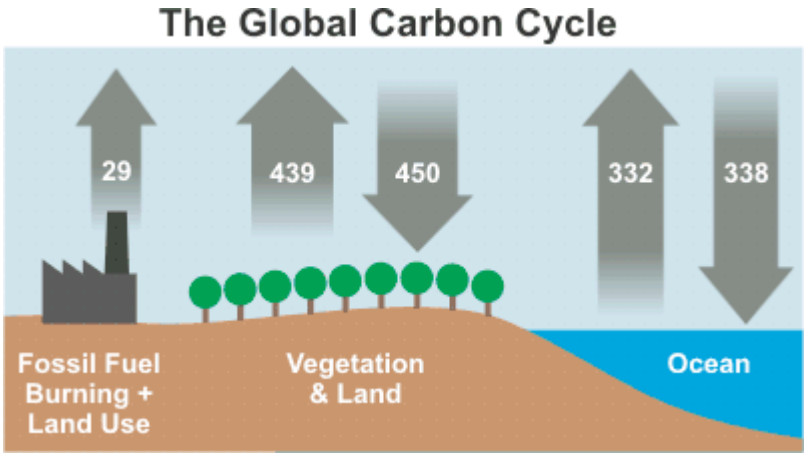
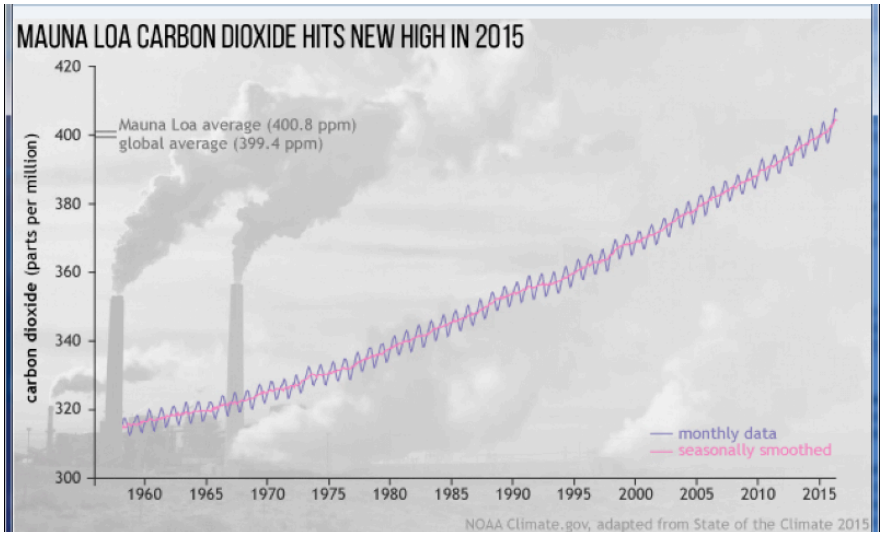
Comparison of Human CO2 emissions to Natural Emissions

Before the industrial revolution, the CO2 content in the air remained quite steady for thousands of years. Natural CO2 is not static, however. It is generated by natural processes, and absorbed by others. The natural cycle adds and removes CO2 to keep a balance; humans add extra CO2 without removing any.

As you can see below, natural land and ocean carbon remains roughly in balance and have done so for a long time – and we know this because we can measure historic levels of CO2 in the atmosphere both directly (in ice cores) and indirectly (through proxies).

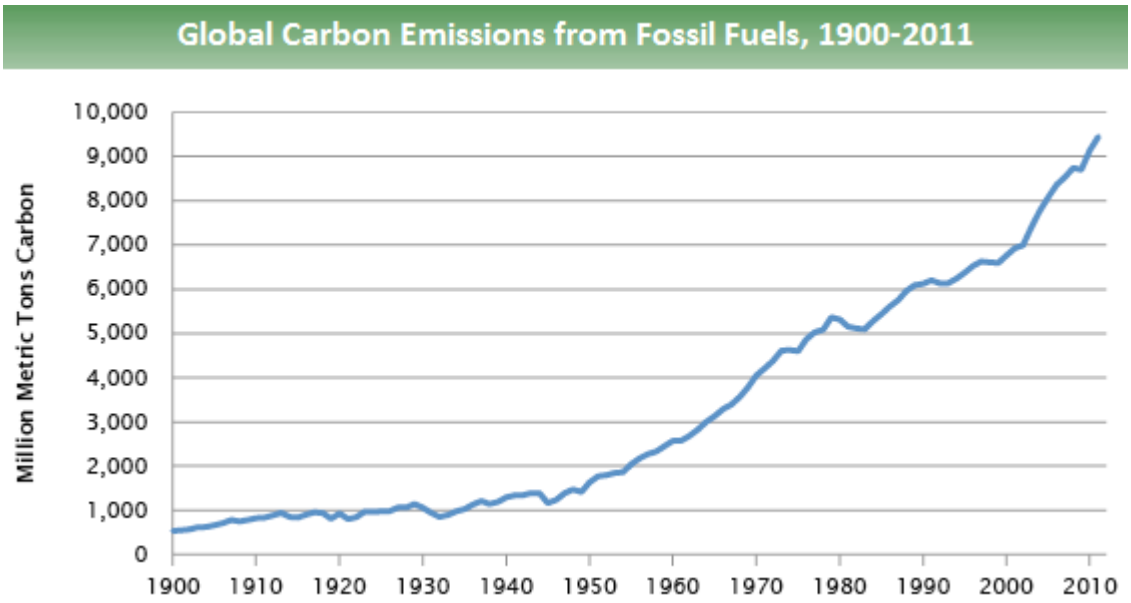


Although our output of 29 gigatons of CO2 is tiny compared to the 750 gigatons moving through the carbon cycle each year, it adds up because the land and ocean cannot absorb all of the extra CO2. About 40% of this additional CO2 is absorbed. The rest remains in the atmosphere, and as a consequence, atmospheric CO2 is at its highest level in 15 to 20 million years (Tripati 2009). (A natural change of 100ppm normally takes 5,000 to 20,000 years. The recent increase of 100ppm has taken just 120 years).



Human CO2 emissions upset the natural balance of the carbon cycle. Man-made CO2 in the atmosphere has increased by a third since the pre-industrial era, creating an artificial forcing of global temperatures which is warming the planet. While fossil-fuel derived CO2 is a very small component of the global carbon cycle, the extra CO2 is cumulative because the natural carbon exchange cannot absorb all the additional CO2.

The level of atmospheric **CO2** is building up, the additional **CO2** is being produced by burning fossil fuels, and that build up is accelerating.



Global CO2 Chart

Source	% of Total		Generated per Year	
Human	5%	Fossel Fuel Burning	33.2 billion tons	86.9%
		Deforestation	3.3 billion tons	8.6%
		Cement Production	1.7 billion tons	4.4%
Natural	95%	Ocean- Atmosphere	330 billion tons	42.8%
		Plant and animal respiration	220 billion tons	28.5%
		Soil respiration and decomposition	220 billion tons	28.5%
		Volcanic eruptions	0.2 billion tons	0.03%

Fossil Fuel Use

Sector	Emissions
Electricity / Heat (mostly coal)	41%
Transportation (mostly oil)	22%
Industrial	20%

Type	Emissions
Coal	43%
Oil	36%
Natural Gas	20%

https://www.skepticalscience.com/human-co2-smaller-than-natural-emissions.htm
http://whatsyourimpact.org/greenhouse-gases/carbon-dioxide-emissions