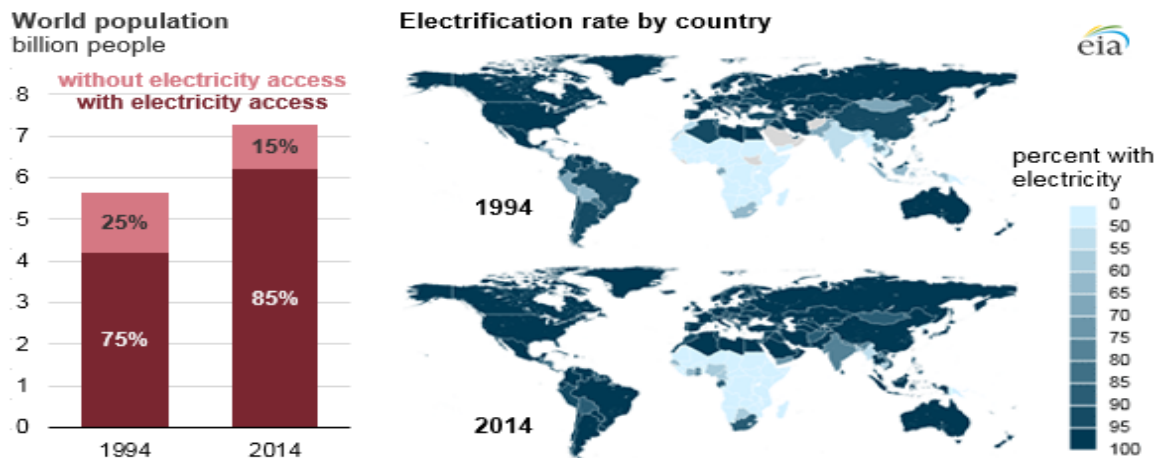


# Wind Turbines Background Information

## Global Access to Electricity

Full article at: <http://content.time.com/time/health/article/0,8599,2096602,00.html>



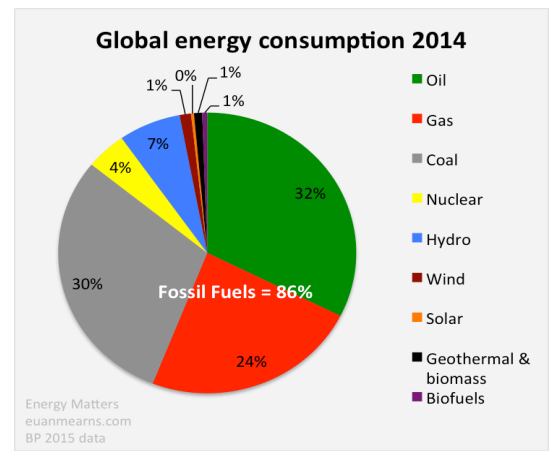
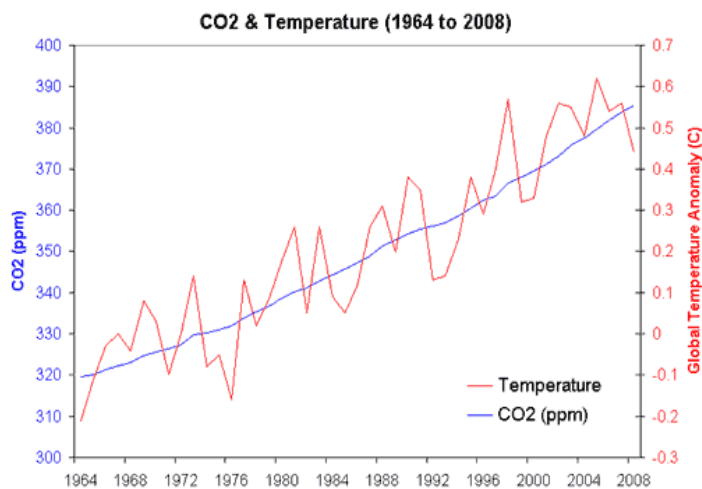
I want you to try to imagine what it's like to live without electricity. It's boring, for one thing — no television, no MP3 player, no video games. And it's lonely and disconnected as well — no computer, no Internet, no mobile phone.

You can read books, of course — but at night you won't have light, other than the flicker of firewood. And about that firewood — you or someone in your family had to gather it during the day, taking you away from more productive work or schooling, and in some parts of the world, exposing you to danger.

That same firewood is used to cook dinner, throwing off smoke that can turn the air inside your home far more toxic than that breathed in an industrial city. You may lack access to vaccines and modern drugs because the nearest hospital doesn't have regular power to keep the medicine refrigerated. You're desperately poor — and the lack of electricity helps to ensure that you'll stay that way.

That's life for the **1.3 billion people around the planet who lack access to the grid**. That accounts for 15% of the global population and it's overwhelmingly a problem of the developing world and the countryside — more than 95% of those without electricity are either in sub-Saharan Africa or developing Asia, and 84% live in rural areas.

## Sources of Energy and Their Impact



Fossil fuel is a general term for buried combustible geologic deposits of organic materials, formed from decayed plants and animals that have been converted to crude oil, coal, natural gas, or heavy oils by exposure to heat and pressure in the earth's crust over hundreds of millions of years. Nowadays we still mainly use fossil fuel. The production of energy in the world comes, approximately 86% of fossil fuels. It is estimated that fossil fuels will expire approximately in about 200 years, although it is difficult to estimate the actual date of his exhaustion.

Fossil fuels emit into the atmosphere huge amounts of CO<sub>2</sub> during combustion. They are the main cause of climate change which is driven by an increase in global temperature. Scientists know global temperature is on the rise by analyzing

temperature data. Using ice cores, scientists have reconstructed climate data for the last 750,000 years, showing seven ice ages, each interspersed with a warm interglacial climate like our climate today. (The difference between those interglacial periods and today is the increased rate at which the climate is changing – a rate that is directly related to the presence of humans and increased greenhouse gases in the atmosphere.)

Renewable energy are inexhaustible natural sources, such as wind or Sun. They are therefore much more respectful with the environment. Unlike with fossil fuels, they do not generate greenhouse gases such as carbon dioxide. Wind energy is obtained from the wind. It is one of the oldest resources that mankind has used. Using wind energy managed to convert the energy produced by wind turbine blades thanks to the force of the wind into electrical energy, wind turbines convert the kinetic energy of the wind into mechanical energy. It is an inexhaustible source, that does not pollute, and contributes to sustainable development. Wind has been found to be a more efficient power source than solar. Compared to solar panels, wind turbines release less CO<sub>2</sub> to the atmosphere, consume less energy, and produce more energy overall. In fact, one wind turbine can generate the same amount of electricity per kWh as about 48,704 solar panels.