**Outline**

Claim: We should stop relying on limited resources and start using renewable energies.

1. Limited resources will run out eventually and we need a replacement.
   1. Increased consumption and low reserves
      1. Global consumption of primary energy has increased every year for the past half century.

The consumption of fossil fuel has reached 136,018 TWh in 2021, doubling since 1980 when the consumption was around 70,600 TWh.

* + 1. Oil reserves are expected to last for the next 54 years and gas reserves for the next 49 years.
  1. Increased production
     1. Countries that produce oil are increasing their productions which means our resources will run out sooner.
        1. The United States have produced 8,270 TWh worth of oil in 2021 and 9,342 TWh worth of gas.
        2. China has produced 23,651 TWh worth of coil in 2021 compared to 8,226 TWh in 2000.

1. The energy sources that we have right now are endangering the environment thus we need to move to a cleaner solution which is renewable energy.
   1. Radiation leakage and carbon emissions
      1. Even with a good design and multiple safety measures, nuclear reactors still present a risk of leaking radiation into the air and water by releasing radioactive materials.
         1. The Chernobyl nuclear power plant leakage in 1986 resulted in the death of many workers and radiation was spread over large areas.
         2. On 11 March 2011, a power station that belongs to the Tokyo power company released radioactive material into the environment due to an earthquake and a tsunami that both happened at the time.
      2. Carbon dioxide emissions caused by the combustion of fossil fuels are affecting climate change by increasing the global surface temperature over the years.
   2. Extermination of Species
      1. The act of extracting these limited resources has consequences such as deforestation or removal of mountaintops for coal mining, which has a very negative impact on the environment and causes habitat destruction.
      2. The excessive use of these resources affects global warming meaning it becomes a great threat to mountain and polar restricted species.
2. Electric cars, LED lights, new types of batteries and chips, consume less energy to function allowing renewable sources to provide them with more than enough energy and eliminating the need for limited resources.
   1. Electric cars
      1. Electric vehicles are highly efficient, they can convert roughly 80% of the electrical energy from the grid to the wheels whereas combustion engine cars can only convert around 12%-30% of the energy stored in fuel to power the wheels.
      2. The energy required to recharge an electric car every day is considerably low that a renewable energy source like solar panels would be able to cover it easily.
   2. LED lights
      1. LED lights can have an energy efficiency up to 90%, meaning that only 10% is wasted as heat.
      2. Using the same amount of energy as other light bulbs, an LED lamp emits more light and less heat.
         1. An experiment on two lamps from the same manufacturer Philips shows that an 11-Watt CFL lamp produces 10 Lux compared to a 10-Watt LED lamp that produces 91 Lux.
   3. New electronic chips
      1. Today’s chips can be made of ferroelectric material such as hafnium oxide to become more efficient and reduce the overall energy consumption.
      2. Modern chips are capable of performing all sorts of tasks, eliminating the need for multiple processors inside the same device which also means reducing the power consumption.