The video says that the earth absorbs 173 thousand terawatts of solar energy. This is ten thousand times the power used by the world's population. To switch to solar energy, you need to understand how it works. Solar panels consist of small blocks of the so-called solar battery. Widely used solar cells are made of silicon, the most common element on Earth. In a solar cell, crystalline silicon is sandwiched between conducting layers. Each silicon atom is connected to its neighbors by four strong bonds that hold the electrons in place so that no current can flow. Each silicon cell only puts out half a volt, but you can string them together in modules to get more power. Twelve photovoltaic cells are enough to charge a cellphone, while it takes many modules to power an entire house. Electrons are the only moving parts in a solar cell, and they all go back where they came from. There's nothing to get worn out or used up, so solar cells can last for decades. So what's stopping us from being completely reliant on solar power? Is that solar energy is unevenly distributed across the planet. Some areas are sunnier than others. It's also inconsistent. Less solar energy is available on cloudy days or at night. So a total reliance would require efficient ways to get electricity from sunny spots to cloudy ones, and effective storage of energy. Finally, the author tells us about, that solar energy is unevenly distributed across the planet. Some areas are sunnier than others. Less solar energy is available on cloudy days or at night. So a total reliance would require efficient ways to get electricity from sunny spots to cloudy ones, and effective storage of energy. The efficiency of the cell itself is a challenge, too. If sunlight is reflected instead of absorbed, or if dislodged electrons fall back into a hole before going through the circuit, that photon's energy is lost.