

Have you ever wondered how to keep the lights on with out melting the polar ice caps? If you have not, that is okay. Melting of the polar ice caps is one of several, albeit the most noticeable of global warming's effects. Additionally, one can keep their mind occupied with ever strengthening hurricanes, colder and colder weather, drought and famine. In short, the apocalypse goes on and on. However, the climate crisis is not all doom and gloom. What is causing this? One short answer would be fossil fuels. A long and difficult solution would be to stop using fossil fuels and start using alternative energy sources that release as little CO<sub>2</sub> as possible.

To begin, it is important to define alternative energy. The United States Energy Information Administration's report "Renewable Energy Explained" states that "Renewable energy is energy from sources that are naturally replenishing but flow-limited; renewable resources are virtually inexhaustible in duration but limited in the amount of energy that is available per unit of time." The report further elaborates the sources of renewable energy as "biomass, wood and wood waste, municipal solid waste landfill gas and bio gas, ethanol, hydropower, geothermal, wind, and solar..." Another report published by the Center for Climate and Energy Solutions explains: "Renewables made up more than 17 percent of net U.S. electricity generated in 2018 with the bulk coming from hydro power, 7.0 percent, and wind power, 6.6 percent." They preface these figures with the fact that renewable energy use increased by more than 100 percent between the years 2000 and 2018. Additionally, the Center for Climate and Energy Solutions predicts that "solar generation including distributed is projected to grow from 11 percent in 2017 to 48 percent by 2050 making it the fastest growing electricity source." Furthermore "renewable ethanol and bio diesel transportation fuels made up over 12 percent of total U.S. renewable energy consumption in 2018, up from 7 percent in 2006." These upward moving figures in the green energy industry are positive yet there is still much more work to be done.

Our climate crisis is not all doom and gloom. Since 2018, 17 percent of our renewable energy has come from renewable sources, which is encouraging. It gives me the idea that I can still participate in this sector and do my small part to improve it. All of these energy forms whether it is solar power, wind power, hydropower, and bio fuels. One can claim that solar energy is the most exciting and important sector because it is expected to grow from 11 to 48 percent by 2040. In order to answer the question how does one keep the lights on without melting the icecaps, their answer would be stop using fossil fuels on a global scale as soon as possible. A short answer, but difficult solution, since it would require incorporation of all of the possible methods for generating renewable energy.