



**Comhairle Cathrach
& Contae Luimnigh**

**Limerick City
& County Council**

**Submission on the Draft Clean Air Strategy for
Ireland**

April 2022

Submission on the Draft Clean Air Strategy for Ireland

Introduction

Limerick City & County Council (herein termed the Council) welcomes the new *Draft Clean Air Strategy* (DCAS) and its aspiration to enhance and protect air quality and to promote and increase awareness of the importance of clean air. The Council has prepared this submission to support the delivery of the DCAS and wishes to make the following points.

Strategic Priorities and Key Actions

The DCAS provides a high-level policy framework and recommends five *Strategic Priorities* to identify and promote integrated measures across government policy. The five strategic policies are:

1. To ensure continuous improvements in air quality across the country;
2. To guarantee the integration of clean air considerations into policy development across Government;
3. To increase the evidence base that will help us to continue to evolve our understanding of the sources of pollution in order to address them more effectively;
4. To enhance regulation and improve the effectiveness of our enforcement systems;
5. To promote and increase awareness of the importance of clean air.

The Council welcomes the strategic priorities and acknowledges that the most efficient mechanism to improve air quality is to reduce the emissions of pollutants, such as those highlighted in the DCAS as being of particular concern (particulate matter (PM_{2.5} and PM₁₀), nitrogen dioxide (NO₂) and ammonia (NH₃)). The Council also recognises that there are no safe levels of air pollution for human health. An extensive amount of study has been undertaken and best practice is available on how green infrastructure can reduce public exposure to air pollution in the urban environment thereby having a positive effect on citizens health and well-being (e.g. Abhijith *et al.* 2017¹, Kumara *et al.* 2019²). The definition of green infrastructure adopted by the European Commission³ is:

"Green Infrastructure can be broadly defined as a strategically planned network of high quality natural and semi-natural areas with other environmental features, which is designed and managed to deliver a wide range of ecosystem services and protect biodiversity in both rural and urban settings. More specifically GI, being a spatial structure providing benefits from nature to people, aims to enhance nature's ability to deliver multiple valuable ecosystem goods and services, such as clean air or water."

Dispersion and deposition are the key processes that green infrastructure provides to protect citizens from air pollution and reduce their exposure.

The Council recommends the inclusion of an additional sixth *Strategic Priority* in the final DCAS:

- To reduce citizens exposure to air pollution in urban areas by implementing green infrastructure.

The key actions that will be required to implement this strategic priority will be:

- Develop national planning guidance to highlight best practise for how green infrastructure can be implemented to reduce public exposure to air (and noise) pollution in the urban environment;
- Integrate green infrastructure into the regulatory planning framework;
- Provide education and awareness to Local Authorities and developers on the implementation of green infrastructure planning guidance and the benefits that green infrastructure provides;
- Assist Local Authorities in the development of inter-departmental structures to ensure that green infrastructure opportunities are designed from the earliest stages of planning strategic and capital projects, and then implemented.

Potentially, new national planning guidance might be prepared by the Department of Housing, Local Government and Heritage (DHLGH), or by a national working group consisting of stakeholders with relevant experience (including Local Authorities).

Green infrastructure can provide co-benefits by reducing air quality and noise pollution. The Council recommends that the development of any new guidance should also take the opportunity to include measures to implement green infrastructure to reduce the populations exposure to noise pollution in urban areas taking account of European research and guidance such as HOSANNA (e.g. Nilsson *et al.* 2019⁴).

Proposed Ambient Air Quality Standards

There is a recommendation to implement new stricter air quality standards based on new World Health Organisation recommended guideline values (Table 3 of the DCAS, below). The Council welcomes the introduction of more strict air quality thresholds.

Table 3: New WHO Guideline levels¹

Pollutant	Averaging time	Interim target				AQG level
		1	2	3	4	
PM _{2.5} , µg/m ³	Annual	35	25	15	10	5
	24-hour ^a	75	50	37.5	25	15
PM ₁₀ , µg/m ³	Annual	70	50	30	20	15
	24-hour ^a	150	100	75	50	45
O ₃ , µg/m ³	Peak season ^b	100	70	-	-	60
	8-hour ^a	160	120	-	-	100
NO ₂ , µg/m ³	Annual	40	30	20	-	10
	24-hour ^a	120	50	-	-	25
SO ₂ , µg/m ³	24-hour ^a	125	50	-	-	40
CO, mg/m ³	24-hour ^a	7	-	-	-	4

¹ 99th percentile (i.e. 3-4 exceedance days per year).

² Average of daily maximum 8-hour mean O₃ concentration in the six consecutive months with the highest six-month running-average O₃ concentration.

Clarification of Table 3 in the DCAS is required to explain the meaning of the *Interim target*: 1, 2, 3, 4 fields and an indication given when new more ambitious thresholds are proposed to come into force.

Residential

The Council acknowledges that significant progress made in Ireland to reduce PM_{2.5} and SO₂ emissions to date in the residential sector by switching from solid fuels to liquid fuels (e.g. kerosene), natural gas and renewables. The reduction in emissions has also been associated with the encouragement of energy management in the home (BER and grant schemes) and greater regulation (solid fuel regulations) including the designation of Low Smoke Zones (LSZs), now for all urban areas with populations greater than 10,000.

The Council would like to highlight that the residential burning of solid fuel contributes to short-term poor air quality (particularly PM₁₀ and PM_{2.5}) in Limerick City and County particularly during the winter (e.g. Figures 1 and 2), at evening- and night-time (e.g. Figure 2) and especially during certain meteorological conditions (e.g. temperature inversions) when emissions are unable to escape to the atmosphere.

It is indicated within the DCAS that strengthened enforcement is required by Local Authorities, in particular smoky coal enforcement. The Council strongly enforces the solid fuel regulations in Limerick. The Council carried out fifteen inspections at retail outlets in 2021 and was also involved in three multi-agency roadside checkpoints to inspect for smoky fuels. There was compliance at all the retailers and no smoky fuels encountered during roadside checks. The general experience of the Council is that compliance at retail outlets is excellent while any breaches are generally associated with a small number of outlets. Five residential properties were also inspected on foot of complaints by the public. During 2021, staff also made one hundred and twenty-eight submissions in relation to planning applications where there were proposals for extensions to properties with a chimney that could cause neighbouring properties nuisance from smoke emissions.

It is the opinion of the Council that poor air quality from the residential burning of solid fuels can still occur even when enforcement activities are strong, due to a combination of factors:

- The ease which smoky fuel can be brought in to the Limerick LSZ from outside;
- The inefficiency of authorised powers for inspectors to carry out inspections;
- Fires/stoves may not reach a high enough temperature to burn emitted particles and reduce emission levels;
- A large number of stoves were installed before new emissions standards came in to force in 2022;
- Certain weather conditions can prevent the dispersal of emissions (e.g. temperature inversions).

The Council welcomes the proposed measures to cut emissions further by improved home energy efficiency schemes, the amendment of Part L of the Building Regulations (S.I. 183/2019), new emission standards for new stoves which have recently been introduced and improving education and awareness among citizens to "*reduce burning, burn better fuels and burn properly*". The Council also acknowledges that the current legislation regulating solid fuels in our cities and towns will have an increased benefit when extended nationwide.

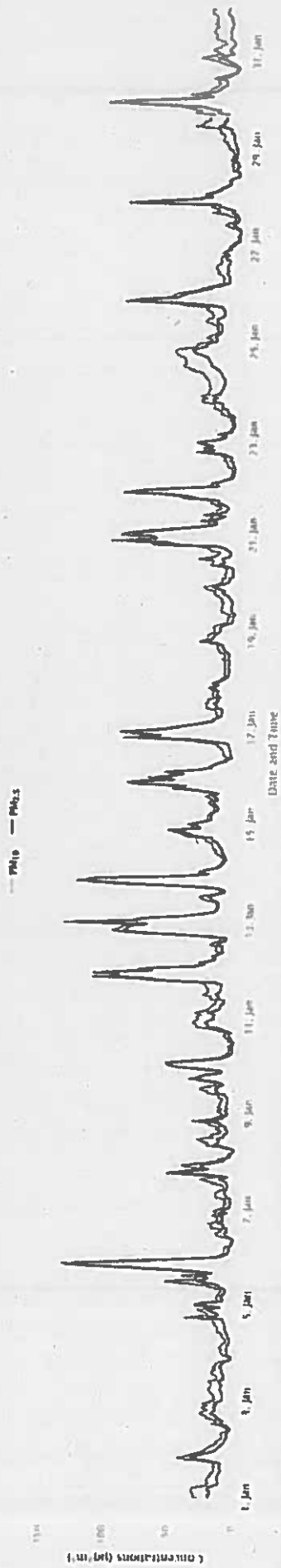


Figure 1. Air quality (PM_{2.5} and PM₁₀) at People's Park (EPA ambient monitoring station) during January 2022.

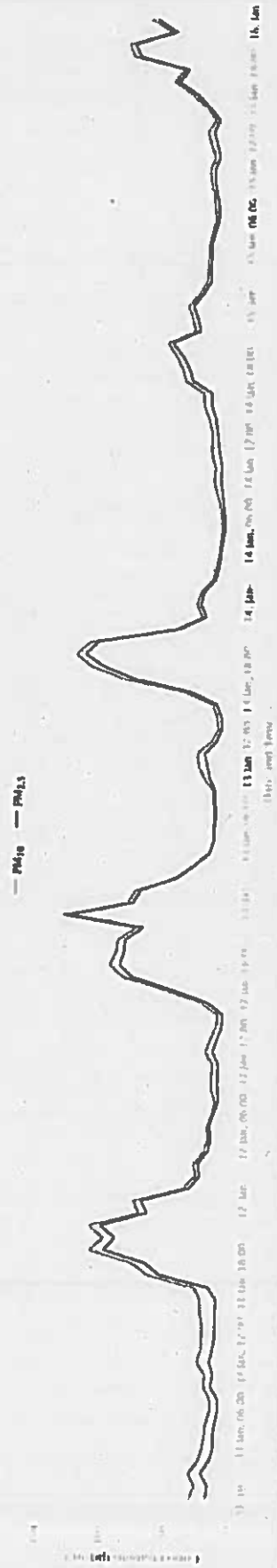


Figure 2. Air quality (PM_{2.5} and PM₁₀) at People's Park (EPA ambient monitoring station), 11th – 15th January 2022. Elevated PM_{2.5} and PM₁₀ levels are associated with night-time periods.

Transport

Actions and targets aimed at reducing emissions in the transport sector are set out in the Climate Action Plan 2021. The proposed measures in the DCAS are to:

- Avoid and reduce the need for motorised travel;
- Shift to more environmentally modes of transport;
- Improve energy efficiency of transport modes.

In relation to shifting to more environmentally modes of transport the DCAS states:

“Our move to cleaner alternatives like full electric vehicles (EVs) in the coming years will significantly reduce air (and noise) pollution. Our shift to active travel (cycling and walking) and to increased sustainable transport modes like public transport will also bring significant benefits in terms of reduced air pollution, noise and better public health.”

The Council would like to highlight in relation to environmental noise that rolling noise (from tyre/road interaction) is dominant on roads where motorised and electric vehicles (EVs) are at speeds of approximately 40 kph and greater. Engine noise from motorised vehicles is dominant below these speeds. No reduction in noise levels will be expected on roads where vehicle speeds are greater than 40 kph.

The Council welcomes the impact the proposed measures will have on reducing air pollutant emissions. However, the Council recommends that a means of cost benefit analysis should be developed to aid decision-making for major transport infrastructural projects. Cost benefit analysis methodologies can be used to assess the benefit to the health of communities (e.g. by active travel measures, traffic management interventions), similar to WebTAG used by the Department of Transport, UK.

The Council particularly welcomes the introduction of a shift to more environmentally friendly modes of transport and increased funding for the provision of dedicated cycling and walking infrastructure across the country.

Agriculture

Agriculture is the main land use in Limerick and an important economic activity. The DCAS indicates that ammonia (NH₃) emissions have increased each year from 2014 to 2018. EPA projections indicate that compliance of NH₃ with the EU National Emissions Ceiling Directive is expected in 2030.

The Council welcomes measures outlined in Ag-Climatise and the Climate Action Plan 2021 and also acknowledges Teagasc initiatives such as the use of Low Emission Slurry Spreading, Use of Protected Urea and the incorporation and maintenance of Clover and Multispecies Swards.

Industry, Enterprise and Energy

The DCAS outlines the ways that industry, enterprise and energy contribute to air pollution emissions through the:

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

It is highlighted that Ireland traditionally does not have a large industrial processing sector and is not a large source of air pollution emissions. The most significant industrial sources are regulated and licenced by the EPA. The Council is of the opinion that while there is not a large industrial processing sector in Ireland there can be concern among local communities and citizens living in the vicinity of licenced facilities in Limerick regarding the potential impact of air pollution emissions on their health and the environment (such as Irish Cement Limited and Aughinish Alumina Limited). In the interest of transparency and the public the Council recommends that the EPA considers developing an online portal to provide real-time data from Continuous Emissions Monitoring Systems (e.g. stack emissions) where they are conditioned for licenced facilities.

The *Renewable Energy Feed-in Tariff* scheme and *Renewable Electricity Support Scheme* support and promote electricity development in Ireland. They are fundamental components of the Programme for Government and the Climate Action Plan 2021. The Council acknowledges that they support the shift away from more polluting forms of power generation (e.g. coal and peat powered electricity generation) to achieve a greater share of renewables alongside gas-fired generation. There is weak environmental planning guidance currently available in the design and environmental assessment of new renewable energy projects. The new *Draft Revised (onshore) Wind Energy Development Guidelines* have not been completed and there is no national guidance for offshore wind farms, solar farms and tidal energy generation. It is the Council's opinion that there is an urgent need for planning guidance, published under Section 28 of the Planning and Development Act, to support the delivery of new renewable energy projects to ensure that any potential significant adverse impacts on communities/local residences, the environment and habitats are avoided.

Governance and Enforcement

It is outlined that enhanced governance is required through the review and potential amendment of the Air Pollution Act and the strengthening of enforcement. Consideration is also given in the DCAS to the development of regional support structures for Local Authorities to bring greater consistency and coordination to implement air quality legislation, particularly in the area of solid fuel regulations. It is proposed to provide Local Authorities dedicated resources to provide coordination, expertise and advice.

The role of Local Authorities in the environmental air quality function has expanded in recent years particularly in the area of monitoring. The Council manages and reports on its own network of air quality monitors and has negotiated siting, undertaken civil works and maintains air quality monitors for the EPA, as well as undertaking annual NO₂ surveys on their behalf. Monitoring provides the evidence base for required improvements in air

quality and where improvements should be targeted. Local Authorities now have a wider responsibility in relation to air quality, beyond enforcement of the solid fuel and decorative paints regulations, and are under-resourced with little to no training outside of enforcement. It is recommended that any new regional structures do not focus simply on improving enforcement activities alone but that they provide support to Local Authorities in the areas of planning, management and enforcement. A broad enforcement and strategic focus is required by Local Authorities and air quality and noise need to be considered in their entirety in order to improve overall air quality, reduce the populations exposure to air pollution, improve and protect soundscapes and reduce noise where it causes harm, particularly to achieve the aims in the final *Clean Air Strategy*.

It is worth noting that issues relating to air quality and noise are inextricably linked (e.g. transportation, emissions from industry). Interventions that will provide environmental noise improvements will often bring co-benefits related to air quality. The Council recommends that there is a review of existing resources and expertise within Local Authorities in the areas of air quality and environmental noise, similar to the review being carried out at present for the area of the environmental water function by Local Authorities Waters Programme (LAWPRO), and that support is provided where gaps are identified.

Strengthening Our Evidence Base

The Council will support any future expansion of the EPA's national Ambient Air Quality Monitoring Programme. Additionally the Council welcomes the development of a national modelling and forecasting system to identify issues as they emerge and to provide air quality forecasting to the public.

The Council also welcomes the proposal that future research will be used to communicate to the public and inform policy makers. In the Council's opinion it would be advantageous for research to be conducted to develop cost benefit analysis methods that can be used to assess the monetised benefit to health for policy proposals and new transport infrastructure proposals (again, similar to WebTAG used in by the Department of Transport, UK). Cost benefit analyses could be used to make decisions, communicate their value to the public, NGOs and stakeholders, and track progress of the Clean Air Strategy.

Citizen Engagement and Adaption Awareness

The Council supports the establishment of a National Communications Strategy Group and would welcome an opportunity to participate. The Council will support awareness campaigns and promote awareness and benefits of improved air quality through actions of the group.

Conclusion

The Council looks forward to working with all stakeholders and the public to implement measures within the final Climate Action Strategy and hopes that the ambitions contained within it, to improve air quality, are achieved. The Council hopes that its comments will be of assistance in finalising the Clean Air Strategy.

References

¹Abhijith, K.V., Kumar, P., Gallagher, J., McNabola, A., Baldauf, R., Pilla, F., Broaderick, B., Di Sabatino, S., Pulvirenti, B., 2017. Air Pollution Abatement Performances of Green Infrastructure in Open Road and Built-up Street Canyon Environments – A Review.

Atmospheric Environment Online link: <https://doi.org/10.1016/j.atmosenv.2017.05.014>

²Kumara, B., Druckmanc, A., Gallagher, J., Gaterslebend, B., Allisone, S., Eisenmanf, T., Hoangg, U., Hamaa, S., Tiwaria, A., Sharmaa, A., Abhijitha, K., Adlakhai, D., McNabolaa, A., Astell-Burtj, T., Fengj, X., Skeldonl, A., Lusignane, S., Morawskam, L. 2019. The nexus between air pollution, green infrastructure and human health. *Environment International* (133).

<https://www.researchgate.net/publication/336116251> The nexus between air pollution green infrastructure and human health.

³European Union. 2013. Building a Green Infrastructure for Europe.

⁴Nilsson, M., Bengtsson, J., Klæboe, R. 2019. Environmental Methods for Transport Noise Reduction
Published by CRC Press.

⁵Transport Infrastructure Ireland. 2019. National Transport Model Update Travel Demand Forecasting Report. Volume 3.