How do solar panels work?

This video educates us on the topic of solar panels. Richard Komp tells us how solar panels convert solar energy to electrical energy and states the question whether it would be possible for the humanity to live only on solar energy in the nearest future.

He also points out that the Earth intercepts a lot of solar power: 173,000 terawatts. That’s 10,000 times more power than the planet’s population uses.

Solar panels are made up of solar cells which, in turn, are made from silicone. There are two types of silicone layered: the N-type and the P-type. An n-type silicon has extra electrons, and p-type silicon has extra spaces for electrons, called holes. Further, Richard Komp describes what happens when the photons of the light strike the silicon cell with enough energy. To conclude, he explains where the energy is collected.

Each silicon cell only puts out half a volt, but you can string them together in modules to get more power. For example, twelve photovoltaic cells are enough to charge a cellphone.

It is important to note that the advantage of solar panels is that they can last for decades: electrons are the only moving parts in a solar cell, and they all go back where they came from.

There are plenty of reasons why it is hard for us to use solar energy only: political factors, oil businesses, but the most significant one is the fact that solar energy is not evenly distributed across the Earth.

Answering the question mentioned above, Richard Komp claims that it is actually possible to live on solar energy but it requires a lot of space. Even now, solar panels start gradually replacing other sources of energy especially in huge cities.