



Roinn Cumarsáide, Gníomhaithe
ar son na hAeráide & Comhshaoil
Department of Communications,
Climate Action & Environment

Air Quality – Context and Legislation

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Why are we here? Air Pollution in context



- “Air pollution kills an estimated seven million people worldwide every year.” *WHO*
- Not just a problem in Beijing and New Delhi
- Many European cities have on going air quality issues
- It is the leading environmental cause of premature death in the EU
- 374,000 annual premature mortalities in EU28 *EEA*
- Recent scientific evidence indicates that air pollution is more damaging at lower levels than was previously understood
- For some pollutants, there are no safe levels below which adverse health effects are not caused

Economic Cost of Air Pollution



- Market Costs – reduced productivity, increased health expenditure
- Non Market Costs – mortality, morbidity, environmental degradation
- OECD (2016) estimates cost of US\$1,280 per capita in the OECD region
- “CE Delft (2018) estimated that the total cost (both market and non-market costs) of road traffic air pollution was EUR 67-80 billion in the EU-28 in 2016” *EEA Air Quality in Europe 2019*
- 75-83 % of that is from diesel vehicles.
- NO_x emissions account for most of these costs of transport air pollutants (65 %), followed by PM_{2.5} (32 %).

The Irish picture



- Air quality in Ireland is perceived as better than our more heavily urbanised and industrialised neighbours
 - This is largely true
 - There are still challenges
- We have 1,180 premature mortalities in Ireland per year (*EEA 2016* figures)
- Economic cost - €2 billion, 382k lost workdays, per year

EU Legislation - Emissions vs Ambient – for policymakers



Air policy legislation can be divided in two streams

- EMISSIONS

Obligations under the NEC Directive to reduce emissions of 5 pollutants (NO_x, SO_x, VOCs, PM_{2.5}, NH₃)

Similarities (kind of) with climate – overall target, reducing over time

- AMBIENT

But unlike CO₂, air pollutants are toxic – the country can be on target, but people can still be dying due to localised pollution

Ambient air legislation deals with the concentration of a pollutant at a specific place, at a specific time or over a specific period of time

CAFE Directive



- Main European legislation dealing with ambient air quality is the Clean Air for Europe Directive (2008/50/EC)
- Transposed by Air Quality Standards Regulations 2011 (SI 180/2011)
- Lays down criteria for monitoring
- Sets exposure thresholds for key pollutants
- Hourly thresholds to mitigate against acute exposure
200 $\mu\text{g}/\text{m}^3$ for NO_2 – not to be exceeded more than 18 times per year at a single monitoring station
- Annual thresholds to mitigate against chronic exposure
40 $\mu\text{g}/\text{m}^3$ NO_2
- Breach either of those thresholds, and you must produce a plan

How big a problem is traffic pollution in Ireland (1)



Of the 1,180 premature mortalities

- 1,100 from PM_{2.5} (mostly solid fuel, some transport) 12,000 YLL
- 50 from NO_x, (transport) 560 YLL
- NO₂ is a precursor for PM
- We now have an economic upturn, so more transport, more pollution
- We have better monitoring, which tells us levels of exposure are higher than previously reported

How big a problem is traffic pollution in Ireland (2)



- The EPA monitor at St John's Road West on course for exceedance of the annual NO₂ threshold
- This will require the formulation of an air quality plan "in order to achieve the related limit value" (*CAFE Directive, Article 23*)
- New Pearse Street monitoring station showing high readings

Air Quality Plan



EPA shall ensure a plan is made
Local authority or authorities for the relevant zone
shall draw up the plan

Must include

- Data about the region
- Data about the pollutant exceedance
- Details of what caused the exceedance
- Details of pre-existing measures
- Details of new measures, including estimate of the improvement of air quality planned and of the expected time required to attain these objectives.
- Details of any longer term plans

The challenge, policy and practical



- In policy terms, DCCAE holds the policy brief for air quality...
- ... but the measures required often fall within the remit of other line Departments, Transport, Housing and Planning
 - Vehicle Standards
 - Tax policy
 - Transport investment
 - Urban planning
- Implementation often involves local authorities
- Requires a coordinated approach

Air Quality and Climate Measures



- Combustion of fuels yields both CO₂ and air pollutants
- Same source means clear synergies
- Over the next decades, billions of euro will be spent on climate measures
- It is important that air quality considerations feature in the decisions of policymakers and implementing bodies
- At a minimum, avoid exacerbating air quality problems
- Ideally deliver on both objectives

Summary



- We operate within a legal framework designed to protect human health
- Science is improving our understanding of the impact of pollution, WHO standards are stricter
- Do nothing is not an option
- Coordinated response required
 - Expertise across various bodies in the State
 - Other European cities have relevant experience
 - Climate measures will be useful



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