

**CCLI's 2011 Action Project**  
**Cool the Climate**



[www.takeresponsibility.us](http://www.takeresponsibility.us)

**Cool the Climate** means being cool headed & constructive // We must achieve reductions in other potent greenhouse gas emissions beyond just fixating on controversial carbon controls → Find local ways to reduce our emissions of nitrous oxide, methane and the other potent GHGs;

**BEYOND CO2: OTHER LESS PREVALENT BUT MORE POTENT GREENHOUSE GASES**

As the graph below indicates, there are very potent greenhouse gases – including **Methane**, **Nitrous Oxide** and **Sulfur hexafluoride** – with less concentration but with Global Warming Potential (GWP) far exceeding Carbon Dioxide (which is not nearly the most potent but is the most prevalent greenhouse gas). The concentration of these other more potent greenhouse gases is increasing at an alarming rate. We can make intelligent strides in reducing our global warming pollution by focusing on and reducing our emissions of these more potent greenhouse gases in addition to addressing CO2. As the link [www.thehcf.org/email3.html](http://www.thehcf.org/email3.html) discusses, the emission of these more potent greenhouse gases are accelerating in part because of *feedback loops* where for example as the northern permafrost tundra thaws due to the overall global warming taking place this thawing is releasing vast amounts of stored methane (over 20 times more dangerous to global warming than CO2) and exacerbating the greenhouse gas-global warming problem.

[www.thehcf.org/emaila3.html](http://www.thehcf.org/emaila3.html)

Selected Greenhouse Gases				
Gas	Atmospheric Concentration		Atmospheric lifetime (Years)	100 Year Global Warming Potential (GWP)
	Pre-industrial (1000-1750)	Recent (1998)		
Carbon dioxide (CO <sub>2</sub> )	280 ppm	365 ppm	50-200	1
Methane (CH <sub>4</sub> )	0.7 ppm	1.745 ppm	12	23
Nitrous oxide (N <sub>2</sub> O)	0.270 ppm	0.314 ppm	114	296
Perfluoromethane (CF <sub>4</sub> )	40 ppt	80 ppt	>50,000	5700
Sulfur hexafluoride (SF <sub>6</sub> )	0	4.2 ppt	3200	22,200

ppm = parts per million  
ppt = parts per trillion

Source: U.S. Environmental Protection Agency website  
Energy Information Agency (DOE): Emissions of Greenhouse Gases in the United States 2004, December 2005

## Reduce Nitrous Oxide & Methane Emissions ( which are 300X & 20X respectively more potent - dangerous in trapping heat in the atmosphere - than CO2)

There are many intelligent and preventative steps we can to reduce the build-up of these more potent greenhouse gases:

- Methane, or natural gas, is used extensively in heating buildings in the USA and the pipeline delivery system for methane is old and notoriously leaky. Significant amounts of methane are wasted each year as it leaks into the atmosphere before it reaches our homes and offices. **WE NEED TO FIX THESE LEAKS!!**
- **C**apturing and collecting methane emissions from sources such as landfills and coal mines and from other widespread methane deposits would significantly benefit the climate system and the gas could then be used as a source of cleaner energy in our cars, buses, trucks, trains, boats and ships. Methane does not need to be refined nor does it need additives; it's ready made and essentially inexhaustible. Engines stay clean, perform better and last longer. Let's burn this potent greenhouse gas out of existence by using it for transportation fuel.
- **R**educing the consumption of meat and dairy products and improving agricultural practices could decrease global greenhouse gas emissions substantially. By 2055 the emissions of methane and nitrous oxide from agriculture could be cut by more than eighty percent, researchers of the Potsdam Institute for Climate Impact Research find (*ScienceDaily* - June 29, 2010) (<http://www.sciencedaily.com/releases/2010/06/100628075744.htm>)
- **P**romote Sustainable Agriculture - Our modern agriculture is not only unsustainable in terms of its energy demands and pollution outputs, but also in the degradation of the soils it creates. By reducing fertilizers, herbicides and pesticides (moving away from

chemical agriculture) and increasingly embracing natural agriculture we can improve the soil's productivity (generating greater yields) and reduce greenhouse gas emissions and other pollution by-products significantly, while also markedly improving our health.

## OTHER

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**Three other GHGs exist: Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs) and Sulphur hexafluoride (SF6). These gases are also referred to as high global warming potential gases (high GWPs).** They are extremely powerful and often have a very long lifespan. Fortunately, they are emitted in small quantities and are easy to reduce. They are emitted in the manufacturing of semi-conductors (an important material in the production of computers), aluminum production (especially PFCs) and replacement of ozone-depleting substances with HFCs.

For more information on widespread and potent greenhouse gases go to:  
<http://uniteforclimate.org/about/introduction/what-are-the-ghgs/>

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