

Introduction to Solar Electricity

Re-Energy
Activity
Grade Level 3-12



Main Objective

Learners will learn about the solar heat energy and how it can be harnessed in various technologies.

Learning Outcomes

By the end of this activity, learners will:

- Identify how solar heat can be converted into electricity.
- Understand how photovoltaic cells function in converting solar heat into electricity.
- Identify application of solar electricity in daily life.
- Learn about the solar electricity projects in Indigenous communities across Canada.

Length of Activity: 1 hour

Step 1+2: Intro to solar electricity then discuss

Step 3+4: Watch solar farm video then discuss

Materials Required

- Internet-enabled device
- Introduction to Solar Electricity Backgrounder

Activity

Step 1: Background Reading

Distribute the Solar Electricity Backgrounder.

Step 2: Answer and Discuss the Backgrounder

In groups or individually, discuss the following questions:

1. List all the appliances in your home, school or neighbourhood that have a photovoltaic cell or array on them.
2. What are the advantages of solar electricity over electricity made from fossil fuels, nuclear fuels, or hydroelectricity?
3. What are the problems or disadvantages of solar electricity?

Step 3: Watch the Video About a Solar Farm Project

Watch this documentary about the solar farm project in the Indigenous community of Fort Chipewyan by the Three Nations Energy:



<https://www.youtube.com/watch?v=BxTNYC-NCK>

Step 4: Answer and Discuss the Video

After watching the documentary, answer the questions below:

1. What role can solar power electricity play in the electrification of remote communities in Canada?
2. What are the benefits of transitioning to solar electricity in remote communities of Canada vs. relying on diesel?
3. Can you think of challenges that reliance on diesel energy might pose in remote communities? (Hint: explore the concept of energy poverty)
4. How does solar electricity align with the teachings of Indigenous peoples of sustainability?
5. What are some key takeaways from the success of the solar farm project in Fort Chipewyan?
6. How can we learn from Indigenous communities across Canada taking leadership in transitioning towards clean energy technologies?

Additional Resources

1.Three Energy Nations:

 <https://www.3ne.ca/>

2.Green Energy Futures:

 <https://www.greenenergyfutures.ca/>

3.Indigenous Clean Energy:

 <https://indigenouscleanenergy.com/>