

## PROJECT OVERVIEW

**Inspired by the film:** In this selected clip from *A Climate for Change*, we learn about NOAA’s Global Monitoring Laboratory at the Mauna Loa Observatory (11,100 feet). At this baseline monitoring station, continuous measurements and observations of gases and particles in the atmosphere are collected. This data helps scientists to better understand the atmospheric composition over the Pacific Ocean, and the impact that humans may be having on the planet.

<b>ESSENTIAL QUESTION for the PROJECT:</b>	How can we measure our energy footprint and use data to make informed decisions in our daily lives and community?	
<b>PROJECT OVERVIEW:</b>	Students will collaborate to conduct an energy audit. Students will create documentary films for a mini-film festival that captures their audit process, their findings, and their solutions. The goal of each film is to communicate the detective work of uncovering a hidden system that impacts our lives and the lives of others.	<b>KEY VOCABULARY:</b>  Carbon Source Carbon Sink Carbon Cycle Greenhouse Gases Greenhouse Effect Triple Bottom Line Trade-Offs Energy Grid Carbon Sequestration Sustainable vs. Unsustainable Energy Sources
<b>SELECTED KEY SKILLS:</b>  <i>Teachers can modify the selected key skills based on scope and need.</i>	<ul style="list-style-type: none"> <li>● Data Analysis</li> <li>● Data Collection</li> <li>● Oral Presentation</li> <li>● Collaborative Problem Solving</li> <li>● Film Making</li> <li>● Communication</li> <li>● Collaboration</li> </ul>	
<b>SELECTED KEY CONTENT &amp; PERFORMANCE:</b>  <i>Teachers can modify the selected key content based on scope and need. All projects are designed to be interdisciplinary and to address multiple content performance standards.</i>	<ul style="list-style-type: none"> <li>● <b>NGSS MS-ESS3-4 Construct a scientific argument</b> Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth’s systems.</li> <li>● <b>CCSS.ELA-LITERACY.W.8.7 Research to Build and Present Knowledge</b> Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration.</li> <li>● <b>CCSS.ELA-LITERACY.W.8.8 Gathering Relevant Information</b> Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.</li> <li>● <b>CCSS.ELA-LITERACY.W.8.5 Writing Process</b> With some guidance and support from peers and adults, develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach, focusing on how well purpose and audience have been addressed.</li> <li>● <b>CCSS.ELA-LITERACY.W.8.6 Publish and Present Writing</b> Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas efficiently as well as to interact and collaborate with others.</li> </ul>	