



# Conducting the Energy Conservation Pathway

BEFORE AND AFTER THE AUDIT, GRADES 9-12

## BEFORE

### BE PREPARED

- Read through this document, the baseline audit and the post-action audit.
- Invite community experts to participate.
- Gather science tools (if applicable) and print materials.
- Conduct mini-lessons (if needed) to strengthen concept foundation.

### ENDURING UNDERSTANDING

1. People utilize Earth’s resources to meet life’s needs and wants. Some of these resources cannot be replaced while others are infinite.
2. To use energy it must be transformed into usable forms.
3. Energy is the dominant contributor to climate change, accounting for 60% of total global greenhouse gas emissions and has environmental, societal and economic impacts.
4. People can use a variety of tools including data collection and analysis to make decisions about their energy use.
5. A sustainable future depends on personal choices and actions, the development of equitable and just policies, the use of renewable energies, the conservation of nonrenewable resources and the development of new technologies.

### COMMUNITY AND CULTURE

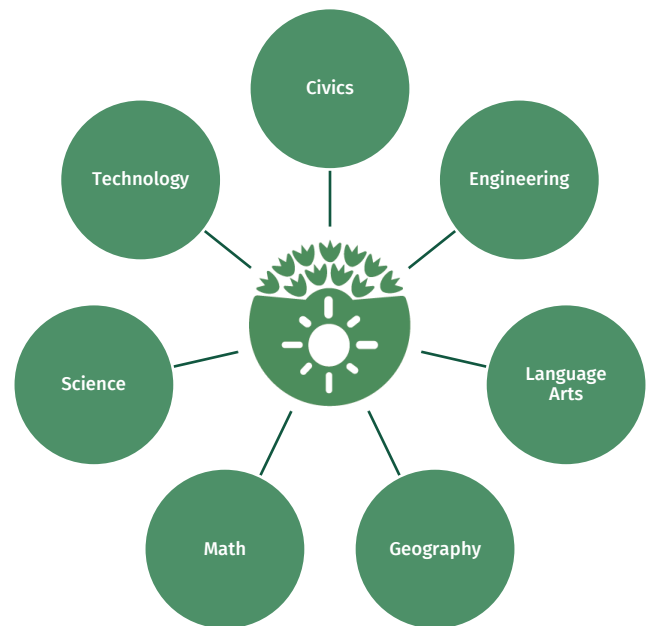
- Our current reliance on fossil fuels is unsustainable and harmful to the planet and to the communities who rely upon energy to sustain their way of life.
- Cultural diversity is a source for learning sustainable practices.
- Intercultural dialogue should be a guiding principle in developing solutions, raising awareness and promoting action.
- Create an inclusive, safe place for Eco-Action Team members and others within and outside of the school community to participate.





## INTERDISCIPLINARY CONNECTIONS

- **Language Arts** – Practice digital storytelling based on audience and purpose. Students can hone skills to help them effectively communicate via digital platforms.
- **Science** – Harnessing, transforming and transporting energy is a science. What are the different methods used during each phase of the energy production process and what impact do they have on communities and wildlife?
- **Technology** – Investigate current and on the horizon energy production methods and their relationship to communities around the globe. How can we sustainably meet the energy demands of a global population of over 7 billion people and rising?
- **Civics** – Are there laws or policies that are in place to protect the land, wildlife and people from the negative impacts associated with energy production and does energy production impact low-income, impoverished or communities of color more than other groups?



## SUSTAINABLE DEVELOPMENT GOALS

In 2016, seventeen Global Goals for Sustainable Development were adopted by world leaders at a United Nations Summit. These goals universally apply to all countries, therefore Eco-Schools USA is committed to doing our part. Over the next fifteen years, efforts will be made by governments, institutions and citizens all across the globe to end all forms of poverty, fight inequalities and tackle climate change, while ensuring nobody is left behind.



Ensure access to affordable, reliable, sustainable and modern energy for all.

Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation.

Learn more at [globalgoals.org](https://globalgoals.org)



## GATHER THE FOLLOWING MATERIALS

- Student worksheet(s)
- Audit form
- Clip boards
- School map(s) – inside and outside
- Lumen meter (optional)

## PROCEDURE

1. Before the audit, contact local experts who are willing to assist. These individuals can provide more in depth understanding and can help direct the team when questions and/or concerns arise.
2. Read through the audit. As an Eco-Action Team determine, based on the size of your school and the number of appliances/devices, how much time will be needed to complete the baseline or post-action audit.
3. Highlight the locations on the school maps where teams will collect data.
4. Conduct the baseline audit and make plans to conduct the post-action audit.
5. Analyze the results and develop an action plan.
6. Frequently communicate results and plans with the school and community.





## AFTER

### 1. NEXT STEP: DEVELOP AN ACTION PLAN

Move into Step 3 of the Seven Step Framework by using the audit results to develop an action plan.

Identify community leaders, experts, advocacy organizations who can assist students with solution implementation and advise the Eco-Action Team how to address issues of social justice.



### 2. UPDATE YOUR DASHBOARD

[Login to the school's dashboard](#) and complete the following tasks.

- Upload your audit results and your action plan.
- Add any related photos or videos.
- After completing the post-action audit and moving through the Seven Step Framework apply for an award.



### 3. STUDENT PHOTOGRAPHERS

Invite students to protect wildlife and conserve habitat by participating in National Wildlife Federation's photography contests

- [National Wildlife Federation's Photo Contest, opens in January.](#)
- [National Wildlife Federation's Garden for Wildlife Photo Contest opens in August.](#)

### 4. NEXT PATHWAY



#### Water Pathway –

Fresh, clean water is one of the basic necessities of life. Students can investigate the interdependent relationships between water use, water quality, wildlife biodiversity, and community health.



#### Healthy Schools Pathway – Addressing Water and Soil Contaminants and IAQ

Providing students and staff with a healthy learning and working environment is an important component of every sustainable school. Learn more about conditions that can impact the learning environment and how to inform the community and advocate for change.



### 5. CONNECT TO THE GLOBE PROGRAM

[The Global Learning and Observations to Benefit the Environment \(GLOBE\) Program](#) is an international science and education program that provides students and the public worldwide with the opportunity to participate in data collection, the scientific process, and contribute meaningfully to our understanding of the Earth system and global environment.

#### Atmosphere

clouds | precipitation | surface temperature

#### Biosphere

biometry | carbon cycle | land cover classification

#### Hydrosphere

freshwater macroinvertebrates | water temperature | water pH

#### Pedosphere

Characterization | infiltration | soil moisture | temperature