





**We have been told for decades that human activity is causing our climate to change drastically... So, I looked at weather data over the last 125 years. Now I'm not so sure. What do you think?**

**Some claim earth has never been warmer and if it warms more there will be disaster!**



A Viking horseshoe from a melting glacier in Norway from 1,000 years ago. Roman artifacts are there too, from warmer times.

Earth was warmer during the Holocene & Roman Climate Optimums (300 BC to 400) and the Medieval Warm Period (900-1300). The earth started warming out of the Little Ice Age about 1825 long before added CO<sub>2</sub>.

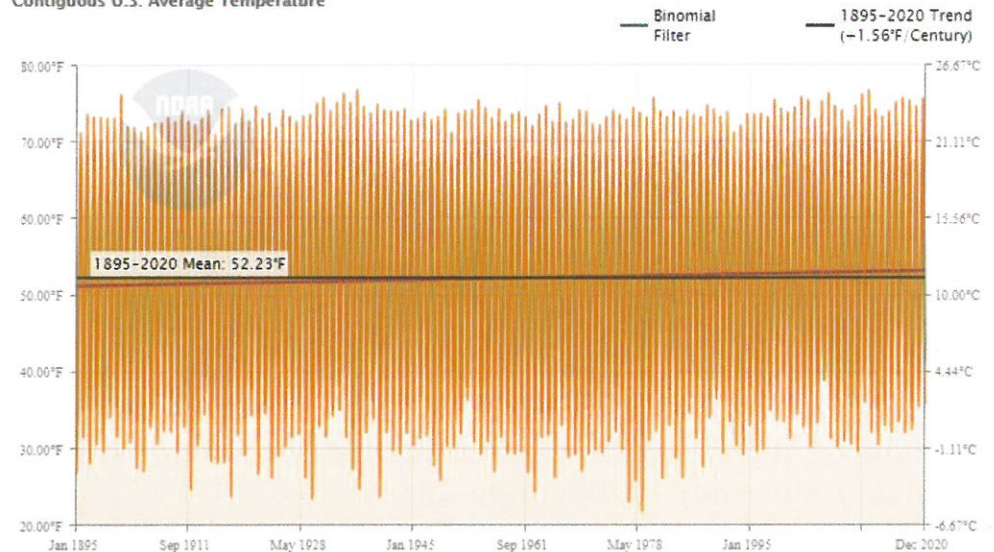
**Some say the greenhouse gas CO<sub>2</sub> is the control knob of earth's warming.**

According to NASA, the most important, plentiful, and powerful greenhouse gas is water vapor!

In fact, there is 100 times more water in the atmosphere, than CO<sub>2</sub>.

Water vapor is 4% of the atmosphere and CO<sub>2</sub> is .04%. Water vapor is variable across the world - it causes clouds, rain, humidity or evaporates, and clouds disappear.

Contiguous U.S. Average Temperature



Some say the earth is overheating because of increasing CO<sub>2</sub> (CO<sub>2</sub> only became significant after 1950). The U.S. has warmed only 1.56°F since 1895. Summers aren't warmer. Winters are less cold. Spring and fall are milder. Growing seasons are longer and are farther north. Notice that there have been warmer and cooler times during the past 125 years. Graph from NOAA, National Oceanic & Atmospheric Administration. Does this look like a climate emergency to you?

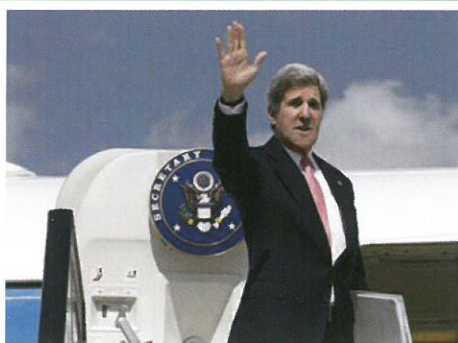


NASA says - that because clouds are naturally variable and because we don't know what more moisture will do, it is impossible to predict future climate.

According to NASA, clouds both warm and cool the earth. Sometimes clouds act like a warm blanket warming the earth. Clouds also reflect the sun, cooling the earth. Water vapor varies throughout the atmosphere and is constantly changing. Water vapor causes clouds to form, wind moves them, and rain makes them go away. We get a bit more rain than in 1895.



**We are being told that we have to change our economy drastically to avert a future climate disaster.** Did you notice that all the bad things they claim are invisible or far away, like rising CO<sub>2</sub>, or dying polar bears (more now than ever), or the north pole melting (7% less ice than 50 years ago) or antarctica ice melt (hasn't warmed in 70 years) or future droughts (the earth is 30% greener than 30 years ago), or out of control wildfires (20% less last year worldwide) or rising sea levels (about an inch a decade since 1880). **Replacing fossil fuels with wind and solar is expensive, will lead to unstable electric grids that cause blackouts, will send American jobs to China and harm low-income people the most, because of high-cost energy ... and it will not change the climate at all!** Even John Kerry says so.



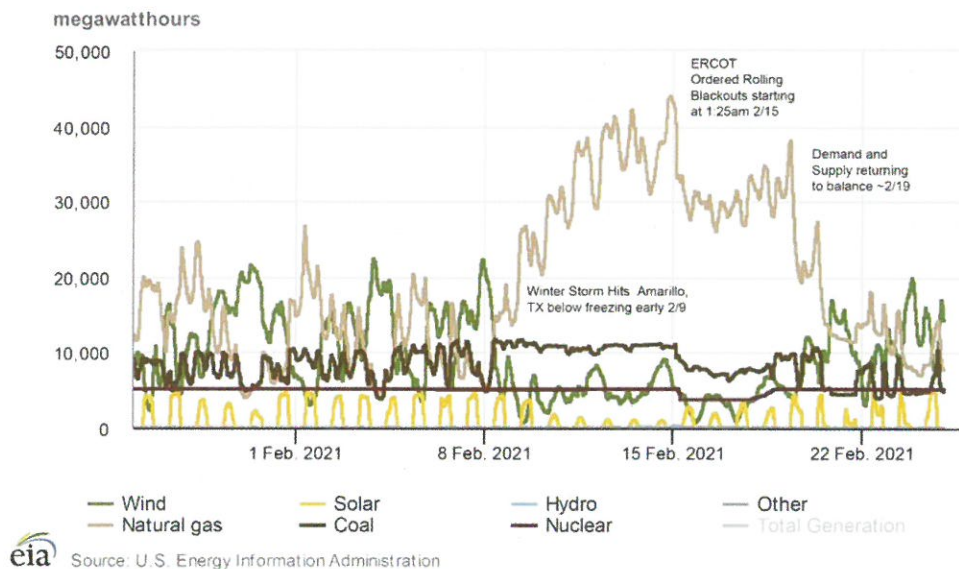
“... not when almost 90% of the planet’s emissions, global emissions come from outside US borders. **We could go to zero tomorrow and the problem isn’t solved.**” John Kerry @ Whitehouse Press Conference January 21, 2021. John Kerry negotiated the Paris Accord for President Obama and is Climate Envoy for President Biden.

Some have told us that we must electrify everything. If we don’t and fast, there will be disaster. **What if we electrify everything including cars** (less than two million of the 300 million vehicles on the road are electric now) **and the grid goes down for a week or two? What would you do?**

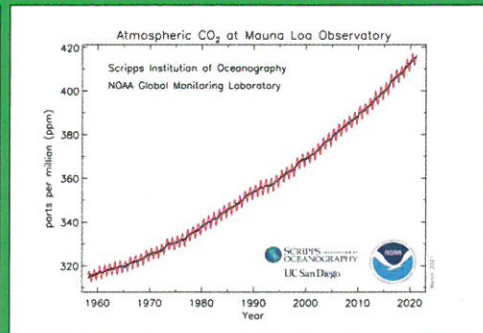
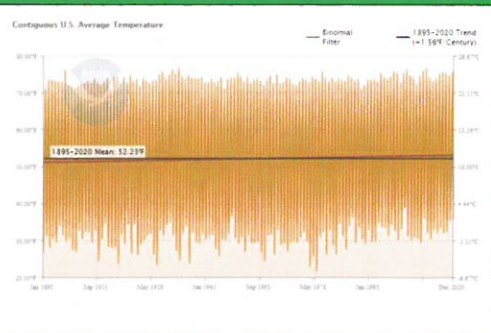
**Would you go to a hospital where the workers stopped working whenever the wind stopped, or the sun darkened? We need full time energy, not part-time unreliable energy.**

You can get links to all the sources used in this handout on our website. They come from reputable sources (not those denier sites or are they realists?). **Facts matter!**

**Electric Reliability Council of Texas, Inc. (ERCOT) electricity generation by energy source 1/26/2021 – 2/25/2021, Central Time**



**Recent Texas blackout left dozens frozen to death and millions without power.** This graph shows where the power was generated during this crisis. The green is wind, gold is solar, and tan is natural gas. **Natural gas electricity increased 450% and still wasn’t enough.** See how jagged the lines are. **That is because wind and solar change from zero to... Electric grids have to maintain complete balance. Electrons off must equal electrons on.** If a grid is out of balance, even a little, it will trigger massive blackouts. **Blackouts can cause fires in many places on the grid.** **Wind and solar produced almost no power when needed the most.** The need for electricity was more than the grid could keep up with. Some generation was taken offline to protect it and the grid.



On the left is the US temperatures for the last 125 years. On the right is the increase of CO<sub>2</sub> (plant food) in the atmosphere. I don’t see runaway warming. Do you?

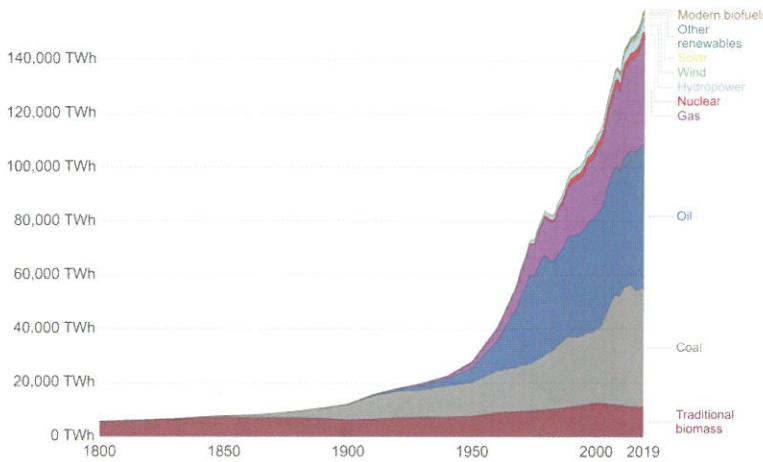
**Learn how to talk about these important facts of climate change! @ TruthinEnergyandClimate.com [flasee@truthinenergyandclimate.com](mailto:flasee@truthinenergyandclimate.com) or text CLIMATEFACTS to 22828 to get our newsletter**



**We take energy for granted! Turn on your light switch – let there be light. Drop by the gas station and fill up your tank – drive on. This takes huge amounts of fossil fuels to make it happen. What if we didn't have fossil fuel anymore? ... Or couldn't afford it?**

### Global direct primary energy consumption

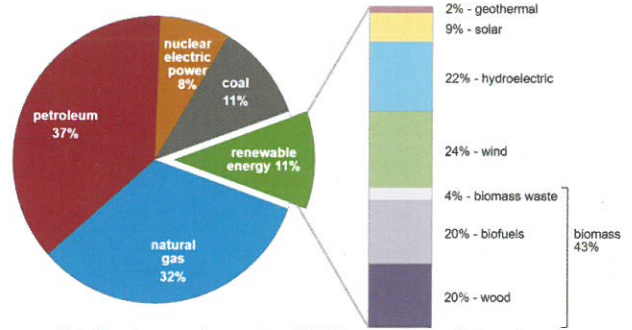
Direct primary energy consumption does not take account of inefficiencies in fossil fuel production.



### U.S. primary energy consumption by energy source, 2019

total = 100.2 quadrillion British thermal units (Btu)

total = 11.4 quadrillion Btu



Note: Sum of components may not equal 100% because of independent rounding.  
Source: U.S. Energy Information Administration, *Monthly Energy Review*, Table 1.3 and 10.1, April 2020, preliminary data

### This is total energy used, not just electricity.

80% Coal, Oil and Natural Gas

8% Nuclear

4.7% Biomass

2.6% Wind

2.4% Hydro-Electric = Dams

0.1% Solar

Electricity is about 37% of total US energy.

**This is all energy used by people in the world, from all sources, about 150,000 Terawatts (TWh). One TWh = one trillion watts. One TWh powers 10 billion, 100-watt light bulbs at the same time. 2-3 billion people burn wood and dung – They want electricity badly!**



LNG Tanker

A LNG tanker is docked at ConocoPhillips' first LNG facility in Kenai, Alaska.

After wood, coal creates the most emissions, including CO<sub>2</sub>. China burns more than half of the 8 billion tons of coal used every year. China doesn't use clean coal technology because it costs more. As the US, Canada and Europe close coal plants, hundreds are being built in Africa, Asia, and South America. China emits nearly double the US and growing.

The world uses 135 million million cubic feet of natural gas. China is using even more. Germany is importing it from Russia. And the US exports Liquid Natural Gas.

The world uses 36.5 billion barrels of oil a year. A barrel is 42 gallons. The US uses 20,000 barrels of the 100,000 barrels used every day worldwide.

Oil is not only used for energy. It makes, fertilizer, your toothbrush, clothes, paints. Nearly everything we touch has an oil component!



**What if energy was unreliable? Really expensive? Or in short supply? What if it costs too much to heat or cool your home? Or drive where you want? What if every car was electric and the electric grid failed, like what just happened in Texas?**

Learn how to talk about these important facts of climate change! @ TruthInEnergyandClimate.com  
flasee@truthinenergyandclimate.com or text CLIMATEFACTS to 22828 to get our newsletter