

Film Title and Release Date: *Solar Power – An Alternative Energy Source* (2005)

Film Length: 14 Minutes

Film Genre: Science

Reviewer Name and Grade: Alexander S., 8th Grade

Date Reviewed: March 25, 2021

The film *Solar Power – An Alternative Energy Source* is a documentary on solar power, and how by using the vast energy from the sun, we can divert from fossil fuels and use renewable energy resources. This film focuses heavily on solar panels, but brings light to other forms of converting the sun's energy to electricity besides solar panels, such as concentrating solar power. It shows a lot of benefits of solar power, such as a renewable alternative energy source, but not many cons of solar power, such as its high cost compared to other energy sources.

This film discusses a lot about solar panels and how they work. Solar cells are usually made from polycrystalline silicon. Solar panels are composed of two layers: a positive and negative layer. Photons, which are absorbed by the material, knock electrons free, and move from the positive layer to the negative layer. This creates a DC current and can go on to power your homes, computer, appliances, and much more. However there are other ways to use solar energy too. You can use mirrors to redirect sunlight at pipes with water. This heats up the water, turning a turbine and generating electricity. Overall really digs deep into the physics of solar panels without confusing the viewer with complicated facts. It gave a complete overview of solar panels and some alternate means of using solar power.

How did you find the film on Kanopy?

I found the film on Kanopy by going to browse, selecting physics in the science section, and finding it in the Energy in Physics division.

Did the presentation of information keep you interested?

The presentation of information did keep me interested in most cases, but was occasionally lacking. For example, at 7:40 it starts talking about concentrating solar power, a new way of using solar power that not many have heard of. However in some parts such as 9:51 it talks about physics concepts and how it works, which may not be interesting to some people who don't have some background knowledge in science.

Was the pace of the film too fast, too slow, or just right?

The film pace was just right, and didn't go too fast so I couldn't comprehend what they were conveying, but not too slow so that I felt like I was waiting for the next topic.

What grade levels is this film appropriate for?

This film is appropriate for grade levels middle school and up. The physics concepts that are discussed here are not appropriate for elementary school students and they will not understand it.

Rating:

4 stars: I enjoyed this film and found it worthwhile to watch

This film is very informational without boring the viewer. It helps bring light to subjects that most people wouldn't have even known existed, such as concentrating solar power. However, due to the fact it isn't very recent, the video quality, tone of the narrators voice, and background music are very old and ancient style of documentary. I think since this is a film they could have also made it longer and with more information about energy and other concepts. These facts bothered me enough to not give it 5 stars.

Reviewer Name and Grade: Daniel L., 8th Grade

Date Reviewed: March 31, 2021

“Solar Power – An Alternative Energy Source” is a very informative documentary. It talks about information regarding solar power and its pros and cons. The information is presented through statistics, scientific explanation, and comparing information to other information (such as comparing costs of coal, natural gas, and oil). It first talks about how the sun’s energy is used by both people and plants. It talks about how plants use the sun’s energy to produce sugars in a process known as photosynthesis and how people use the sun’s energy to help produce vitamin D. After that, it explains the technology being used by people to help convert the sun’s energy into power. It tells us that, with fluctuating prices of oil, coal, and natural gas, scientists are working on developing alternative energy technologies which are more environmentally friendly and cheaper. The documentary then goes on to explain how solar panels convert sunlight directly into electricity. According to the documentary, “When light photons contact a solar cell, they knock electrons free in the positive silicon crystal structure, forcing them to an external circuit. These free electrons are propelled up conductive contacts in the positive layer and cross over to contacts on the negative layer, creating an electrical potential.” Then, it talks about a type of generation called “Concentrating Solar Power”. In this type of generation, light energy is used to heat up water, which produces steam. The steam is directed into a turbine, which drives a generator, producing energy.

How did you find the film on Kanopy (by title search, subject search, casual browsing, etc.)?

I found this film on Kanopy through subject search.

Did the plot (for fictional movie) or presentation of information (for documentary) keep you interested?

The presentation of information kept me pretty interested. The part where it explains how solar panels convert sunlight directly into electricity is very fascinating. Also, I thought the type of generation called “Concentrating Solar Power” was really interesting and smart.

Was the pace of the film too fast, too slow, or just right?

I think the pace of the film was just right.

What grade level(s) is this film appropriate for?

I think this film is appropriate for 5th graders and up. There is some science included in the video that might be difficult to comprehend for 4th graders and grades below that, such as the part where it explains how solar panels convert sunlight directly into electricity.

Rating: 5

I really liked this film. It was educational and very informative. It explains in-depth about solar power, as well as how solar panels work and a type of generation called “Concentrating Solar Power”.