



MASSACHUSETTS
CLEAN ENERGY
CENTER®

Massachusetts Climate Careers: Powering the Future
**Climate Solutions for
Our Homes and Schools**



Massachusetts schools produce 880,000 metric tons of carbon every year.

How can schools help reduce this?



Your School Can Be a Climate Solution

Solar panels at Heights Elementary School

- Offset 540,000 pounds of CO₂
- Save \$30,000 in energy costs

...every year!



A total of **722 solar panels** power Heights Elementary School in Sharon, Massachusetts.





Opening Activity

Carbon footprint: Total amount of carbon emissions produced through regular activities

Weatherization: Making a building more resistant to outdoor temperatures

Renewable energy: Energy from sources that naturally replenish

Solar panels: Devices that convert sunlight into electricity

Insulation: Material inside walls and ceilings to help keep heat in or out

Heat pump: Device that transfers heat from outside to inside in winter or from inside to outside in summer





Today's Agenda

- **The Big Question and My Climate Goals**
- **Climate Watch and Discussion**
- **Climate Solutions at Home and School**
- **Energy Audit Activity**
- **Closing Activity**





The Big Question

How can climate technologies help homes and schools become part of the climate solution?





My Climate Goals

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

1. Explain how solutions such as weatherization, heat pumps, solar energy, efficient appliances, and battery storage make homes and schools climate solutions
2. Discuss how your own home, school, and community can be part of the climate solution.





Climate Watch: Video

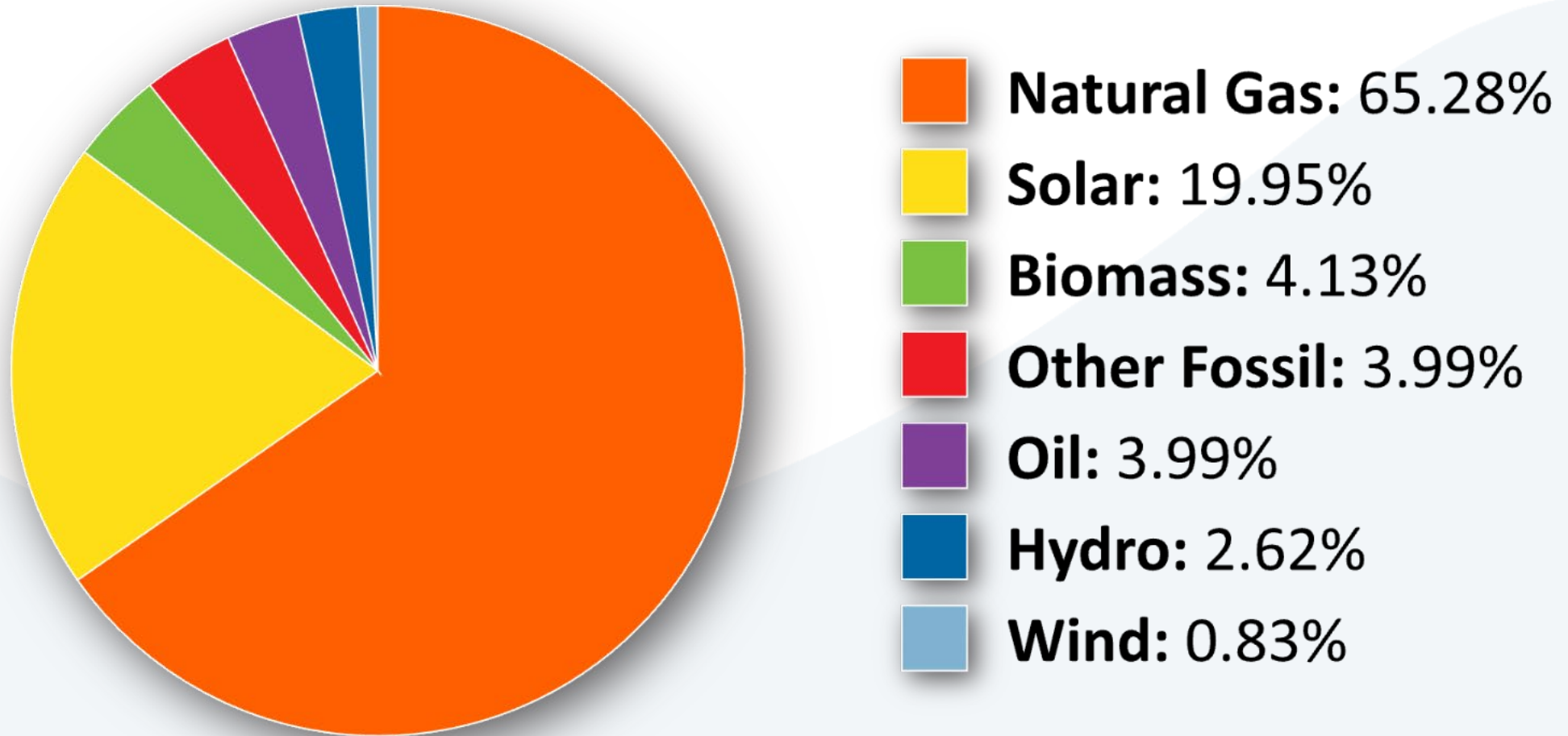




Climate Watch Discussion

1. What are some of the benefits of a solar canopy at the school?
2. What are some of the job roles needed for a commercial solar project?
3. Why are so many schools in Massachusetts investing in solar electric systems?

Electricity Grid Mix in Massachusetts



Based on EIA data from 2022

Climate Solutions Are Everywhere

Clean energy technology can reduce energy use and lower emissions.

- Solar panels
- Energy-efficient appliances
- LED light bulbs
- Heat pumps
- Electric vehicles
- Improving building weatherization
- Industrial recycling





MA Schools Lead Clean Energy



- One of the top five US states for solar installation in schools
- Installing solar panels, improving energy efficiency, and electrifying school buses
- Community hubs for clean energy projects





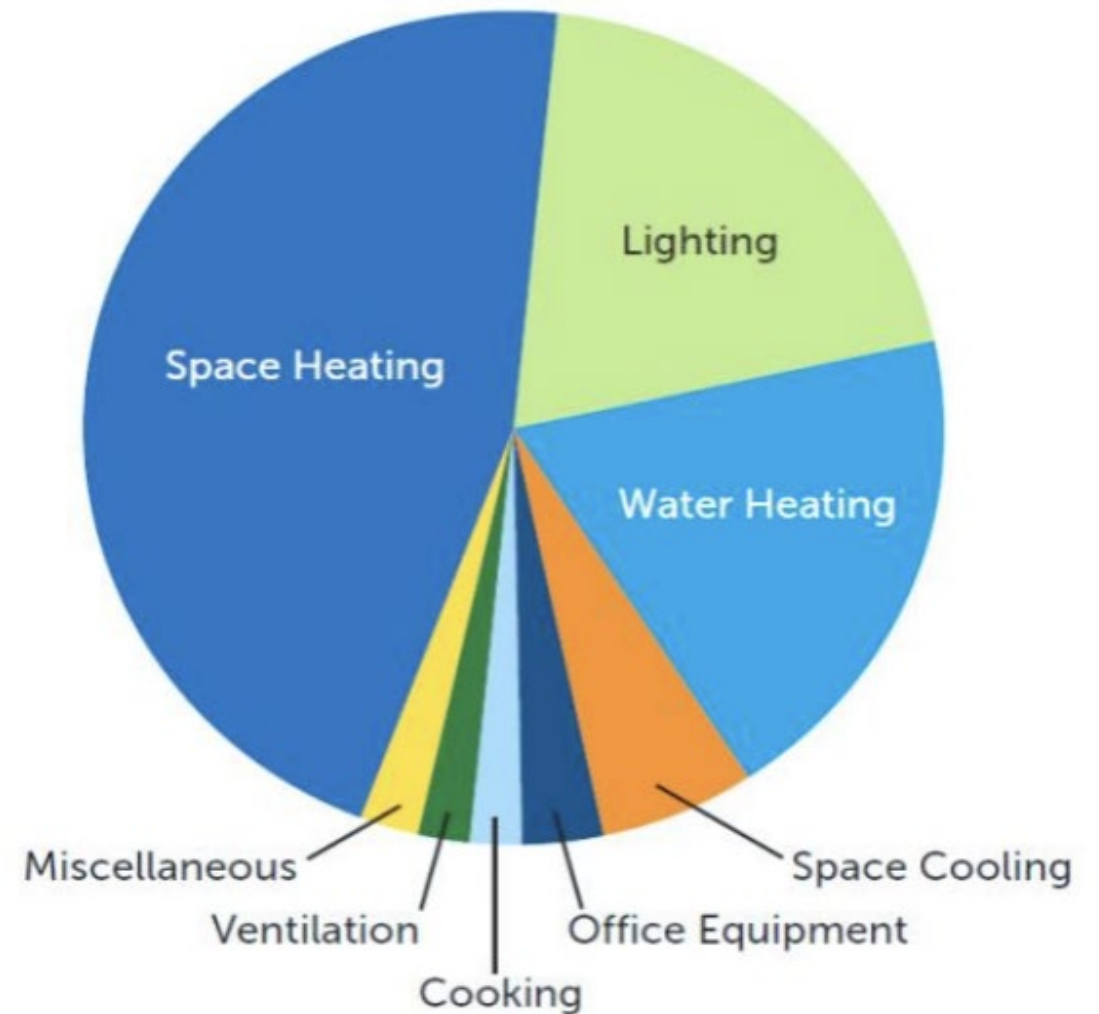
Today's Group Activity

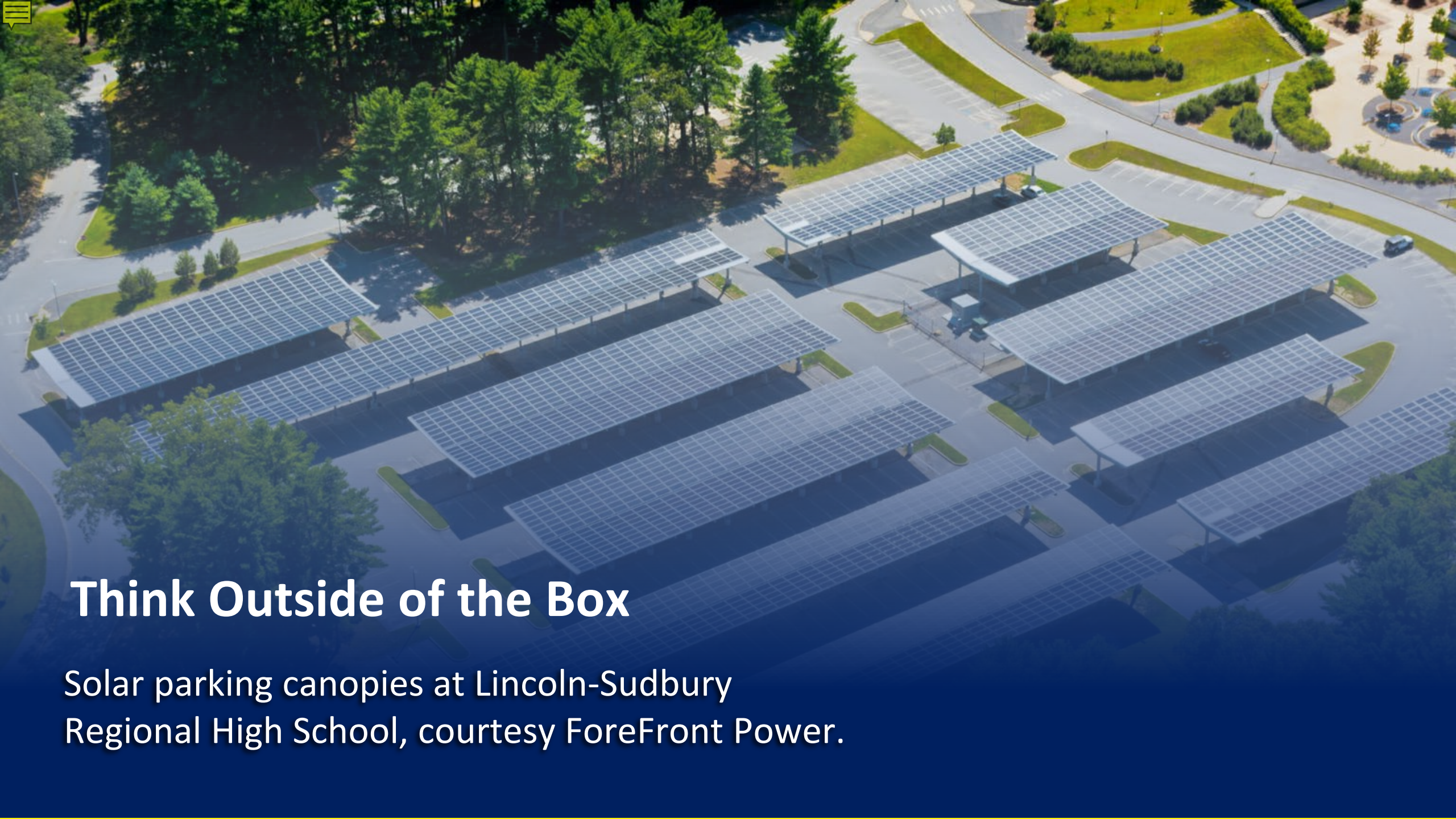
Energy audit: How can we reduce energy use in our school?

Work in groups to examine how our school uses energy.

Identify three to five ways to save energy and make our school more **energy efficient**.

End uses of total energy (electricity, natural gas, etc.) in K-12 Schools. Courtesy: US Department of Energy, *Energy Solutions for School Buildings*, 2006. www1.eere.energy.gov/buildings/energysmartschools/about.html





Think Outside of the Box

Solar parking canopies at Lincoln-Sudbury Regional High School, courtesy ForeFront Power.



Key Points

- Any building or space can adopt clean energy technologies such as weatherization, heat pumps, efficient appliances, and battery storage.
- There are several careers that work to improve energy efficiency.
- Climate solutions require creativity more than complexity.





Closing Activity

1. Identify one action you can take to increase your understanding or involvement in these solutions.
2. Write down your next step on a sticky note, and place it somewhere visible, such as on the front of your notebook or inside your locker.





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Clean energy careers support individuals, families, and communities. A career in clean energy empowers you to do well by doing good.