

# GHGs What are they?

## The atmospheric greenhouse effect:

The greenhouse effect occurs naturally and is critical for life on Earth, but human activity is rapidly increasing the concentration of greenhouse gases (GHGs) in the atmosphere.

GHGs are gases that allow light and heat from the sun to enter the earth's atmosphere but trap heat on earth and do not allow it to be released back to space.

## The main greenhouse gases are:

**Carbon dioxide, Methane, Nitrous oxide and many halogenated gases.**

Water vapor is very common in the earth atmosphere and also contributes to the greenhouse effect.

Some GHGs are not very common but are very potent. The United Nations Framework Convention on Climate Change (UNFCCC) covers the use and emissions of GHGs in an attempt to address climate change internationally.



### Primary greenhouse gases

- Carbon dioxide (CO<sub>2</sub>)
- Methane (CH<sub>4</sub>)
- Nitrous oxide (N<sub>2</sub>O)



### Halogenated GHGs

- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulphur hexafluoride (SF<sub>6</sub>)
- Nitrogen trifluoride (NF<sub>3</sub>)

**CO<sub>2</sub>e:** To compare and understand the different gases aggregated impact their global warming potential is converted to carbon dioxide equivalents (CO<sub>2</sub>e) .


Gas	Global Warming Potential (GWP) in CO <sub>2</sub> e
Carbon Dioxide (CO <sub>2</sub> )	1
Methane (CH <sub>4</sub> )	25
Nitrous Oxide (N <sub>2</sub> O)	298
HFC 134a	1,430
HFC 23	14,800
Sulfur Hexafluoride (SF <sub>6</sub> )	22,800




## For additional information:

[eurostat Statistics Explained - Glossary: Greenhouse gas \(GHG\)](#) - covered by the Kyoto Protocol  
[EPA - Overview of Greenhouse Gases](#)


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[info@ecoos.co](mailto:info@ecoos.co)