

ENERGY LITERACY

“Energy Literacy is an understanding of the nature and role of energy in the world and daily lives accompanied by the ability to apply this understanding to answer questions and solve problems.”
 -Department of Energy
<https://energy.gov/eere/education/energy-literacy-essential-principles-and-fundamental-concepts-energy-education>


Logos: Alaska Housing, ACEP, REAP

ENERGY LITERACY

Energy Literacy - The greatest potential for meeting Alaska's energy crisis.

“if we are to make a big change in the way energy is produced and consumed we need an ‘energy literacy’ that gives people a tangible sense of their energy consumption, and of what it takes to meet that”
 -Saul Griffith, Squid Labs






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ENERGY LITERACY

Energy awareness and values are largely formed during childhood.
(Zografaki, Menegaki, & Tsagarakis, 2008)

71% of parents said children influenced purchase or behavior change on Energy Efficiency.
(Harrigan, 2011)







ENERGY LITERACY

An energy-literate person:

- Can trace energy flows and think in terms of energy systems.
- Knows how much energy they use, for what purpose, and where their energy comes from.
- Can assess the credibility of information about energy.

Source: USDOE






ENERGY LITERACY

An energy-literate person:


- Can communicate about energy and energy use in meaningful ways.
- Is able to make informed energy use decisions based on an understanding of impacts and consequences.

Source: USDOE

Energy Literacy Principles




- 1** Energy is a physical quantity that follows precise natural laws.
- 2** Physical processes on Earth are the result of energy flow through the Earth system.
- 3** Biological Processes depend on energy flow through the Earth System.
- 4** Various sources of energy can be used to power human activities, and often this energy must be transferred from source to destination.
- 5** Energy decisions are influenced by economic, political, environmental, and social factors.
- 6** The amount of energy used by human society depends on many factors.
- 7** The quality of life of individuals and societies is affected by energy choices.




AK ENERGY SMART

ALASKA'S K-12 ENERGY EFFICIENCY CURRICULUM

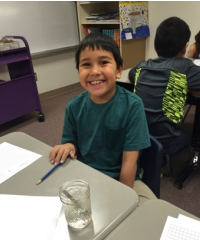
- Video: <https://vimeo.com/198922632>
- Funded by the Alaska Housing Finance Corporation (AHFC) in 2011-2012, 2014-2015; developed by the Alaska Center for Energy and Power (ACEP) and Renewable Energy Alaska Project (REAP)
- Content reviewers:
 - Cold Climate Housing Research Center
 - Alaska Native Knowledge Network
 - Juneau Economic Development Council's STEM Program
 - Pilot teachers from around the state











AK ENERGY SMART

- **Purpose:** give Alaskan youth a better awareness of how they use energy and the importance of taking measures to use energy wisely both at home and school
- **Alaska-specific:** designed with Alaska's unique cultures, environments, and energy challenges in mind
- **23 lessons** from Kindergarten to Grade 12






AK ENERGY SMART

- **What are various forms and sources of energy?**
- **How do we use energy?** What various energy efficiency options are available?
- **Why should we care about energy efficiency?** How can demand side energy efficiency and conservation and generation side energy efficiency reduce overall energy consumption and why is that important?
- **What direct steps can I take in my school and home to lower consumption?**





AK ENERGY SMART

- **Standards Alignments:**
 - Alaska English Language Arts and Mathematics Standards
 - Next Generation Science Standards
 - Alaska Science Grade Level Expectations
 - Alaska Cultural Standards
 - Alaska Technology Standards








AK ENERGY SMART

WWW.AKENERGYSMART.ORG


- Houses all lessons and corresponding worksheets/multimedia
- FREE to download and use
- Links to further resources and testimonials






WHAT WE OFFER

- Access to AKES lessons
- Teacher trainings in hub communities
- Classroom visits to model the curriculum
- Free kits including Kill-A-Watt meters and other supplies that support the curriculum mailed anywhere in AK







- Educator workshops and classroom visits around the state
- Adopted lessons in curriculum and/or as a supplemental resource in Anchorage, Kenai, Fairbanks and Juneau School Districts



Classroom visit in Anchorage



Teacher workshop in Fairbanks



Classroom visit in Kokhanok






OTHER REAP ENERGY EDUCATION PROGRAMS










ALASKA ENERGY RESOURCES

- AK EnergySmart
- AK Energy Efficiency
- Alaska Native Knowledge Network
- AK K-12 Science Curricular Initiative
- AK Resource Education (ARE)
- Unite US
- Alaska Energy Wiki
- Alaska Housing Research Center
- Renewable Energy Atlas of Alaska
- Alaska Energy Efficiency Map
- Cold Climate Housing Research Center












OUTSIDE ENERGY RESOURCES




- ❖ KidWind Project
- ❖ RECharge labs
- ❖ National Energy Education Development Project (NEED)
- ❖ US Energy Information Energy Kids
- ❖ Energy Star
- ❖ PowerSave Schools









ALASKA ENERGY RESOURCES

- "I appreciate the AK focus; this is not often seen in energy curriculum yet we have some specific challenges to address." – Alaskan educator
- "I like that the lessons are appropriate for our students, and the age group I'm teaching, easily adaptable, and can lead to other energy topics." – Alaskan educator
- "I found the lesson on building your own home particularly useful. I feel it would be interesting to see kids' reactions when they realize how much energy they go through." – Alaskan educator
- "More teachers should be utilizing this curriculum and resources. Students should be learning about this NOW!" – Alaskan educator








AK ENERGY SMART

FOR MORE INFORMATION

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 **REAP** | Renewable Energy
Alaska Project

