

THE IMPORTANCE OF CLEAN ENERGY IN OUR VILLAGES AND COMMUNITIES

Introduction For Teachers

Energy has become one of the most important issues facing rural Alaska: energy for heating homes and communities, energy that provides electricity and clean water, and energy for handling waste. Education about the potential for reducing costs and pollution, and providing a sustainable energy supply is key to the survival of many villages in both the short term and the long-term future. This unit will introduce the concepts of energy conservation and efficiency, and their potential to off-set high energy costs in rural Kuskokwim and Yukon villages, in Alaskan communities, and in the world at large. The unit will utilize the Native cultural paradigms of sustaining human life within wild natural systems and discuss their extension into the latest energy technologies. Students will be prepared for discussion about the potential of renewable vs. extractive ways to use energy efficiently.

The first lesson plan, **Energy Conservation and Efficiency**, has activities for all grade levels. The other eight Lesson Plans in this unit include an overview for teachers of all grade levels. These lessons can be modified and easily adapted to all grades. Student Activities and Study Sheets are provided for particular grade levels. Many of the activities are in preparation for a community forum at the end of this unit (see Lesson Plan 9). Below, we have included a list of resources and websites for further ideas, information, and study. Unless otherwise noted, the photographs used in this unit come from the NREL website [Renewable Energy Images](#) in the gallery meant for free public use. We recommend that students and teachers check out the images for use in student presentations throughout this unit.



Recommended Websites

Note to Teachers: *There are many wonderful websites out there. These are only a few that we found helpful in consideration of this unit.*

- **U.S. Energy Information Administration Energy Kids**

This site contains a more complete Energy Glossary and also provides Energy Calculators for Kids. It also provides background information and lessons on non-renewable energy resources.

<http://www.eia.gov/KIDS/energy.cfm?page=1>

- **The Alaska Energy Wiki**

Contains pages on energy resources in Alaska which would be a great way for more advanced students to better understand how we capture energy from natural resources and convert it into electricity and heat.

<http://energy-alaska.wikidot.com/resources>

- **Energy Star**

The Energy Star website has fun facts and lessons on everything related to energy: what it is, where it comes from, types of energy, and how it can be conserved.

http://www.energystar.gov/index.cfm?c=kids.kids_index

- **REAP**

The Renewable Energy Alaska website has a nice lesson on Energy Efficiency and Native Alaskan dwellings which is used in part in this unit.

<http://alaskarenewableenergy.org/wp-content/uploads/2012/03/9-12-Lesson-Energy-Efficiency-and-Native-Alaskan-Dwellings.pdf>

- **Green Energy Schools Initiative**

<http://greenschools.net/article.php?id=99>

- **NREL, National Renewable Energy Laboratory**

The NREL has a great gallery of images and photos free for public use.

<http://images.nrel.gov/>