AIR POLLUTION IN IRELAND

MAJOR AIR POLLUTANTS

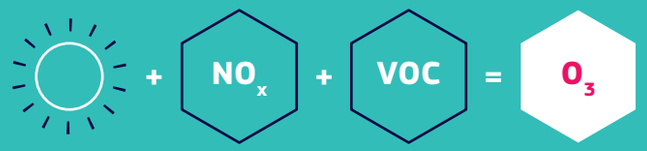
- NH_3 — Ammonia
- NO_x — Oxides of Nitrogen
- PM — Particulates
- O_3 — Ozone
- VOC — Volatile Organics
- SO_2 — Sulphur Dioxide
- CH_4 — Methane
- PAHs — Polycyclic aromatic hydrocarbon
- N_2O — Nitrous Oxide
- HFCs — Hydrofluorcarbons

SOURCES OF AIR POLLUTANTS

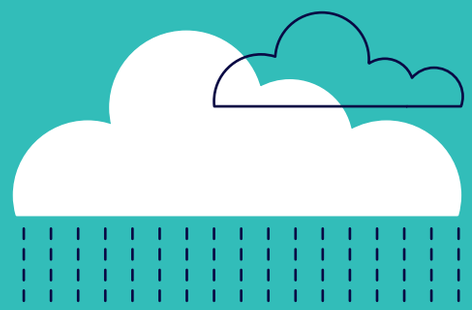
TRANSFORMATION AND MOVEMENT OF POLLUTANTS

Air Pollutants can interact and form different air pollutants

Sunshine + Nitrogen Oxides + Volatile Organics = Ozone

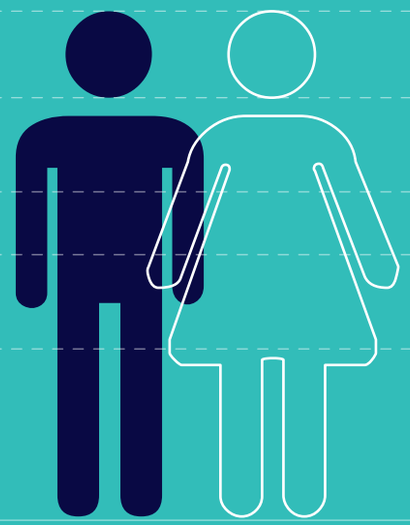


$2NH_3 + SO_2$ = Secondary PM



Air Pollution affects local areas but also travels with wind and rain to have an impact on a local, regional and global scale.

HEALTH IMPACTS



Accepted Health Impacts List

- Headaches, Anxiety (SO_2)
- Central Nervous System Impact and Stroke (PM)
- ENT Irritation and breathing Difficulties (O_3, PM, NO_2, SO_2, PAHs)
- Cardiovascular Disease (O_3, PM, SO_2)
- Asthma and Reduced Lung Function (PM, O_3)
- Lung Cancer (PAH)
- Impacts on Liver, spleen and blood (NO_2)
- Impacts on Reproductive System (PM)
- Low Birth Weight, Premature Birth (PM)

Ongoing Research Continues on Air Pollution Links to:

- Learning Disabilities
- Alzheimer's
- Depression
- Autism
- Obesity
- Birth Defects
- Diabetes

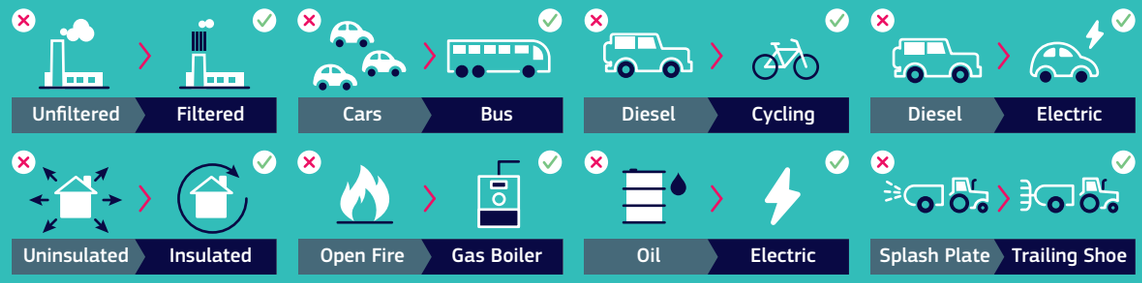
ENVIRONMENTAL IMPACTS

SUMMARY COSTS/IMPACTS

€ *"WHO (2015) and EnvEcon (2015) research estimate over **700 premature deaths per annum** attributable to ambient air pollution in Ireland, with total health costs (mortality and morbidity) in excess of **€2bn per annum**."*

IMPROVING AIR QUALITY

There are many ways to improve air quality with incremental changes in technologies and behaviour such as:



Monitoring
The EPA play a major role in monitoring national Air Quality and in maintaining a national Inventory of Air Pollutants

Modelling
EnvEcon operate GAINS Ireland to offer Integrated Climate and Air impact analysis and policy development

Management
Government play a key role in determining and implementing policies and measures to meet European and United Nations targets

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