The Climate Reality Project®

CLIMATE 101: NATURAL GAS

THE BASICS

Natural gas is a growing energy source—one many are putting a lot of faith in. But the arguments in support of natural gas are often based on outdated or incorrect information (sometimes going so far as to border on wishful thinking).

Proponents like to portray the fuel as a cuddlier cousin to coal and oil when it comes to climate because it generates less carbon dioxide when burned. But its CO_2 emissions are only one piece of a far more nuanced puzzle.

WHAT IS NATURAL GAS?

Like coal and oil, natural gas is a **fossil fuel**. Fossil fuels (which we burn to generate heat and electricity) are non-renewable sources of energy formed in the earth over the past 550 million years, typically from the remains of marine microorganisms and plants. Sealed off from oxygen and put under ever-increasing amounts of heat and pressure, this organic matter undergoes a thermal breakdown process that ultimately converts it to hydrocarbons.

The lightest of these hydrocarbons occur in a gaseous state known collectively as "natural gas," which in its pure form is a colorless, odorless gas composed primarily of **methane**.

QUICK FACTS

- Natural gas is frequently produced through hydraulic fracturing – better known as **"fracking."** Studies have found that fracking is one of the least sustainable ways to produce electricity.
- **Natural gas is not a zero-emissions fuel.** When burned, it produces approximately half the carbon emissions of coal per unit of electricity generated, but the drilling, extraction, and pipeline transportation of natural gas frequently results in methane leakage. These leaks can sometimes be substantial.

- Methane is especially bad for our climate – because it's very effective at absorbing heat. In the first 20 years after its release, it's 86 times stronger than CO_2 at trapping heat in the atmosphere.
- Ethylene, one of the major building blocks used in making plastics, is derived from natural gas at ethane cracker plants. People living and working at or near petrochemical facilities like these can have **higher rates of cancer, respiratory problems, and other life-altering diseases.**
- The International Energy Agency (IEA) reports that in 2017 global **natural gas production hit a record high**, representing a 3.6 percent increase over 2016 and the largest year-over-year increase since 2010.
- By 2050, natural gas may provide as much as 56 percent of the US electricity mix, **nearly double** what it is today.
- **A natural gas-dominated electricity system would continue to heat up the planet.**

CHEAP ENERGY? NOT SO FAST

According to the Union of Concerned Scientists (UCS), "Domestic supplies of natural gas have increased dramatically in recent years, due in large part to the development and expansion of hydraulic fracturing (fracking) drilling techniques. This increased supply – which is expected to continue for years – has lowered prices for natural gas, making it very cost-competitive compared to other energy sources."

But that is only part of the story. Market prices for fossil fuels are kept artificially low, in part, by government subsidies. And these prices also do not take into account the cost of the climate change created by burning them. **And climate change carries tremendous costs for all of us.** Period.

A BRIDGE TO NOWHERE

Fossil fuels (all of them!) are the energy of the past. With newer technologies like wind, solar, and advanced batteries in our hands, we can power today and tomorrow with clean, reliable energy that doesn't harm our health and destroy our planet.

It's clear: We must transition away from dangerous, dirty fossil fuels (all of them!) and invest in clean, reliable energy. Renewable energy is good for our health, our climate, and our economies.