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Deputy Jack Chambers TD
Dail Eireann
Leinster House
Kildare Street
Dublin 1

PQ Number: 10661/20

Question: To ask the Minister for Health the estimated number of persons that died due to air pollution in 2019; the identified causes of this pollution; and if he will make a statement on the matter.

Dear Deputy Chambers,

The above PQ has been forwarded to my Department for direct response to you on same.

Air pollution is major cause of premature death and disease and is the single largest environmental risk to health in Europe.¹ It causes over 500,000 estimated premature deaths in Europe per year.¹ Heart disease and stroke are the most common reasons for premature death attributable to air pollution, followed by lung diseases and lung cancer.

The International Agency for Research on Cancer (IARC) has classified air pollution in general, as well as particulate matter (PM) as a separate component of air pollution mixtures, as carcinogenic. The United Nations (UN) has recognised that household (indoor) and ambient air pollution as one of the risk factors for the development of non-communicable diseases, together with unhealthy diets, tobacco smoking, harmful use of alcohol and physical inactivity.

The effects of air pollution on health depend not only on exposure, but also on the vulnerability of people. Vulnerability to the impacts of air pollution can increase as a result of age, pre-existing health conditions or particular lifestyle choices. A large body of evidence suggests that people of lower socio-economic status tend to live in environments with air quality.

¹ European Environmental Agency (EEA) 2019. *Air Quality in Europe – 2019 Report*. Available URL: <https://www.eea.europa.eu/publications/air-quality-in-europe-2019> (Accessed: 16th June 2020).

There is no estimate available for the attributable fraction of premature deaths due to air pollution for 2019. This is because the European Environmental Agency (EEA) normally calculate and report this retrospectively. The table below shows the most up-to-date information for Ireland.

	IRELAND	EUROPEAN UNION (EU)
2016 (reported in 2019) ²	1,180 (PM _{2.5} :1,100; Ozone: 30; and NO ₂ : 50)	538,014
2015 (reported in 2018) ³	1,150	538,278
2014 (reported in 2017) ⁴	1,510	520,400

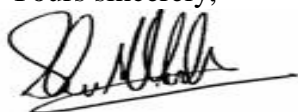
In Ireland, the main source – especially of the smaller and more dangerous PM_{2.5} particles – is solid fuel burning for home heating.² PM₁₀ can be made up of several sources. Some can be natural sources such as pollen, or wind-blown sea salt. Others are man-made sources such as pollution from road transport and agriculture. In terms of ambient air quality, the main source of NO₂ in Ireland is from road transport. Diesel engine vehicles produce more NO₂ than petrol vehicles.² Other sources of NO₂ in Ireland include non-road mobile machinery, industrial and construction activities, and electricity and health production equipment.

Normally, ozone is a ‘transboundary’ pollutant in Ireland – this means that the sources of the ozone are outside of Ireland (normally mainland Europe).² Then, the pollutants are carried in an air mass across the sea to impact here. There is also a natural component to the ozone normally measured in Ireland. However, when weather conditions are suitable – namely dry, hot, sunny weather – then ozone can be produced by reactions of NO₂ and other emissions from car exhausts to produce a brown, hazy atmosphere which is called ‘photochemical smog’.

Addressing all risk factors for non-communicable disease – including air pollution – is key to protecting public health. This is fully congruent with Health Ireland framework.⁵ Most outdoor sources of outdoor air pollution are well beyond the control of individuals and demands concerted actions at regional and national level policy-makers working in sectors like transport, energy, waste management, urban planning, and agriculture.

I hope that this information will be of assistance to you.

Yours sincerely,



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² Environmental Protection Agency (EPA) 2019. *Air Quality in Ireland 2018*. Available URL: <https://www.epa.ie/pubs/reports/air/quality/epairqualityreport2018.html> (Accessed: 16th June 2020).

³ Environmental Protection Agency (EPA) 2018. *Air Quality in Ireland 2017*. Available URL: <https://www.epa.ie/pubs/reports/air/quality/epairqualityreport2017.html> (Accessed: 16th June 2020).

⁴ Environmental Protection Agency (EPA) 2017. *Air Quality in Ireland 2016*. Available URL: <https://www.epa.ie/pubs/reports/air/quality/epairqualityreport2016.html> (Accessed: 16th June 2020).

⁵ Health Service Executive (HSE) 2013. *Healthy Ireland*. Available URL: <https://www.hse.ie/eng/about/who/healthwellbeing/healthy-ireland/hidocs/healthyirelandframework.pdf> (Accessed: 16th June 2020).