Data Set #1

**World Energy Consumption for Each Fuel**

- **Source:** [https://ourfiniteworld.com/2015/06/23/bp-data-suggests-we-are-reaching-peak-energy-demand/](https://ourfiniteworld.com/2015/06/23/bp-data-suggests-we-are-reaching-peak-energy-demand/)

**World Population: 1950-2050**

- **Source:** U.S. Census Bureau, International Data Base, August 2016 Update.

Data Set #2

**Global Temperature and Carbon Dioxide**

Source: [https://www.ncdc.noaa.gov/monitoring-references/faq/indicators.php](https://www.ncdc.noaa.gov/monitoring-references/faq/indicators.php)

**MBH1998 compared to Wahl-Ammann 2007**

*Figure 2: Original hockey stick graph (blue - MBH1998) compared to Wahl & Ammann reconstruction (red). Instrumental record in black (Wahl 2007).*

Source: [https://www.skepticalscience.com/broken-hockey-stick.htm](https://www.skepticalscience.com/broken-hockey-stick.htm)
Data Set #3

Monthly mean CO₂ concentration

Mauna Loa 1958 - 2016

Seasonal variation

Source: https://scripps.ucsd.edu/programs/keelingcurve/
Data Set #4

CO₂ Concentrations and Temperature Have Tracked Closely Over the Last 300,000 Years

- Temperature
- CO₂ concentration

Source: https://www.ncdc.noaa.gov/global-warming/temperature-change
Data Set #5

Average Global Temperature, 1880-2013

Source: NASA GISS

Global Fossil Carbon Emissions

- Total
- Petroleum
- Coal
- Natural Gas
- Cement Production

Data Set #6

Data Set #7

Source: https://19january2017snapshot.epa.gov/climatechange_.html
### Data Set #8

<table>
<thead>
<tr>
<th>Sampling Sites</th>
<th>Infrared Spectra</th>
<th>Concentration Units*</th>
<th>Global Warming Potential (100-year)**</th>
<th>Atmospheric lifetime (years)**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Click to rotate molecule</td>
<td>[Click to see graph]</td>
<td></td>
</tr>
<tr>
<td><strong>Carbon dioxide</strong></td>
<td><strong>CO₂</strong></td>
<td>ppm</td>
<td>1</td>
<td>100</td>
</tr>
<tr>
<td><strong>Methane</strong></td>
<td><strong>CH₄</strong></td>
<td>ppb</td>
<td>28.5</td>
<td>12.4</td>
</tr>
</tbody>
</table>

Source: [http://chemistry.beloit.edu/Warming/pages/molecule4.html](http://chemistry.beloit.edu/Warming/pages/molecule4.html)

One carbon dioxide molecule equals one Global Warming Potential (GWP) unit

= 🌞

One methane molecule equals 21 Global Warming Potential (GWP) units

= 🌞

The atmosphere is primarily composed of Nitrogen and Oxygen, with small amounts of Argon and "The Rest".

The rest of the atmosphere is dominated by Carbon Dioxide (CO₂), with trace gases like He, Ne, Kr, and Xe included in the "The Rest" category.

Source: [https://science-edu.larc.nasa.gov/ozonegarden/ozone.html](https://science-edu.larc.nasa.gov/ozonegarden/ozone.html)

Global greenhouse gas emissions by gas:

- Carbon Dioxide (fossil fuel and industrial processes): 65%
- Carbon Dioxide (forestry and other land use): 11%
- Methane: 16%
- Nitrous Oxide: 6%
- F-gases: 2%

Details about these emissions are based on global emissions from 2010. Sources for these estimates can be found in the [IPCC (2014)](https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data) and [ Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change](https://www.epa.gov/ghgemissions/global-greenhouse-gas-emissions-data).