

The Power of Climate Solutions

Opening Activity: Personal Impact Inventory

What are three actions you do every day that use energy?

What is one way you could reduce energy use for each action listed above?

The Big Question

How is Massachusetts working to be more efficient, transition to renewable energy, optimize energy transmission, protect natural lands, and prepare for climate challenges?

My Climate Goals

When you complete this lesson, you'll be able to

1. Identify strategies to improve energy efficiency
2. Identify examples of climate technology that advances the use of renewable energy sources
3. Explore how different combinations of climate solutions can position us for a healthier future.

Notes:

Design Our Community's Clean Energy Future

Instructions

Work with your group to assess your community's current energy use and discuss ways to improve it using the strategies explored in class today, detailed below. Use the notes below to guide your plan. Choose one or two specific strategies and describe how they can be applied in your community on the following page.

Massachusetts Climate Strategies

Strategy #1: Improve Energy Efficiency

Use less energy to perform the same tasks by upgrading systems and reducing waste.

Examples:

- Retrofitting buildings with better insulation and energy-efficient windows
- Switching to LED lighting in homes, schools, and streetlights
- Installing energy-efficient appliances such as refrigerators, washers, and dryers

Benefits:

- Saves money on energy bills
- Reduces energy demand and greenhouse gas emissions

Strategy #2: Renewable Energy Sources

Generate electricity using sustainable sources such as the sun, wind, or water.

Examples:

- Installing solar panels on homes, schools, or municipal buildings
- Building wind turbines to power parts of the town
- Encouraging community solar projects where multiple households share renewable energy

Benefits:

- Reduces reliance on fossil fuels
- Provides clean, sustainable energy for the future

Strategy #3: Clean Transportation

Reduce emissions by improving and encouraging cleaner alternatives to traditional vehicles

Examples:

- Adding electric vehicle charging stations around town
- Promoting public transportation such as buses or trains, especially electrified options
- Creating bike lanes and improving walkability in neighborhoods

Benefits:

- Reduces air pollution and greenhouse gas emissions
- Encourages healthier, more sustainable ways to travel

Discussion Prompts

Use the prompts below to discuss your community's current energy usage and identify one or two strategies for improving energy efficiency. Then, prepare to present your improvement plan to the class.

What types of energy are commonly used?

Are there visible signs of energy inefficiency or pollution (e.g., older buildings or traffic congestion)?

Which two strategies do you think would make the biggest impact in your community?

Why did you choose these strategies?

Plan your solution. How would you apply these strategies? What changes would you make? Who in the community would benefit the most from these changes?

Lesson Key Points

- Energy efficiency, renewables, and clean transportation are critical to a clean future.
- We can contribute to the transition, both now and in our careers.
- Massachusetts is leading by example, and we can support that in our community.

Additional key points:

Closing Activity

Write a short postcard from the future to your present-day self describing what life is like in Massachusetts in 2050's cleaner, greener future.

- What changes do you notice in your everyday life?
- What's different about the energy sources, transportation, or buildings?
- How does the environment affect your community and family?

Are there any careers of interest that you heard about in this lesson?