

CLEAN AIR WEEK

Science Sheet



Clean Air refers to air that is free from harmful pollutants, which can negatively affect human health and the environment.

Among the key pollutants of concern are:

Nitrogen Dioxide (NO₂) and **Particulate matter (PM)**.

These two pollutants are significant indicators of air quality and have different sources and effects.

What is Nitrogen Dioxide (NO₂)?

Nitrogen dioxide (NO₂) is a pollutant gas that mainly comes from vehicle traffic.

Being exposed to NO₂ gas, even just for short periods, can have harmful effects on our health and wellbeing.

It will be important to remain vigilant to increasing NO₂ levels, particularly from transport in urban centres as the economy grows.

NO₂ can irritate the lungs and lower resistance to respiratory infections like the flu, making asthma and other lung conditions worse and lead to airway inflammation.



What is Particulate Matter (PM)?

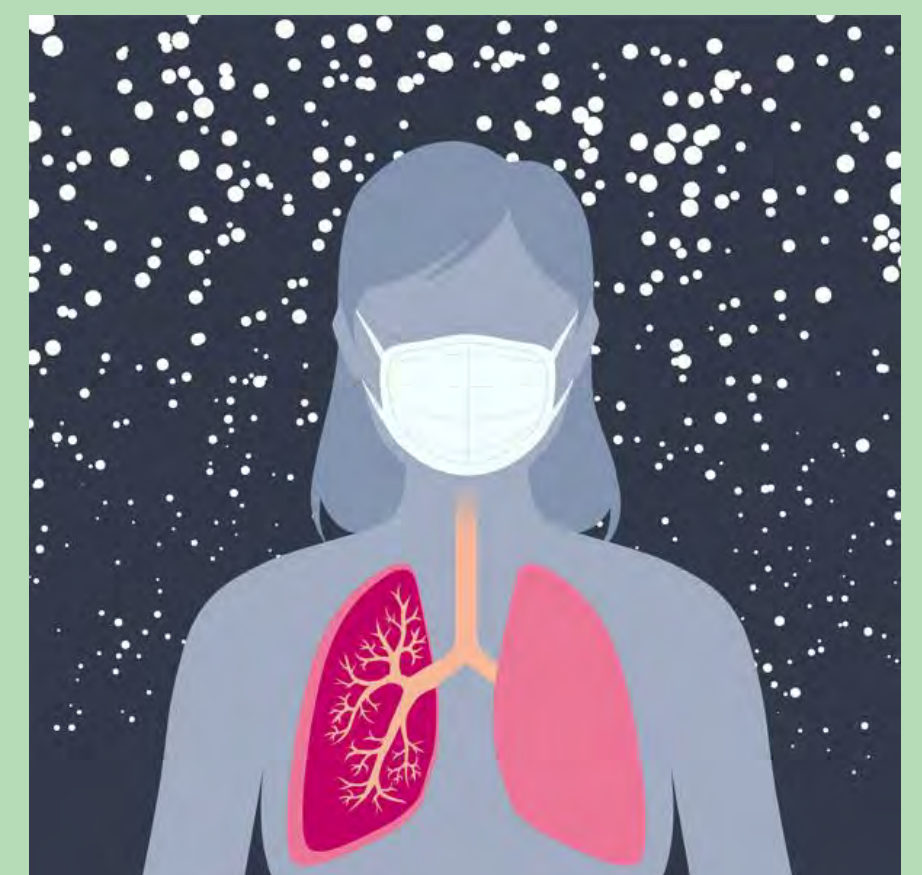
PM refers to tiny particles suspended in the air, made up of a mix of solid and liquid substances. Vehicle emissions, particularly diesel engines, are a source of PM.

The size of these particles is key to understanding their health impact:

- o **PM₁₀**: Particles with a diameter of 10 micrometers or smaller.
- o **PM_{2.5}**: Finer particles with a diameter of 2.5 micrometers or smaller.

Because PM_{2.5} is small enough to penetrate deep into the lungs and even enter the bloodstream, it can cause serious health problems, especially to heart and lung diseases.

Children, elderly people and those with pre-existing health conditions are particularly vulnerable to the effects of PM.



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Why are NO₂ and PM a concern for Clean Air?

Both NO₂ and PM contribute significantly to poor air quality and pose substantial public health risks. They are often found together in areas with heavy traffic and industrial activity.

Monitoring and regulating these pollutants are crucial to improving air quality, particularly in urban areas where exposure levels can be high.

Check out the EPA's website to see what the NO₂ levels are near where you live:

[Air | Environmental Protection Agency \(epa.ie\)](https://www.epa.ie/)



SEACHTAIN UM AER GLAN

Bileog Eolaíochta



Is brí le hAer Glan, ná aer atá saor ó cháithníní damáisteach truallaithe, a mbíonn éifeacht dhiúltach ar shláinte an duine agus ar shláinte an chomhshaoil.

Is cúis imní iad na truailithe seo a leanas :

Dé-ocsaíd Nítrigine (NO_2) agus **Ábhar cáithníníeach (PM)**.

Tugann siad léargas suntasacha ar cháilíocht an aeir ina iomlán. Tá a gcionníollacha féin acu, tagann siad as foinse éagsúla agus tá éifeacht difriúla acu ar an gcomhshaoil.

Cad is Dé-ocsaíd Nítrigine (NO_2) ann?

Is gás truailleáin é dé-ocsaíd nítrigine (NO_2) a thagann go príomha ó thrácht feithicle.

Bíonn drochthionchair ar ár sláinte agus folláine má nochtar gás NO_2 , fiú ar feadh tréimhsí gearra.

Beidh sé tábhachtach dúinn a bheith san airdeall ar mhéadú leibhéil NO_2 , ach go háirithe leis an gcóras iompair i gceantar uirbeacha de réir mar a théann an gilleagar i méid.

Ar an ndrochscéil, Is féidir le NO_2 greannú a dhéanamh ar na scamhóga a chiallaíonn friotaíocht níos ísle ar ghalair riospráide cosúil leis an bhfliú. D'fheadfaigh sé scamhóga le hasma agus riochtaí eile scamhóg a dhéanamh níos measa mar go gcruthaíonn sé athlasadh aerbhealaigh.



Cad is Ábhar Cáithníníeach (PM) ann?

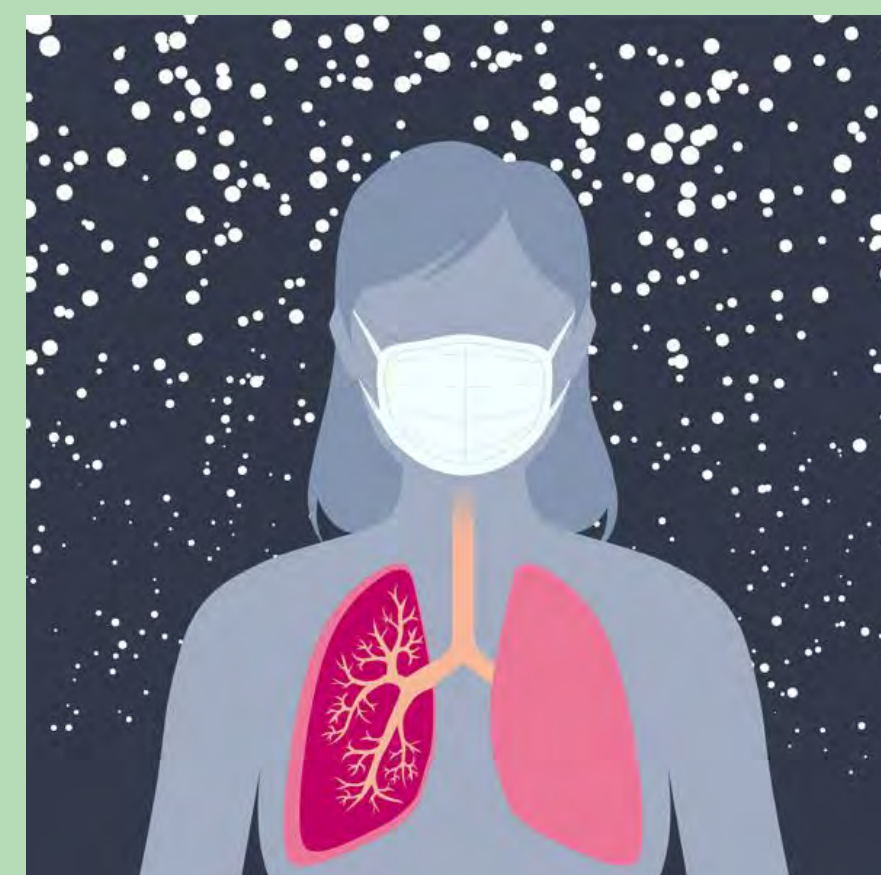
Is iad PM cácháithníní bídeacha ag crochadh san aer, comhdhéanta de mheascán substaintí soladacha agus leachtacha. Is foinse de chuid PM iad na brúchta feithiclí, ach go háirithe innill díosail.

Tá tomhas na gcáithníní seo ríthábhachtach a thuiscint chun a dtionchar sláinte a mheas:

- o **PM₁₀**: Cáithníní le trastomhas 10 micriméadar nó níos lú.
- o **PM_{2.5}**: Cáithníní níos míne a bhfuil trastomhas 2.5 micriméadar nó níos lú acu.

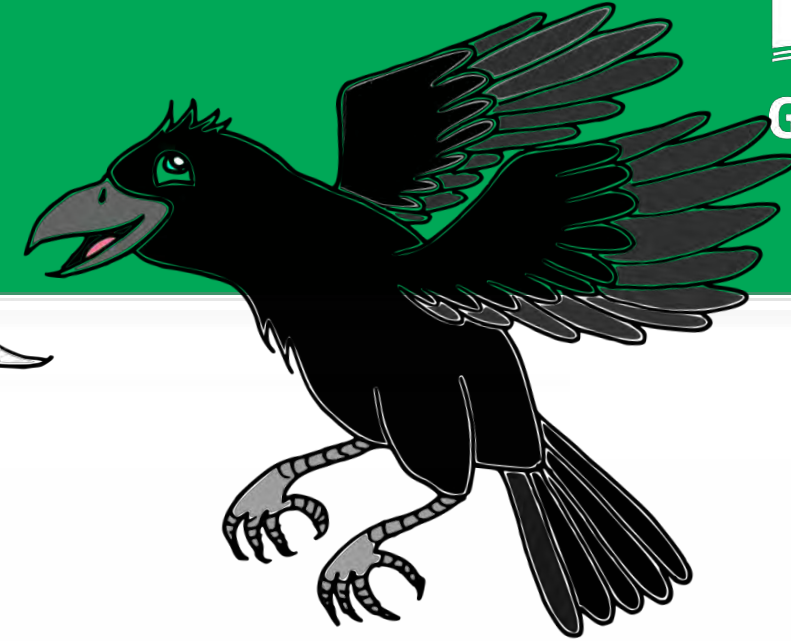
Toisc go bhfuil PM_{2.5} chomh bheag le dul go domhain isteach sna scamhóga agus fiú isteach sa tsruth fola, tá baol fadhbanna tromchúiseacha sláinte ann ach go háirithe le galair croí agus scamhóg.

Tá leanaí, an dream aosta agus daoine a bhfuil riochtaí sláinte orthu cheana féin is mó i mbaol de thioncar PM.



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Achoimre ar bhaol NO₂ agus PM maidir le hAer Glan?

Cuireann NO₂ agus PM go mór le droch-chaighdeán an aeir agus cruthaítear priacal suntasacha don tsláinte phoiblí. Is minic a fhaightear iad le chéile i gceantair ina bhfuil trácht trom agus gníomhaíocht thionsclaíoch.

Tá monatóireacht agus measraigh na dtruailliú seo ríthábhachtach chun cáilíocht an aeir a fheabhsú, ach go háirithe i gceantair uirbeacha inar féidir le leibhéil nochta a bheith ard.

Breathnaigh ar shuíomh Gréasáin an EPA le fáil amach cad iad na leibhéil NO₂ timpeal do cheantar fhéin:

[Air | Environmental Protection Agency \(epa.ie\)](https://www.epa.ie/)

