

Community Solar Projects

Opening Activity: Solar Power Fact and Fiction

Notes:

The Big Question

What is community solar, and what are its benefits?

My Climate Goals

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

1. Explore examples of community solar projects in Massachusetts
2. Identify some examples of climate-critical professionals who work together to make community solar projects successful, from the design to the outreach to the installation and maintenance phases
3. Discuss how individual solar and community solar projects can support various individual and community needs.

Notes:

Pitching Community Solar

Instructions

Read the profile of your assigned town area below. Then, complete the worksheet on the next page to finalize your Community Solar Project pitch.

Community Profiles

City Center

Population: 200,000

Building types: High-rise apartments, office buildings, small businesses, and public transportation hubs

High energy usage: Electricity needed for lighting, air conditioning, and public transit

Challenges: Limited roof space, high electricity demand, noise pollution, and shading from tall buildings

Opportunities: Large rooftops on office buildings and public transportation hubs, interest in reducing energy costs for businesses, and the involvement of local businesses and public services in the project

Historic District

Population: 100,000

Building types: Older buildings, historic homes, museums, schools, and government buildings

Moderate energy usage: Many energy-inefficient older buildings

Challenges: Historic preservation rules that limit building changes, shading from tall trees, and limited space for solar panel installations

Opportunities: Many flat roofs on public buildings (schools and museums), strong community support for environmental projects, and the possibility of energy efficiency upgrades paired with solar

Suburban Town

Population: 50,000

Building types: Single-family homes, schools, shopping centers, and parks

Moderate energy usage: Peak usage during summer for air conditioning and winter for heating

Challenges: Homeowner reluctance to install solar panels due to upfront costs, and some homes are unsuitable for rooftop solar panels due to shading and roof conditions

Opportunities: Large parking lots at shopping centers and schools that are ideal for solar panel installations and the potential for neighborhood collaboration on community solar

Rural Community

Population: 5,000

Building types: Farms, single-family homes, and small businesses

Low to moderate energy usage: Higher energy use on farms for machinery and irrigation

Challenges: Long distances between homes, less infrastructure, and limited internet access

Opportunities: Large open spaces for ground-mounted solar installations, interest from farmers in reducing energy costs, and the potential for solar to support farming operations

Discussion Prompts

Complete the worksheet below to craft a pitch for your community solar project.

What is your assigned community?

Introduction: Introduce your town and explain why solar energy is vital.

Benefits: Explain the benefits of community solar for your community.

Challenges: Identify two or three key challenges to the project and propose ideas to overcome them.

Call to action: Give a persuasive argument for why this project should happen now.

Lesson Key Points

- Community solar projects allow multiple participants to share the benefits of a single solar installation, increasing access to renewable energy.
- Successful community solar programs prioritize collaboration, location suitability, and community involvement.
- Environmental justice ensures that disadvantaged communities access clean energy and its benefits.

Additional key points:

Closing Activity

How can community solar projects positively impact Massachusetts's climate goals?

How can community solar address energy equity in your community?

What careers of interest did you learn about in this lesson?