



The Parish of St. Mary York

Faith in Action

Building hope for tomorrow in the face of climate change

The Greenhouse Effect

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In early April 2021, with a mandate to stay home because of Covid, and a son who was bored of playing in the snow, we were eager for the warmer weather to finally arrive. Luckily for us, we had a place to play where it was summer all the time.

On a clear winter day, our four-season greenhouse can reach 25°C. This warm environment is due to the fact that although the sunlight can pass through the plastic panels of the greenhouse, the heat that it delivers cannot. This is known as the greenhouse effect, and it doesn't just apply to greenhouses, it applies to our entire planet.

Just like the plastic on our greenhouse, Earth's atmosphere allows sunlight to pass through, but traps heat from escaping. This is a very good thing since outer space is very cold; without the greenhouse effect the average temperature on earth would be -18°C.¹ Just like in my greenhouse, the effect allows life to exist in an otherwise inhospitable area.

The things we call greenhouse gasses act like the plastic panels in my greenhouse. The main ones are water vapour, methane, and carbon dioxide.² Water vapour is actually the most potent, but it only stays a few days in the atmosphere before falling back to the earth as rain or snow. Methane is a very strong greenhouse gas, but it only stays in the atmosphere for about 12 years. Carbon dioxide is much less potent than methane, but it stays in the atmosphere for between 300 and 10,000 years!



Although the greenhouse effect is essential to life on Earth, human activities since the invention of the internal combustion engine have increased the amount of these gasses in the atmosphere, leading to global warming and long-lasting effects.



¹ <https://www.britannica.com/science/greenhouse-effect>

² https://climatechangeconnection.org/wp-content/uploads/2014/08/GWP_AR4.pdf