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The Global Energy Crisis

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The Global Energy Crisis

Name: Katie Calhoun

Date: August 15, 2017

Objectives

Content Objectives: What will the students know and be able to do by the end of the lesson?

By the end of the lesson students should be aware of the global energy crisis and how it relates to a specific community/country, be able to identify the causes and consequences of the crisis, and be able to develop a possible, sustainable plan for a specific community.

Academic Language Objectives: What academic language will students be expected to utilize when illustrating their understanding?

In order to complete the activity, students will be expected to know what energy literacy means, the various forms of energy used around the world, the carbon footprint of a named community and what resiliency means.

Students will:

- Objective 1: Become an expert on the energy use and crisis of a named community found around the world.
- Objective 2: Be able to explain the causes and effects of the energy source(s) used by the country/community the student has chosen.
- Objective 3: Develop a sustainable energy plan for the named community in order to make it resilient in a changing global environment and be able to explain the pros and cons of this plan.

Connecting Prior Knowledge

Describe prior knowledge that students will need to use and build upon to be successful in this lesson.

- Students will need to have prior knowledge of the various sources of energy, renewable and nonrenewable and their pros and cons. They will also need to have an understanding of the importance of looking for alternatives to fossil fuels for a sustainable future.



Identify common preconceptions regarding the material addressed in this lesson.

- Preconception 1: That the United States is the “greenest” society in the world.
- Preconception 2: That a community can depend upon just 1 main energy source.

Learning Targets

What are the learning targets for this lesson? These should be stated in student voices and strategies should be provided for ensuring that students understand the learning targets for the lesson.

- Learning Target 1: I can use evidence from the energy use of a specific community/country to analyze the pros and cons of the current energy source(s) being utilized.
- Learning Target 2: I can use information about the community/country culture, geography, global location, and resource availability to develop a more sustainable, resilient energy plan.

Inquiry/Critical Thinking Questions

- Question 1: Why is this country/society using the current energy source(s) that it is and what are the pros and cons?
- Question 2: Is there an alternative energy source(s) this society could use which would make it more environmentally, socially, economically sustainable as well as increase the resilience of the community?
- Question 3: Historically, what has created the energy crisis in this country/community?

Time Required

- 60 minutes per class
- 3 classes

Key Concepts

- Concept 1: Students will learn to use the internet to find credible information in order to research a specific society/ country to understand its current energy usage.
- Concept 2: Students will have learned their own carbon footprint and will then be able to compare it to the carbon footprint of a different community /country and explain why they are different/similar.
- Concept 3: Students will be able to design a more sustainable, environmentally feasible energy plan for the community/country chosen and understand the impacts and consequences of the plan.

Energy Literature Essential Principles

- Refer to “*Energy Literature Essential Principles*” booklet

Resources and Required Materials

- Computer with Internet access

Activity(s)

Introduction:

Nuclear energy was supposed to be the “magic bullet” to release us from our dependency on non-renewable, fossil fuels; however there have been some catastrophic meltdowns such as in Fukushima, Japan in 2011, which has caused people to take a closer look at the potential dangers of nuclear energy. The world now needs to take another look at all of the other energy options and decide which form(s) are best for a sustainable future.

For this project you will find out what your own Carbon Footprint is. Then you will use the internet to research a specific country/culture/community to learn about its current energy usage, explaining the pros, cons and history behind the energy source(s) the community uses. You will then need to use your previous knowledge of the various sources of energy to create a more sustainable, feasible, resilient energy plan for this community. Once you have your plan, create a formal presentation to explain your research and energy plan.

Steps:

1. Find out your own Carbon Footprint using the website:
<https://www3.epa.gov/carbon-footprint-calculator/>
2. Choose a country/community to research.
3. Using the Internet, research the country/community you have chosen to learn about its current energy usage. Identify the pros and cons of this current plan.
4. Learn as much as you can about the social, political, economic and environmental issues affecting this country.
5. Design an alternative energy plan for this community which creates a more sustainable, resilient future. Be sure to explain all pros and cons of your new plan.
6. Create a formal presentation of your research and energy plan to present to the U.N. (aka. the class)



Resources

- The EPA website: <https://www3.epa.gov/carbon-footprint-calculator/>
- Department of Energy website: <https://energy.gov/eere/education/energy-literacy-essential-principles-and-fundamental-concepts-energy-education>
- The United Nations Energy Council: <http://www.unep.org/energy/>