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Democrats**

Clean Air

For a Cleaner Healthier Ireland

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Key Points

In government, the Social Democrats will:

- Have the improved health of citizens and beneficial climate impacts as one of our primary goals.
- Strive for Ireland to have the cleanest air in the world by 2035.
- Set air pollution controls in a phased approach, to move Ireland to meet the 2021 World Health Organisation guidelines for air pollution by 2035.
- Consider the use of 'Clean Air Zones' (CAZs) or 'Ultra Low emission zones' (ULEZs) in urban areas to improve air quality, and a system of charges for polluting vehicles entering CAZs/ULEZs, where appropriate.
- Raise air quality standards in schools and the workplace.
- Scale-up investment in retrofitting and cheap access to financing e.g. prioritising heat pumps in new builds and retrofits.
- Increase the sentences and fines for environmental polluters.
- Legislate for a national car idling ban.
- Expand the National Ambient Air Quality Monitoring Network and introduce low-cost monitors in all towns in Ireland with a population of more than 1,000 people to expand air pollution monitoring throughout the country.
- Update the National Air Pollution Control Programme (NAPCP) and strengthen the powers of the Environmental Protection Agency through legislation and statutory instrument.
- Introduce an early warning national syndromic forecasting system between EPA monitoring, local GPs, hospitals, local government and media to prepare local services and warn the public against sudden local pollution events.
- Introduce a NOx charge on heavy goods vehicles (HGVs) and other polluting vehicles and expand the scrappage scheme for older, polluting vehicles.
- Make major investment in modes of active travel at a local level (walking and cycling) and multi-modes of transport (park and ride, train commute journeys).
- Increase investment in electric vehicles, the EV charging point network, and public transport across the country.

Health Effects from Air Pollution

Air pollution is caused by the contamination of air by particles, vapors and gases that are harmful to public health and the climate. The World Health Organisation (WHO) has highlighted air pollution as a major threat to all people, but people in poorer neighbourhoods in particular. To ensure good air quality, strong government action must be taken to protect our environment and the quality of air we breathe every day.

Ireland is a signatory to various transnational environmental agreements for air pollution, for example the EU CAFE standards which provide Air Quality Directives on which our main domestic legislation is based. There are also the Air Pollution Act 1987 and the Air Pollution Act 2012.

However, more is required. **The Social Democrats believe Government should enact a robust new Clean Air Act**, the details of which are discussed in this document.

Outdoor air pollution is increasingly recognised as a major public health issue. It is estimated to have contributed to 1,300-1,400 preventable deaths in Ireland in 2021. It is unsurprising that UN Sustainable Development Goals 3 and 11 list reducing air pollution as a priority.

Poor air quality leads to a corresponding rise in incidents of respiratory and cardiovascular health issues among the public. Put into practice, a reduction in air pollution from the smoky coal ban in Dublin in the 1990s resulted in a reduction in respiratory and cardiovascular admissions. Research more recently indicates that air pollution is more dangerous than previously understood, contributing to cognitive decline, mental health deterioration, early onset dementia, Alzheimers, and other health issues.

In Ireland, residential solid fuel burning is the primary source of this pollution. This is despite the “smoky coal ban” introduced in Dublin in 1990 that was shown to reduce the incidence of cardiovascular and respiratory disease. This highlights the urgent need to extend the smoky coal nationwide and to expand the ban to all solid fuels, especially in urban areas.

While the effects of indoor pollution are not as prevalent as in developing countries, recent evidence points to wood-burning stoves and gas-fueled cooking producing more nitrogen dioxide (NO₂), particulate matter (PM_{2.5}) and other pollutants than previously understood. The best course of action is that

future construction of housing, schools, offices, places of work and other buildings are equipped with **decent ventilation, accurate air quality monitors, clean sources for heating and cooking** as well as greater public awareness of indoor air pollution, VOCs and other pollutants.

A Robust Clean Air Act

In government, the Social Democrats will enact a robust Clean Air Act.

Sitting alongside the Clean Air for Europe (CAFE) standards and other EU directives, this Act that would reduce air pollution in a phased approach over time by:

- strengthening the powers of the Environmental Protection Agency (EPA).
- enforcing greater environmental standards.
- encouraging behavioural change.
- altering the planning system.
- investing in retrofitting.
- providing cheap financing for related projects, and
- increasing public awareness and improving education.

The primary goal of the act should be the improvement of the health of citizens and our climate, with Ireland **striving to have the cleanest air in the world by 2035**.

Additionally, the National Clean Air Strategy should be fully incorporated into carbon budgeting and the Climate Action Plan.

The Clean Air Act should strengthen legislation around civil and criminal charges for environmental polluters where warning signs were present but where the polluter chose to ignore them, and strengthen the National Air Pollution Control Programme including allowing on-the-spot unannounced inspection of suspected sources of pollution.

Strengthening Air Quality Monitoring and Forecasting

Environmental events like a sudden air pollution event are hard to envision but should be planned for. Key to success is communication between relevant bodies, teamwork and achieving goals in good time.

To this end, **government should establish a real time, national syndromic air quality forecasting system between GPs, A&E Departments, Department of Health, EPA, local authorities, local media and other relevant organisations.**

This system would alert hospitals, doctors and medical personnel, if there is an increasing level or sudden spike in air pollution, to prepare for a surge of members of the public presenting with asthma and other pollution related effects.

It should also include local and national media to raise awareness of a spike in pollution, and local authority officials to prepare for contingencies.

Additionally, Government should increase the role and powers of the Environmental Protection Agency and the HSE/Department of Health in respect of the National Ambient Air Quality Monitoring Network to have an early warning system in place against sudden or increasing levels of air pollution.

Ireland's network of monitoring stations (the EPA AAMP) is increasing in reach and should continue to expand with the installation of low-cost sensors throughout the country. These stations measure particulate matter (PM_{2.5} and PM₁₀) and harmful gases (NO_x, SO_x, VOCs etc).

Around 1,300-1,400 people died in Ireland in 2021 due to air pollution and related causes, but despite this, there is a lack of public awareness of the dangers posed by air pollution.

An effective network will monitor and warn against localised air pollution e.g. cold weather during winter and an unforeseen environmental event e.g. an oil tanker emergency.

The government and local authorities must engage directly with communities and businesses to encourage Citizen Science programmes and data gathering at a local level.

In government, the Social Democrats will:

- Create a real time, national syndromic air quality forecasting system (as MET Éireann does for weather) integrating communication and planning between GPs, A&E departments, Department of Health, EPA local authorities and others in case of a sudden air quality or environmental event.
- Ensure funding to keep the national monitoring network online and operating correctly at all times with scope to expand the network over time.
- Create a national network of low-cost sensors throughout the entire country e.g. towns of 1,000 people or more should have at least one active sensor monitoring air quality as Ireland has the lowest density of monitoring stations in Europe.

Air Quality Regulations

In 2021, the World Health Organisation (WHO) updated its global air quality guidelines for the first time since 2005. This change was based on greater understanding and scientific evidence that air pollution is more damaging to human health at much smaller concentrations than previously realised.

As a result, the 2021 air quality guidelines (AQG) were lowered compared to 2005 for particulate matter (PM_{2.5}, PM₁₀), nitrogen dioxide (NO₂), sulphur dioxide (SO₂) with additional metrics introduced for ozone (O₃) and carbon monoxide (CO). The changes from 2005 are striking with PM_{2.5} limits falling 50 per cent and NO₂ limits falling to 25 per cent of the 2005 numbers.

Several studies have demonstrated the potential impact of these new guidelines, including one by the European Environmental Agency (EEA) which said that 177,300 lives could have been saved in 2019 alone had the 2021 AQGs been in effect at the time.

These updated guidelines point to the growing consensus that poor air quality is a leading cause of premature death. Governments must do more to guard against air pollution as air crosses borders freely and can affect population centres in neighbouring countries. Improving both indoor air quality and ambient outdoor quality has never been more important from a public health and environmental policy perspective.

In government, the Social Democrats will:

- Bring air pollution limits for pollutants in line with EEA and WHO levels, in a phased approach, by 2035 in a new robust Clean Air Act.
- Increase funding for Environmental Protection Agency (EPA) enforcement to prevent and punish polluters.
- Give additional powers to the EPA to protect public health.

Accelerated Transition

According to the World Health Organisation, 99 per cent of the global population breathes air containing pollutants that exceed WHO guidelines.

One of the central challenges of our time is to plan future development in a way that decarbonises our economy, adjusts to climate change, ensures a just transition for working families, and protects public health. Internationally, increased pedestrianisation of urban centres has been shown to make a difference with some of the biggest cities in the world banning cars and other vehicles from certain urban centres. This not only improves the quality of life in these areas but improves the air quality as well.

Based on successful international examples, the government should consider the creation of Clean Air Zones (CAZs) or Ultra Low Emission Zones (ULEZs) in Dublin, Limerick, Galway and other urban areas that have air pollution above acceptable levels. Cork City was the first city in Ireland to declare a Clean Air Zone in the city centre in 2022.

In areas where congestion and urban pollution is very high, a system of charges could be considered; to be established over time as investment in public transport improves. **Accompanying improvements in a city's or town's public transport infrastructure must go hand-in-hand with any such charges.**

In addition to national government, local government must be strengthened and empowered with local decision-making powers to combat air pollution at a local level. Local authorities (city and county councils) should review free parking in or around urban centres and review movement in all urban areas to not only encourage a change in transport behaviour but maintain and encourage continued business growth in the heart of villages, towns and cities.

Speed limits in all residential areas should be reviewed as they can have an impact on local air pollution and pedestrian safety. Furthermore, car idling which happens due to traffic congestion should be discouraged and should be banned nationally over time through effective campaigns to effect behavioural change.

All urban areas should conduct regular transport studies. Where people are going should be as important as how they get there. This is where multi-modal transport can make improvements where the public uses two or more different forms of transport to travel between home and work, for example.

Instead of driving only a few kilometers in a car, a multi-modal network of bus or train combined with a high-quality cycle network could get people out of their cars where the journey is short.

As heavy good vehicles (HGVs) are a major source of NO₂, the government should introduce a NO_x charge on HGVs while introducing a scrappage scheme which will take older, more polluting HGVs off the road. Additionally, cheap financing of Electric Vehicles and green HGVs should be introduced to replace the older vehicles. This should also extend to localised green transport.

In government, the Social Democrats will:

- Legislate for a national ban on ‘car idling’ and review speed limits in residential areas.
- Accelerate the process of pedestrianisation of urban areas.
- Implement ‘multi-modal’ transport links so commuters may travel to work via bike, train, car and ride and other modes of travel as part of the TFI strategy.
- Establish a system of cheap retrofitting financing for homes and commercial buildings to upgrade their BER status.
- Consider the introduction of a NO_x charge on all HGVs and a scrappage scheme to phase out the use of older trucks.
- Introduce targets for electric and other green HGVs on the road by 2035.
- Establish government-backed low-cost financing for green HGVs and other vehicles.
- Subsidise green taxis, last mile delivery vehicles, and cargo bikes for use in urban areas.

Clean Air Zones

At present, Ireland has a number of 'low smoke zones' in which air quality is monitored by the Environmental Protection Agency (EPA).

Zone 1 covers the greater Dublin area, Zone 2 covers Cork City and its suburbs, Zone 3 covers smaller cities (Galway, Limerick, Waterford) and other urban areas, while Zone 4 includes all other areas like the rural countryside between other zones.

Under the current Air Pollution Act (Marketing, Sale, Distribution and Burning of Specific Fuels) Regulations 2012, it is against the law to burn smoky coal with a sulphur content of more than 0.7 per cent. Although the sulphur content is still low, it still releases PM_{2.5} into the atmosphere like burning all other solid fuels.

Public awareness of these solid fuels and their harm to air quality and the local environment must be addressed with information campaigns to discourage solid fuel burning like peat, wood, and coal.

Additionally, license to sell solid fuels, warning labels on packaging a 'sin tax' on solid fuels similar to that of cigarettes should also be considered over time as Ireland moves to cleaner sources of heating and energy generation.

Partial, regional smoky coal bans have been in place for about 20 years but in 2021, a Clean Air (Smoky Coal Ban) Bill was introduced. If enacted, it will finally put a national smoky coal ban into effect. Its success will depend not only on the enforcement strategies carried out by local authorities but also on the introduction of innovative solutions improving public transportation and raising public awareness to the dangers presented by air pollution.

Looking at international best practice, the next step would be to designate urban areas as Clean Air Zones (CAZs) or Ultra Low Emission Zones (ULEZs) like in the United Kingdom.

Building on the work of the low smoke zones, government and local authorities would take greater proactive steps to improve air quality within the zone. These targeted measures would bring emissions levels down through urban planning, change of behaviour, and elimination of harmful sources of PM_{2.5}, NO₂ and others while promoting measures to improve air quality, such as increased pedestrianisation, more green areas, and urban tree planting.

Indoor air pollution must also be considered to protect the public indoors over the course of the day. Raising standards for air quality in school classrooms and in the workplace as a whole will add to other measures outdoors.

The 2021 WHO guidelines are stricter and will not be achieved overnight; only in tandem with other measures will air quality levels improve over time in a phased approach. To reduce harmful levels of pollutants from vehicles, a charging regime could be implemented on older, polluting vehicles not up to a minimum environmental standard, where they would pay a charge if traveling within a CAZ or ULEZ.

Though the extension of Low Smoke Zones to the whole country is welcome, there is much more that can be done to protect public health and air quality. Following other European cities, pedestrianisation in city centres is accelerating with many cities choosing to ban cars and other vehicles entirely from urban centres. This step has been popular and successful in improving air quality in cities around the world to reduce levels of NO_x, SO_x, PM_{2.5} and other pollutants.

Accompanying improvements in a city's public transport infrastructure must go hand-in-hand with any congestion charges that might be implemented. Without viable alternatives, such charges are simply penal to people and could have an adverse reaction from the public if not communicated and/or implemented correctly.

In the UK, there are four different types of Clean Air Zones based on the type of vehicles that may enter the zone requiring a minimum environmental standard. Type A includes Buses, coaches, taxis and private hire vehicles while Type D will also include HGVs, vans, minibuses, all cars and may include motorcycles on the list depending on the local authority.

Change is possible: Following publication of a report into NO₂ levels in 2017, the UK government designated Birmingham City Council as an area which needed to address its air quality. It found the level of NO₂ above acceptable levels and so set a target of 40 µg/m³ for the Council to reach as soon as possible and encouraged a further reduction after that. In a matter of weeks from implementation in June 2021, 6,000 fewer vehicles were entering Birmingham's Clean Air Zone leading to an accompanying improvement in air quality.

Here in Ireland, the example of local councils making strides on air quality has been noticeable with Cork City Council being the first city in the country to produce its own Air Quality strategy which bans HGVs from the city centre in

favour of ‘Last Mile Electric Vehicle delivery’, the creation of Ireland’s first CAZ in April 2022, and an expansion of tree planting in the city.

Additionally, the four local authorities for Dublin collaborated together to develop an Air Quality Plan to reduce NO₂ levels in the city in 2021. This should be replicated throughout the country for every local authority to tackle air pollution at the local level.

Another idea is the expansion of ‘School Streets’ which has been hugely successful in the U.K. The proposal calls for the pedestrianisation of roads in and around schools when parents are dropping children off in the morning and collecting them from school in the afternoon. One study from London showed a 23 per cent reduction in NO₂ levels. Engagement between parents, students and school staff all contribute toward better air quality in the area. In addition to improving air quality within school classrooms, implementation of ‘School Streets’ supports other public goods such as more physical exercise for young people, reduced traffic around the city, and better safety for students in and around the schools.

In government, the Social Democrats will:

- Building on the ‘Low Smoke Zones’, introduce Clean Air Zones or Ultra Low emission zones in all urban areas in conjunction with pedestrianisation and designation of vehicles allowed in the zone.
- Raise air quality standards in the school classroom and in the workplace.
- Increase funding for local authorities for additional staff handling air quality and other environmental protection at the local level.
- Increase funding for public transport, upgrading the bus and rail network.
- Expand ‘School Streets’ by local authorities where feasible and in line with pedestrianisation.

Retrofitting and Financing

Retrofitting homes and buildings is a necessary climate measure with many substantial co-benefits, including relating to better air quality.

Government schemes should initially focus on households that experience heat/fuel/energy poverty or are in receipt of the Fuel Allowance. Buildings that rely on the most polluting fuels such as coal and peat should be targeted thereafter, maximising emissions mitigation (carbon dioxide and air pollution).

The SEAI grants system has been an effective vehicle to enable home heating improvement measures. Although the government's February 2022 announcement of further investment in retrofitting is welcome, it still requires taking out a large loan up front and remains out of reach to many of those who would most benefit from retrofitting the most.

Many availing of the SEAI grant system are upgrading their heating systems to gas heating or kerosene boilers, which, while an improvement over open stoves and solid fuel burning, still emit air pollution. Heat pumps should be the preferred option in all retrofits where possible as the previously mentioned heating systems are still climate emitters and bad for both indoor and outdoor air pollution.

To improve both air pollution and future insulation, the government should be ambitious and also look toward subsidising the closure of chimneys and include it into future retrofits. Sealing chimneys will not only save the homeowner in long-term heating costs by preventing heat loss but will also reduce air pollution.

Another important point involves domestic wood burning stoves. Wood smoke is harmful to human health, especially indoors as the smoke is full of particulate matter and VOCs. This must be put on the government's radar as improving insulation in retrofitting will mean that indoor air pollution will become more of an issue in the future. In that sense, planning permission or 'no fire zones' in urban areas could be considered to tackle this issue.

Vital to the success of any scheme is having an adequate workforce. The current waiting list of 18-24 months is unacceptable given the urgency of the shortage of housing units and the targets in this area. Significant additional resources are required to enable more retrofits in a timely manner, chiefly by increasing the number of skilled personnel in the area. The list of works and certified persons

for retrofitting should be expanded by offering training and incentives as appropriate.

SEAI analysis suggests that low-interest loans combined with grants could improve uptake and which is especially true for payback periods greater than six years. A reformed financing system with 'heating allowance' would incentivise people to switch to cleaner heat sources and retrofit their home. This would give them a higher heating allowance and also allow them to spend less on heating bills while polluting their home and surrounding area at the same time; a win-win. To date, schemes that offer partial support and require applicants to seek additional funding are beyond the reach of many of the most vulnerable, and are most accessible to those already advantaged. Heat poverty and poor living conditions are being prolonged due to unequal access to the very schemes designed to eliminate them.

Cheap financing for retrofitting and all other climate action related work must be encouraged and prioritised. Access to credit must be widespread, diverse, and low-cost to realise the potential benefits for human health and the environment. The Better Energy Warmer Homes scheme (from SEAI) provides full retrofits to social welfare recipients, but only around one hundred per year are completed. This is far too slow a rate and must be sped up.

In government, the Social Democrats will:

- Introduce SEAI cheap financing with a 'heating allowance' for retrofitting.
- Ensure future planning of all new builds includes proper ventilation, and begin a project of sealing chimneys in older homes over time to improve insulation.
- Improve public awareness of the dangers of PM_{2.5} and, NO₂ causing both indoor and outdoor air pollution from wood stoves.
- Expand the list of works and certified persons for retrofitting.

Active Travel and Public Transport

Sustainable active travel such as walking, cycling and electric vehicles (electric bikes, scooters, cars) should be prioritised as much as possible through building the relevant infrastructure and providing additional incentives where possible.

Our European counterparts offer numerous examples of where walking and cycling have greatly improved the livability of a city, as well as cutting down on air pollution.

Promoting these modes of transport over car travel has been shown to reduce exposure to air pollution. In Ireland, the major pollutants of concern from a public health perspective are PM_{2.5}, ammonia, NO₂ and polycyclic aromatic hydrocarbons (PAH). These pollutants, as mentioned above, are mainly associated with traffic exhaust emissions (as well as agriculture and solid fuel burning).

Despite meeting EU standards, we fail to meet the World Health Organisation standards for public health which were been updated in 2021, the first time in 16 years.

Moving greater numbers of people in fewer vehicles, public transport reduces emissions, reduces congestion, and cuts down on car dependency. Where vehicles are powered by renewables, the benefits are even greater and future planning must be cognisant of this. Increasing access and reliability of our bus, train, and tram networks is a vital part of our climate and air quality ambitions.

Advanced options in less dense settlements must also be considered. Demand-Responsive Transport (DRT) is a flexible mode of transportation which is able to adapt to daily demand, as determined by interaction with its users.

In government, the Social Democrats will:

- Scale up investment in active modes of travel in major transport nodes e.g. park and ride, bike storage in train stations.
- Continue to ramp up investment in public transport (bus, rail, tram).
- Investigate new modes of transport e.g. Last Mile Delivery, and Demand Response Transport (DRT).

Public Awareness

The public's perception of air quality must go beyond air forecasting and occasional media reports of a spike in pollution.

Public outreach products in science education can help improve awareness about environmental issues. Studies show that people will actively try to reduce activities that contribute to air pollution (such as car idling outside schools at busy morning drop-offs and afternoon pickups) if financial or social rewards are available for completing such activities.

Citizen Science offers an important opportunity for local councils and governments to engage their communities on the benefits of reducing air pollution along with achieving goals related to EU directives on air quality. These projects are primarily targeted at schools, where education on clean air can be incorporated into parts of the curriculum.

There is also the Clean Air Together initiative run by the EPA which studies NO₂ levels in Dublin. This programme is being expanded to other cities but should go further, especially to towns with poor air quality.

Citizen Science can be particularly valuable at increasing the spatial representation of air quality data across the country and should continue to be implemented across Irish schools.

An ideal example of this is the Purple Air initiative which makes sensors that a community of citizen scientists use to collect hyperlocal, real-time air quality data and share it on a map that is accessible for everyone. Potentially, similar to the Tidy Town community initiatives, a similar process can be implemented into recording air quality data around the country.

In government, the Social Democrats will:

- Advocate for public awareness campaigns to educate the public on the dangers and indicators of air pollution.
- Expand and promote partnership opportunities for Citizen Science programmes with schools, business groups and communities.

Other Measures at National Level

In government, the Social Democrats will:

- Establish a long-term strategy on clean heating and indoor pollution.
- Reform the public education curriculum to improve the teaching on air pollution and other environmental issues.
- Commit to upgrade government, administrative, local authority buildings and vehicles to be more environmentally sustainable.
- Pursue policies that will make farming greener and safer by encouraging better farming equipment, livestock feeds and cleaner methods of farming.
- Grant local authorities the use of Traffic Regulation Orders where An Gardaí Síochána can close traffic and movement to specific areas due to extreme air pollution.
- Target hotspot high pollution-riddled towns.

Other Measures at Local Level

In government, the Social Democrats will:

- Require each local authority to develop a local clean air and communication strategies.
- Provide funding for the environmental department in local authorities to have at least one member of staff focused on clean air and related environmental issues.
- Encourage local authorities to work with chambers of commerce and local business groups to improve business waste management, which will in turn improve air quality.
- Require local authorities to review their policies relating to parking, especially 'free parking' and charging regimes to support business in population centres.

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