



A Green-Powered Canada

Name Jenna

Date Feb. 17

Worksheet

Energy source Photovoltaic Solar Energy

Type of resource (circle one)

Renewable

Non-renewable

Definition Photovoltaic solar energy is a clean, renewable source of energy that uses solar radiation to produce electricity.

Benefits

- Solar energy is energy supplied by nature.
- Solar energy can be used almost anywhere where there is sunlight.
- Photovoltaic panels, through photoelectric phenomenon, produce electricity in a direct electricity generation way.

Drawbacks

- Solar panels efficiency levels are relatively low (between 14% - 25%).
- Unpredictably, solar energy makes solar energy panels less reliable a solution.
- For a continuous supply of electric power, photovoltaic panels require not only inverters but also storage batteries.

How is this energy source being used in Canada?

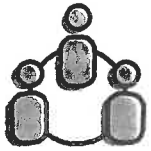
In Canada, the use of solar energy to generate electricity and heat is growing quickly and is helping reduce pollution related to energy production.

What role could this energy source have in the future?

In the future, technology improvements will ensure that solar becomes even cheaper. It could well be that by 2030, solar will have become the most important source of energy for electricity production in a large part of the world. This will also have a positive impact on the environment and climate change.

Provide two reliable sources for people who would like to learn more about this energy source:

- <https://www.iberdrda.com/environment/what-is-photovoltaic-energy>
- <https://theconversation.com/explainer-what-is-photovoltaic-solar-energy-12924>



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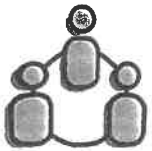
Name Andrew

Date Feb 17

Worksheet

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| Energy source | <u>solar energy</u> | |
| Type of resource (circle one) | <u>Renewable</u> | Non-renewable |
| Definition | <u>radiant Light and heat from the Sun that is harnessed using a range of ever-evolving technologies</u> | |
| Benefits | <ol style="list-style-type: none"> 1. Renewable energy source 2. Reduce electricity bills 3. Diverse applications 4. Low maintenance costs 5. Technology developments | <ol style="list-style-type: none"> 1. Cost 2. weather dependant 3. Solar energy storage is expensive 4. uses a lot of space 5. Associated with pollution |
| How is this energy source being used in Canada? | <u>It is mainly used for non-electric active solar system applications for space heating, water heating and drying crops and Lumber</u> | |
| What role could this energy source have in the future? | <u>Solar power will play a major role in mitigating climate change around the world. Currently it account for 1% of electricity production but it is expected to rise to 16% in 2050.</u> | |
| Provide two reliable sources for people who would like to learn more about this energy source: | <u>green match.co.uk/blog/2014/08/15-advantages-of-solar-energy</u> <u>https://www.the-canadian-encyclopedia.ca/en/article/solar-energy</u> | |





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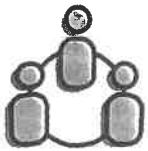
Name Sviat

Date Feb. 17/16

Worksheet

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| Energy source <u>Solar / Solar Energy</u> | |
| Type of resource (circle one) <u>Renewable</u> Non-renewable | |
| <p>Definition <small>Solar energy is the radiant light and heat from the sun that has been harnessed by humans since ancient times using a range of ever-evolving technologies. Solar radiation energy on earth along with secondary solar resources account for most of the available renewable energy on earth.</small></p> | |
| <p>Benefits \uparrow doesn't pollute air</p> | <p>Drawbacks \uparrow depends on the weather ex. If there is not enough sun the solar panels will not work.</p> |
| <p>How is this energy source being used in Canada? <u>This energy could be used in our homes, schools, cities, plants, and electric cars.</u></p> | |
| <p>What role could this energy source have in the future? <u>So that people would use renewable energy more than non-renewable in all areas in life in the future.</u></p> | |
| <p>Provide two reliable sources for people who would like to learn more about this energy source:</p> <ol style="list-style-type: none"> <u>1. Solar energy is the most abundant energy resource on earth -- 173,000 terawatts of solar energy strikes the Earth continuously.</u> <u>2. That's more than 10,000 times the world's total energy use.</u> <p><u>The solar industry is changing rapidly as it experiences unprecedented growth. Here</u></p> | |

en.wikipedia.org / chariotenergy.com.



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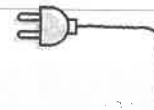
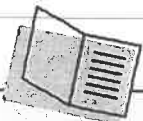


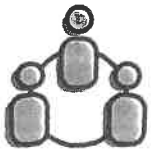
Name Nazir and Lyka

Worksheet

Date _____

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| Energy source | <u>water energy</u> | |
| Type of resource (circle one) | <u>Renewable</u> | Non-renewable |
| Definition | Hydropower or water power is power derived from the energy of falling or fast running water, which may be harnessed for useful purposes. | |
| Benefits | Hydropower is fueled by water, so it is a clean fuel source meaning it won't pollute the air like power plants that burn fossil fuels, such as coal or natural gas. | Drawbacks Costs a lot of money. No spots to put it in. |
| How is this energy source being used in Canada? | The world's fourth largest producer of hydroelectricity. Some provinces and territories, such as Quebec and Yukon produce over 90% of their electricity from hydro. The world's fourth largest producer of hydroelectricity without being reliant on international fuel sources. | |
| What role could this energy source have in the future? | technology development that lowers costs, support jobs reduce cumulative greenhouse gas emissions | |
| Provide two reliable sources for people who would like to learn more about this energy source: | www.energy.gov/articles/hydropower-vision-new-report-highlights-future www.manufacturing.net/chemical-processing/articles/5987/examining-the-pros-and-cons-of-hydro-power | |





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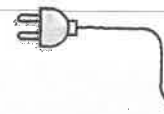


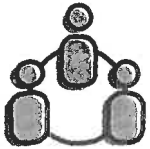
Name Suzanne

Date Feb. 17

Worksheet

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| Energy source <u>Water</u> | |
| Type of resource (circle one) <u>Renewable</u> Non-renewable | |
| Definition <u>Water energy is energy derived from the power of water</u> | |
| Benefits <u>Water keeps every system in the body functioning properly.</u> | Drawbacks <u>It is said that too much consumption of water can lead to fluid.</u> |
| How is this energy source being used in Canada? <u>Hydropower is the third largest producer of hydropower in the world available development.</u> | |
| What role could this energy source have in the future? <u>Hydropower can reduce cumulative greenhouse gas emissions.</u> | |
| Provide two reliable sources for people who would like to learn more about this energy source: <u>https://www.energy.gov/articles/hydropower-vision-new-report-highlights-future https://hydro.canadiangeographic.ca</u> | |





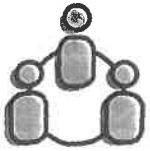
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Name Eric

Date Feb 17

Worksheet

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|---|--|
| Energy source <u>oil</u> | |
| Type of resource (circle one) <u>Renewable</u> <u>Non-renewable</u> | |
| Definition <u>oil energy is non-renewable source of energy. It is a fossil fuel.</u> | |
| Benefits <u>oil has High Energy Density, oil is easily available, oil is used in a variety of industries</u> | Drawbacks <u>Burning oil can pollute the air, reserves produces carbon dioxide gas, oil is expensive</u> |
| How is this energy source being used in Canada? <u>In fact, Canadians used 110 billion litres of refined oil products in 2018. Oil is an important part of daily life in Canada and the world for transportation, heating our homes, and plastics used in clothing, electronics, and more.</u> | |
| What role could this energy source have in the future? <u>Final energy demand has risen 35% over the past 15 years, but we expect it to increase by only 7% between 2015 and 2030. Thereafter it will become virtually flat, because of slower growth in productivity and global population, and continuous increases in energy efficiency.</u> | |
| Provide two reliable sources for people who would like to learn more about this energy source: <u>www.capp.ca/oil/uses-for-oil/</u> <u>www.ourenergypolicy.org</u> | |



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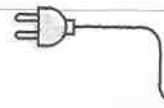


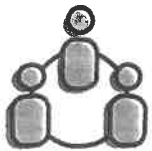
Name Kurt

Date Feb 17

Worksheet

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|--|--|
| Energy source <u>Water</u> | |
| Type of resource (circle one) | <u>Renewable</u> Non-renewable |
| Definition <u>Water Energy</u> | |
| Benefits <u>Water keeps every system in the body functioning properly.</u> | Drawbacks <u>It is said that too much consumption of water can lead to fluid overload in the body and imbalance in the body.</u> |
| How is this energy source being used in Canada? <u>Third largest producer of hydropower in the world.</u> <u>[Hand-drawn diagram of a dam]</u> | |
| What role could this energy source have in the future? <u>Hydropower can reduce cumulative greenhouse gas emissions</u> | |
| Provide two reliable sources for people who would like to learn more about this energy source: <u>http://hydro.canadiangeographic.ca</u> <u>http://www.energy.gov/articles/hydropower-vision-new-report</u> | |





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Name Martin

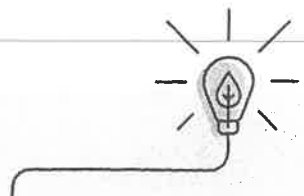
Date Feb

Worksheet

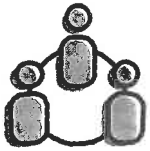
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|---|--|
| Energy source - <u>Water</u> | |
| Type of resource (circle one) | <u>Renewable</u> Non-renewable |
| Definition <u>Water energy is energy derived from the power of water, most water is used in routine</u> | |
| Benefits <u>The water supply will increase</u> | Drawbacks <u>the water in lakes will decrease and lack of fish</u> |
| How is this energy source being used in Canada? <u>Hydroelectricity</u> | |
| What role could this energy source have in the future? <u>Water demand is projected to grow by 55 percent by 2050</u> | |
| Provide two reliable sources for people who would like to learn more about this energy source: <u>drink clean water with water</u> <u>in Canada we have very fresh water</u> | |



Classroom Energy Diet Challenge



Energydiet.ca



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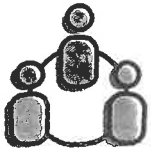
Name Kyle

Date _____

Worksheet

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|--|---|
| Energy source <u>water</u> | |
| Type of resource (circle one) | <u>Renewable</u> Non-renewable |
| Definition <u>wind</u> | |
| Benefits <u>the water supply will increase</u> | Drawbacks <u>the amount of fish in lakes will decrease</u> |
| How is this energy source being used in Canada? <u>water dem Hydro (electricity)</u> | |
| What role could this energy source have in the future? <u>water demand is projected to grow by 55% by 2050</u> | |
| Provide two reliable sources for people who would like to learn more about this energy source: <u>drink water clean with water in Canada we have very fresh water</u> | |





A Green-Powered Canada

Name Huytsko

Date Feb. 17

Worksheet

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|--|--|--|
| Energy source | <u>Water</u> | |
| Type of resource (circle one) | <u>Renewable</u> | Non-renewable |
| Definition | <u>Water energy is energy derived from the power of water</u> | |
| Benefits | <ol style="list-style-type: none"> <u>1. Renewable</u> <u>2. Emission Free</u> <u>3. Reliable</u> <u>4. Adjustable</u> <u>5. Create Lakes</u> | Drawbacks <u>Impact on fish</u> <u>Flood risks</u> |
| How is this energy source being used in Canada? | <u>It is 54.6% of Canada's energy.</u> | |
| What role could this energy source have in the future? | <u>Water power can reduce cumulative greenhouse gas emissions by 5.6 gigatonnes.</u> | |
| Provide two reliable sources for people who would like to learn more about this energy source: | <u>Natural Resources Manitoba Hydro Canada</u> | |