**ACTIVITY: Carbon dioxide emissions calculator**

This activity requires access to two Internet sites: a carbon emissions calculator and a school emissions calculator

Students can use on online calculator to calculate and compare the amount of CO2 produced by different energy sources. The school emissions calculator requires some input of known and monitored resources uses at school and is interesting to use over longer periods of time, to think about and evaluate a reduction of carbon-based emissions.

**Instructions**

With a global focus on climate change and carbon emissions, it is interesting to find out what sort of fossil fuels produce the most CO2.

By using this simple online calculator, you can compare natural gas, coal, oil, petrol, diesel and the generation of electricity to see how many tonnes of CO2 each energy resource produces. Each different resource can be measured in a number of different units (for example, litres or tonnes). However, for ease of comparison, it is suggested that you use the unit GJ (gigajoule) for all energy resources.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Quantity** | **Reference unit** | **Is equal to** | **Conversion factor** | **Unit** |
| 1 | gigajoule | =  | 1   | gigajoule |
| 1 |  | =  | 1,000   | megajoule |
| 1 |  | =  | 1,000,000   | kilojoule |
| 1 |  | =  | 1,000,000,000   | joule |

**CO2 emissions calculator**

www.eecabusiness.govt.nz/tools/wood-energy-calculators/co2-emission-calculator

**Unit converter**

[www.unitconversion.org/unit\_converter/energy.html](http://www.unitconversion.org/unit_converter/energy.html)

**CarbonZero school calculator**

<https://calculators.enviro-mark.com/public?calculator=offset>