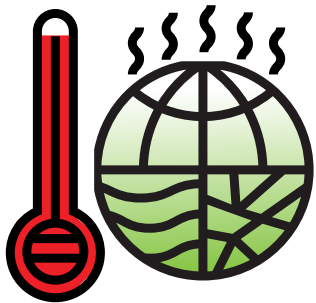
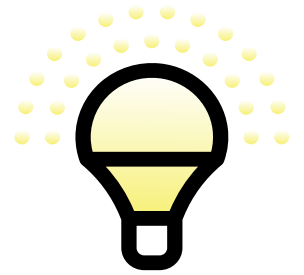
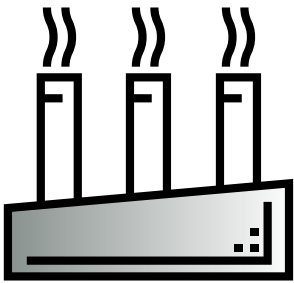


# Lighting the Way



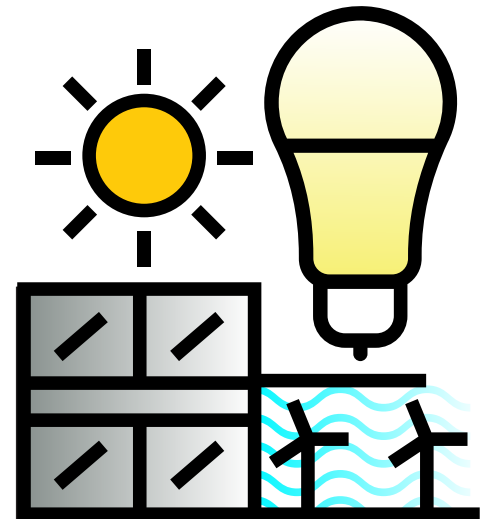
**What is global warming?** The average surface temperature of the earth has been gradually rising since it was first recorded in 1880. According to NASA, seventeen of the eighteen warmest years on record have occurred since 2001. According to a study by the Intergovernmental Panel on Climate Change, the average global temperature is expected to rise as much as 2.5-10 °F higher by the end of the century. Respected scientists and government leaders across the world agree that human activity is the cause.

**Why should you care about global warming?** We are already experiencing melting polar ice caps, rising sea levels, and more frequent and extreme weather events like, droughts and hurricanes. If we fail to take action now, the damage to our planet will only get worse. According to a 2015 report by Climate Central, if average temperatures increase by 4° Celsius (7.2 °F), rising sea levels could submerge land that is currently home to up to 760 million people, including 25 million people in the United States. According to a 2015 report by the World Bank, rising global temperatures could force more than 100 million people into extreme poverty by 2030, primarily in sub-Saharan Africa and South Asia. Climate change also increases the risk of waterborne diseases and the transmission of malaria, with a warming of 2 to 3°C (3.57-5.35 °F) likely to put 150 million additional people at risk. Critical ecosystems for other living creatures on our planet will also be damaged.



**How are humans causing global warming?** By far the biggest cause of global warming is the burning of fossil fuels (like coal, oil and gas), and one of the main reasons that we burn fossil fuels in the United States is to generate electricity. About 35% of our carbon emissions in the U.S. (1.8 million metric tons) come from generating electricity.

**How can we fight global warming?** Scientists are hard at work developing alternative renewable energy sources – like solar, wind, hydro and biomass – which don't rely on fossil fuels. Renewable energy production capacity has more than doubled since 2000. Today, renewable energy sources provide over 30% of our retail electricity in California and about 15% of our electricity in the United States, and the numbers keep growing. So we are making progress! But we are not there yet. We are still burning a lot of coal (30%) and natural gas (34%) to generate electricity in the U.S., and we need to use less. And that is where LED lights can help immediately!

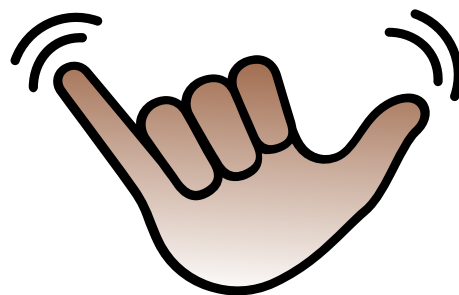




**How do LED lights help fight global warming?** Light Emitting Diodes – LEDs – are a highly efficient form of lighting technology. LEDs do not require heating of a filament to create light. Instead, electricity just passes through a chemical compound that is excited and generates light without becoming hot to touch.

- Residential LEDs generally use about 80% less energy and last 25 times longer than incandescent lighting! This means we can save lots of energy, money, and carbon emissions by switching to LED bulbs.
- If the U.S. switched entirely to LED lights by 2032, it could reduce electricity consumption for lighting by nearly 50 percent, save \$250 billion in energy costs, and reduce carbon emissions by 1,800 million metric tons (which is about 35% of the total energy-related carbon emissions by the U.S. in 2016).
- Put another way, over the next 20 years it is estimated that LED lighting could potentially reduce annual retail electric sales in the U.S. by up to 435 billion kWh (i.e., about 11% of the electricity used in the U.S. in 2016). Now that's making for a happy planet!

**LED lights are cool!** LED lights can be used in most ways like incandescent bulbs. They can also be used in many other ways, because they are compact, easy to maintain, resist breakage, and can focus light in the direction you want. Plus, some LED lights can produce any beautiful color of light (including some you can't even see, like infrared).



**LED lights are affordable!** The great news is that if we switch to LED lights, we will also save money at the same time! A common misconception about LED bulbs is that they are expensive, but prices have come down dramatically in recent times. At current prices, it only takes a matter of months for a typical LED light to pay for itself, even if it is just used for only 4 hours a day.

Surprisingly, even though LED lights are now more affordable and can have a big impact on global warming, their use is still limited. As of 2015, 71% of U.S. homes had no LED bulbs and, according to a study by the Department of Energy, the U.S. is only on track to have LEDs make up 28% of lights installed in residences by 2020. So let your friends and family know the facts! Let's make the change sooner. Let's get our bulbs replaced now and help save the planet!

