

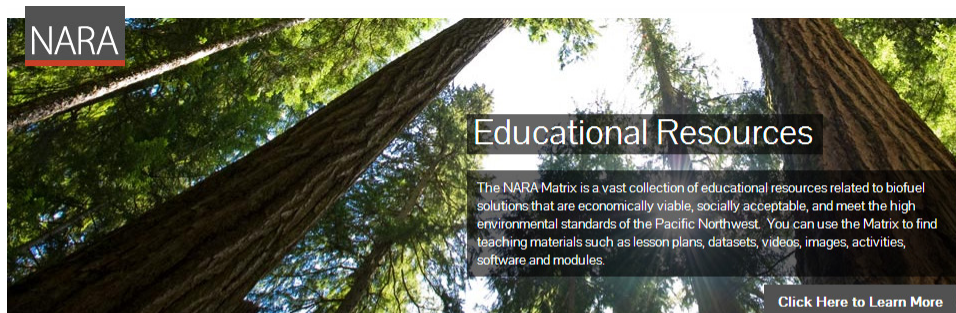


Northwest Advanced Renewables Alliance

We know that energy and biofuels literacy can be challenging to teach in the classroom. Energy concepts and applications are complex and holistic, and draw from all the major sciences: biology, ecology, chemistry, physics, math, Earth science, and environmental science. We also know that while researchers and educators have developed literally thousands of resources for teachers, it can be difficult to understand how resources can be used to teach different components of science, and how those resources link back to the state and national science standards that all schools follow.

NARA ENERGY LITERACY MATRIX

The Energy Literacy Principles Matrix, more commonly referred to as the "Matrix", is a web-based resource that helps solve this challenge by effectively organizing materials to be used by science teachers and the general public.



SEARCH

Find what the matrix has to offer.



LEARN

Learn from the matrix's information.



PREPARE

Prepare from the resources in the matrix.



TEACH

Easily teach what the matrix has provided.

This web-based resource serves three primary functions:

1. It lays out the fundamental concepts (or building blocks) of energy literacy in an organized, logical way.
2. It organizes, classifies, describes, and cross-references resources to both fundamental concepts AND to science standards.
3. It provides an easy to use resource for teachers to find information useful to their classroom.

The Matrix was developed through the Northwest Advanced Renewables Alliance (NARA) project led by Washington State University and supported by the Agriculture and Food Research Initiative Competitive Grant no. 2011-68005-30416 from the USDA National Institute of Food and Agriculture.

Use the Matrix at energyliteracyprinciples.org



NARA

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KEY TERMS FOR USING THE NARA ENERGY LITERACY PRINCIPLES MATRIX

Topic: A modified list of key concepts, based on the Department of Energy's work Energy Literacy: Essential Principles and Fundamental Concepts for Energy Education

http://www1.eere.energy.gov/education/energy_literacy.html

Example- "Energy is a physical quantity that follows precise natural laws"

Subtopic: 'Building blocks' that break the Topic into smaller, essential concepts.

Example- "Energy is a quantity that is transferred from system to system"

Resource: A document, data set, or media element that has been linked to Topics and Subtopics to help teach climate concepts.

Example- The Biomass Balancing Act is a website applicable to many energy concepts: <http://www.pbs.org/teachers/connect/resources/5860/preview/>

"Students will be able to identify biomass resources, describe how biomass is a form of stored solar energy and explain how a particular biomass resource can be used to produce heat or electricity or contribute to transportation resource needs."

Resource type: One way to search the Matrix is by the type of supporting information that the site has for a Topic or Subtopic: video, picture, lesson, support, software, activity, web activity, data set, and module.



Example- The Matrix can be searched for pictures that address an energy literacy concept.

Cross reference: If you download a resource, you can later go back and search in the Matrix for other concepts that the resource addressed. Alternately, you can see how the concepts relate across topics and subtopics.

WEBSITE INTERFACE

Basic Search: This function allows you search the Matrix using a word or key term. It will only pull up results that are from words in the Topics, Subtopics, and Resource descriptions.

Advanced Search: This function allows you to search the Matrix by words or terms too, but adds the use of drop-down boxes of Topics and Subtopics to better refine the results. You can also search by Resource Type.

Browser: This function allows you to see the organization of the Matrix and browse Subtopics by scrolling over them. This interface most resembles the 'matrix' concept that we used to organize the project.

IMPROVING THE SITE

Please send us your feedback to Justin@nararenewables.org. We will continue to update and improve this site. Send us examples of the resources you use, or media we could upload, and we will enter them on the site. As the NARA project progresses, look for improved functionality and depth on this site, including methods to input and edit material, sort by state and/or national standards, and rate or evaluate the resource.

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12 April 2013