Less than 2km is a distance that is feasible to walk or cycle for many however, without appropriate infrastructure road dangers are off-putting for many. Facilitating active transport for short journeys like these would reduce air and noise pollution, reduce greenhouse gas (GHG) emissions and enable increased physical activity (28). Methods to achieve this include protected, contiguous active transport routes, Low Traffic Neighbourhoods, where through traffic is discouraged or prevented on a street or road, in conjunction with School Zones where traffic is prevented at pick-up and drop-off times, along with cycle lanes and pedestrian zones, and Clean Air Zones such as in central London. The evidence is that these interventions do not displace traffic to other streets but reduces it overall. When these interventions are rolled out together there can be an amplification of their effects on air pollution reduction (29).

Lastly, increasing reach, accessibility and affordability of public transport in both rural and urban areas of Ireland is also of vital importance to facilitate a modal shift away from ICE vehicles. At present, plans to transition away from fossil fuels to green sources of energy for our public transport are much too slow.

Recommendations

 Expedite roll out of active transport infrastructure nationally including protected active transport routes, safe routes to school programme, low traffic neighbourhoods, pedestrianisation, widening pavements, clean air and school zones etc.

- 2. Increase coverage, accessibility and affordability of public transport
- 3. Prioritise electrification of public transport fleet.
- 4. Aim to reduce overall number of cars on the road rather than just replace the current ones with EVs.

3. Agriculture

Agriculture is an important part of Irish society in terms of food production, the economy and employment. However, agriculture is also a leading source of air pollution and GHG emissions in Ireland. Furthermore, malnutrition (which includes overweight and obesity) is a leading driver of preventable disease burden globally and in a recent survey 60% of Irish adults were identified as having overweight or obesity (30). Clearly, changes in how food is produced and consumed in Ireland are needed to improve health and protect our environment simultaneously.

In terms of air pollution and agriculture, there are a number of issues of particular note;

- There is evidence that agricultural air pollution is harmful to farmers, who are more likely to die from lung conditions (31).
- Ammonia, as well as other agricultural GHG emissions such as methane, have not reduced in line with other sectors over the past decades (32)
- Reducing ammonia emissions can have the co-benefit of reducing ambient PM2.5 levels (32).
- There is a lack of understanding of the impact of ammonia, NO2 and other PM for farmers as well as neighbouring dwellers.
- Ammonia is a complex yet immediate issue, however agriculture accounts for 98% ammonia emissions in Ireland, so we know where to focus our attention (33).
- There is a paucity of data to inform what the consequences of large-scale use of lime and urease inhibitors will have on soil health and biodiversity.
- The major driver within agriculture relates to cattle (dairy and non-dairy) at 76% (34). Further expansion will pressure further cost-effective ammonia abatement.

Ammonia and Ireland

Nitrous oxide and ammonia cause ecosystem damage and as such both are included in the National Emissions Ceilings Directives. The nitrogen cycle is critical to agriculture and food production. However, there are losses in this cycle, principally from fertilizer, manure and can be lost to the air as N02 or ammonia or as run off into drainage or run-off. While nitrogen run off can aid the growth of some plants it may also hinder others, particularly those in sensitive priority habitats. This can lead to loss of biodiversity, acidification of the soil, water eutrophication and onwards knock-on ecosystem effects (32). Excess ammonia also has an indirect warming effect via the release of N02 (which has global warming potential x 300 C02) from wet soils. This can be particular issue with Irelands bogs, heaths and other grasslands and woodlands which are typically low ammonia areas.

The main drivers of air pollution from the Agriculture sector in Ireland result from increasing numbers of animals, especially since the lifting of dairy quotas 2015, as well as fertilizers and feeds (34). This has a resultant negative impact on soil quality, water quality and biodiversity.

Irelands strategy for an environmentally sustainable agricultural sector is called "Ag Climatise". The vision of this is a "climate neutral food system compatible with Paris temperature goals whereby the climate impact of methane is reduced to zero and remaining emissions are balanced by removals". The government's ambition regarding air quality and agriculture "ensuring there is no compromise between protecting the air that we breathe and the sector remaining at the forefront of globally sustainable food production systems" may be contradictory given that many of the current cost effective abatement strategies have already been deployed.

Abatement measures differ in their strength of evidence, practicality, cost and availability. Current strategies to reduce agricultural emissions include;

- cover slurry stores
- planting legumes clover and other multispecies swards which store nitrogen

- liming and other nutrient management plans
- use of urea inhibitors
- reduction of feed with better grazing,
- enhanced grazing, grass and hedgerow management
- altered slurry times
- reduced and specific protein in feeds to reduce the nitrogen burden
- enhancement of the organic farming sector, in line with the Farm to Form strategy
- advanced remote and contemporaneous monitoring
- low emission slurry spreading options

As per Teagasc the current maximum abatement is approximately 5% below 2005 baseline (101-103kt NH3) compared to EU aim of an average of 19% reduction. While fertilizer use is reducing and urea concentration in fertilizer use is also reducing, the predominant source of ammonia emissions in Ireland still comes from grassfed bovine systems. As these outdoor systems have relatively low losses of nitrogen as ammonia, comparative to indoor systems, significant further abatement is difficult (35). A particular issue will be achieving these reductions when the national food strategy aims to increase output over the next 10 years.

Recommendations

- 1. Agricultural air quality metrics should be a consideration for the concurrent citizens assembly on biodiversity loss, and also viewed in conjunction with ongoing water quality regulatory enhancement as well as our legally binding GHG emissions reductions.
- 2. In Northern Ireland evidence suggested that there is poor understanding of ammonia at a farm level, hence the multidisciplinary cross sectoral information campaign "Making Ammonia Visible" (36). A similar campaign of awareness, information and reduction strategies could be employed here.
- 3. There is a need for enhanced air quality monitoring, rural and urban, and also in high nature value areas. Enhanced monitoring should be twinned with further research into the effects of ammonia on flora, fauna and human health.
- 4. Community projects to find local solutions, to cross pollinate ideas and to concentrate on highly polluted areas should all be sought.

4. Industry, Enterprise and Energy in the Health Sector in Ireland

As outlined in the clean air strategy consultation, industry, enterprise and energy production in Ireland contribute to air pollution emissions in numerous ways, including through:

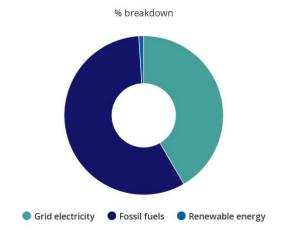
- Energy used to heat and light homes and businesses
- Release of chemicals in the production and operation of processes
- Transportation of goods and raw materials

While the last point has been addressed in our section on transport, this section will focus on the impact of energy generation and production processes in healthcare and outline recommendations to tackle these issues.

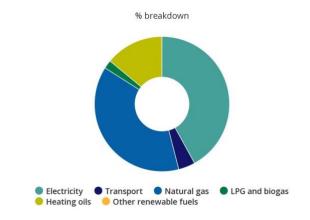
4.1 Energy generation in healthcare

Energy is a priority for hospital management for financial savings. Evaluation of energy power and consumption yields short- and long-term financial savings, along with carbon footprint rewards. Leveraged buying power is an important tool in ensuring prioritization of renewable sources to power healthcare. The HSE and Acute Hospitals are currently at 17% energy efficiency improvement against a target of 33%. By 2020, Health (HSE & acutes) had saved 17%, or 304 GWh, since their baselines. This is 279 GWh short of the 2020 target. A shocking 1% of energy use in healthcare is sourced from renewable sources. We have a huge reliance on fossil fuels-accounting for 58% of our energy needs.

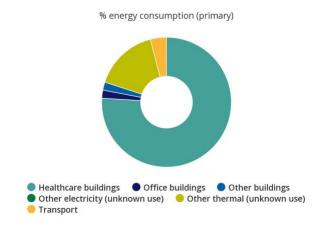
This shows that there are significant opportunities to improve the energy efficiency of Irish hospitals and primary healthcare. In 2018, more than half of Irish hospitals and primary healthcare buildings had a BER certificate lower than C; only 6% have achieved the highest BER rating A, while 22% were at the very bottom of the scale, with BER ratings F & G (37). Almost half of healthcare's global carbon emission reductions required by 2050 can be achieved by investing in zero-carbon buildings and infrastructure (38).



Source SEAI



Source SEAI



Source SEAI

Reducing energy use requires planning, persistence, ongoing benchmarking and staff buy-in, but successful solutions are available. While newly constructed hospitals are often designed to use the latest technology to conserve energy, older buildings often struggle to improve efficiency. Measures to conserve energy through retrofitting measures include the introduction of combined heat and power systems (CHP), replacing lighting with LED bulbs, replace older hospital equipment with newer energy-efficient models and reduce use of HVAC system when spaces are unoccupied.

Healthcare institutions, particularly modern primary care centres and secondary care facilities are frequently large buildings with large rooftop footprints. These are ideal in many cases for solar panels, particularly where, unlike domestic dwellings, energy consumption is greatest during daylight hours. This can include building-integrated photovoltaic (BIPV) materials that are incorporated into construction of buildings to generate renewable electricity. In contrast to the standard horizontal axis wind turbine present in our windfarms, vertical axis turbines are simple designs, can take advantage of the building characteristics and produce less noise than generators or traditional wind turbines (39). These innovations assimilate well with existing back-up power requirements where most healthcare institutions are required to have battery capacity.

Recommendations

- 1. Engagement with executive level management on renewable energy contracts
- 2. Prioritize renewable energy when renewing energy contacts at all healthcare facilities, with targets for renewable energy use.
- 3. Hospital construction projects are typically long, therefore advocate for renewable energy supplies are in place prior to beginning of construction works
- 4. Net zero construction in healthcare: With further development of EU Buildings Directives, requirements are significantly increased overall to 100% with a focus on self-generated and locally sourced renewable energy and incremental targets in line with the Paris Agreement
- 5. Funding for solar panels on all suitable areas of healthcare facilities across Ireland

4.2 Impact of pharmaceutical production processes on air quality

This section will look at some key elements of this that can be improved in the Irish context within the role of pharmaceutical manufacturing and suggest ways to improve emissions by considering a product's entire lifecycle. 71% of healthcare emissions are primarily derived from the health care supply chain (Scope 3) through the production, transport, and disposal of goods and services, such as pharmaceuticals and other chemicals, food and agricultural products, medical devices, hospital equipment, and instruments. Three-quarters of all health care emissions, including from its supply chain, are generated domestically. This means roughly one-quarter of all health care emissions are generated outside of Ireland (40) and so, to produce meaningful change requires Ireland to engage with the pharmaceutical industry at an EU and international level.

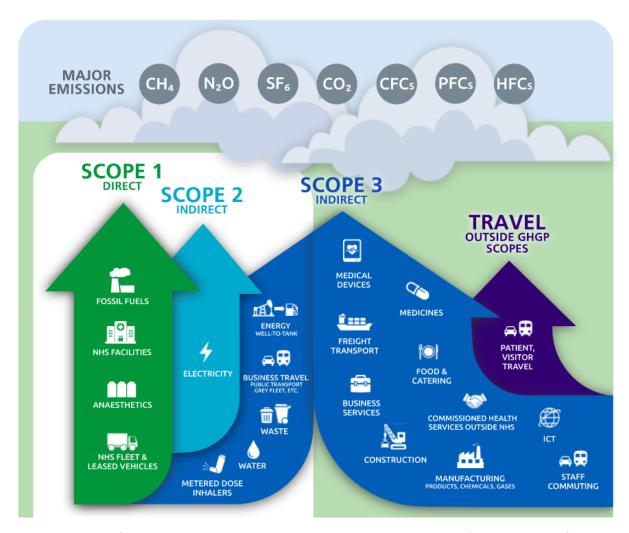


Figure 1. Scopes of greenhouse gases reduction as per Greenhouse Gas Protocol (picture adapted from NHS report Delivering a Net Zero NHS, October 2020). GHGP scope 1: Direct emissions from owned or directly controlled sources, on site • GHGP scope 2: Indirect emissions from the generation of purchased energy, mostly electricity • GHGP scope 3: All other indirect emissions that occur in producing and transporting goods and services, including the full supply chain (5).

The pharmaceutical industry is extremely emissions intensive. In 2015 emissions intensity for the pharmaceutical industry was 48.55 Mt-CO2e/\$M, which is about 55% higher than that of the Automotive sector of 31.4 Mt-CO2e/\$M for that same year. A study by the Sustainable Healthcare Commission for the NHS which estimated that pharmaceuticals accounted for the highest proportion of CO2 emissions of the NHS, Public Health and Social Care system in 2012 (16.25%) (41). More than 200 companies represent the global pharmaceutical market, yet only 25 consistently reported their direct and indirect greenhouse gas emissions in the past five years. Of those, only 15 reported their emissions since 2012.

Interestingly, Roche, Johnson & Johnson and Amgen have some of the highest level of profitability and revenue growth, with revenue increases of 27.2 per cent, 25.7 per cent and 7.8 per cent respectively between 2012 and 2015. In this same time period, they managed to reduce their emissions by 18.7 per cent, 8.3 per cent and eight per cent respectively (42). This supports the premise that environmental and financial performance aren't mutually exclusive.

In Ireland and the EU, there are no specific rules regulating the emissions from pharmaceutical production into the environment. Many pharmaceutical plants supplying the EU market are located outside Europe in countries with weaker environmental and regulatory systems, particularly in the case of antibiotics (43). In addition to

stronger EU regulation, there is a need for a global response through strengthened international cooperation and dialogue to address this problem across entire supply chains. There is an urgent need for ambitious legislative and non-legislative measures in both Ireland and the EU, throughout the life cycle of medicines to minimize the entry of pharmaceutical residues into the environment and reduce risks for human, animal, and environmental health.

Recommendations

- 1. Improve the transparency and sustainability of the pharmaceutical supply chain
 - a. Make it compulsory for pharmaceutical companies supplying products to Ireland to publicly disclose supply chain information, including names and locations of suppliers, production units, and processing facilities, in an online public database to ensure the traceability of all pharmaceutical products. The New Zealand Medicines and Medical Devices Safety Authority (Medsafe) database provides a good case example of this (44).
 - b. Include mandatory environmental criteria that address discharges of pharmaceutical residues into the environment, e.g., emission limit values, in the EU Good Manufacturing Practice (GMP) legislation.
 - c. Develop guidelines to help healthcare purchasing authorities use procurement policy to promote greener pharmaceuticals and sustainable production with clear environmental criteria and performance indicators based on the Public Procurement Directive.
- 2. Strengthening environmental risk assessment for human medicine.
- 3. Encourage greener medicines, promoting responsible use and reducing pharmaceutical waste
 - a. Make pharmaceuticals that can cause a harm to the environment prescription-only, based on environmental risk thresholds.
 - b. Support the training of healthcare professionals (in particular doctors and pharmacists) on the environmental impact of medicines and the exchange of best practice to promote responsible use and proper disposal.
 - c. Develop guidance for healthcare institutions to reduce the discharges of pharmaceutical residues from use and disposal to municipal wastewater.
 - d. Make it compulsory for pharmaceutical companies to measure and consistently report (both in terms of comparability and quality) the greenhouse gas emissions of their products throughout the value chain.
 - e. Make it compulsory to feature disposal information for patients on the outer drug packaging and in pharmacies (in addition to patient information leaflets) to prevent disposal via the toilet or sink (45).
- 4. Introduce a graduated tax inducement for cleaner pharmaceutical production.

4.3 Procurement

Healthcare in Ireland has an expanded scope of emissions that encompasses the production and transport of goods, medicines, food and hospital supplies. The procurement of these goods and services is an important consideration for healthcare emissions and impact on air quality as well as overall health. Ireland's health service receives the largest share of government expenditure of any EU country. In 2014, the health service in Ireland was allocated almost a fifth (19.9%) of government expenditure, significantly more than the NHS in Britain (17.3%) and roughly four times more than European countries like Greece and Slovakia (40). The HSE and its funded agencies purchase approximately €3.2 billion each year of goods and services that's a staggering €8.8 million for each day of the year, more than €6,000 each minute, or more than €100 per second (46).

We can reduce emissions through our supply chain in three ways: more efficient use of supplies; low-carbon substitutions and product innovation; and by ensuring our suppliers are decarbonizing their own processes. For any service to deliver on a carbon reduction commitment, we must commit to having a net zero supply chain (47).

While Green Public Procurement (GPP) is a relatively recent introduction to the EU framework, there are some countries who have made strides in GPP in healthcare settings. Within the EU, there are a number of countries making commitments to zero hospital building emissions and investments in climate-smart technologies, such as the Netherlands and in the UK (40). Below are case studies from Vienna and Reykjavik that show strides that can be made when it comes to implementing GPP criteria in hospitals, and how they contribute meaningfully to the environmental footprint of the healthcare provided within the hospitals.

The environmental GPP program 'ÖkoKauf Wien' was implemented by the Viennese government that mandates public institutions to procure goods and services according to certain ecological criteria. The guidance provided helps to ensure that products with good environmental ratings are identified and available at manageable prices. The procurement criteria takes into account natural resources used in the production of the goods and services, efficiency, emissions and more. Through this program, Vienna's healthcare services have created their own criteria when it comes to the use of disinfectants and cleaning products within hospital settings, and invested in products that have a good ecological ranking. The program ÖkoKauf Wien has helped to reduce carbon emissions by 15,000 tons per year since its implementation. (48)

Reykjavik, Iceland has transitioned to include GPP criteria in its healthcare. Since 2012, Landspitali Hospital has implemented an environmental program to include environmental tenders and a centered focus on social responsibility in the hospital. Landspitali introduced GPP criteria for waste management, vehicles and energy-efficient equipment. They have focused on social responsibility, and have transitioned to 90% eco-label products for cleaning, and increased recycling and sorting facilities for patients. Landspitali also focuses on the environmental waste, which included transitioning to waste management sorting programs. This involves discontinuing the use of plastic coverings and minimizing disposable items used within the hospital. (49)

Recommendation

1. As part of an overall strategy to reduce scope 3 emissions, The Department of Health, HSE and individual hospitals, should set criteria for low-carbon or zero emissions procurement. The proposed tools (Common Reporting Frameworks and Lifecycle Analyses (50)) should be used as objective measures of a company or products environmental impact. This will incentivize suppliers and manufacturers to decarbonize their operations and products, reducing overall emissions and improving air quality.

Conclusion

Delivering clean healthy air within the WHO standards (4) requires a whole-of-society transformation and a coordinated multisectoral approach. With almost the entire global population breathing air that threatens their life, the measures to attain this goal are evidently warranted through local, national and international measures and policy changes. Not only will it deliver improved physical and mental health benefits for every member of our society, but it will also assist in the fight against the climate crisis. Therefore, while we welcome the draft National Clean Air Strategy in principle, we urge adoption of the WHO standards for air quality and greater ambition to effectively tackle the upstream drivers of air pollution and maximise cobenefits for population health and climate action.

It has to be remembered that;

- Air pollution damages health.
- There is no safe level of air pollution.

Irish Doctors for the Environment is a registered charitable organization of medical professionals in Ireland focused on promoting good health through care of the environment. Registered charity number 2025893. irishdocsenv@qmail.com

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