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Massachusetts Climate Careers: Powering the Future

Offshore Wind Power and Massachusetts's Transition to Renewable Energy



What criteria would you use to select the best location for building a new entertainment space in town?





Today's Agenda

- **The Big Question and My Climate Goals**
- **Benefits of Offshore Wind Power**
- **Climate Watch and Discussion**
- **Massachusetts's Ports and Wind Energy**
- **Takeaways and Closing**



The Big Question

How will large-scale offshore wind projects transform Massachusetts's energy sources?



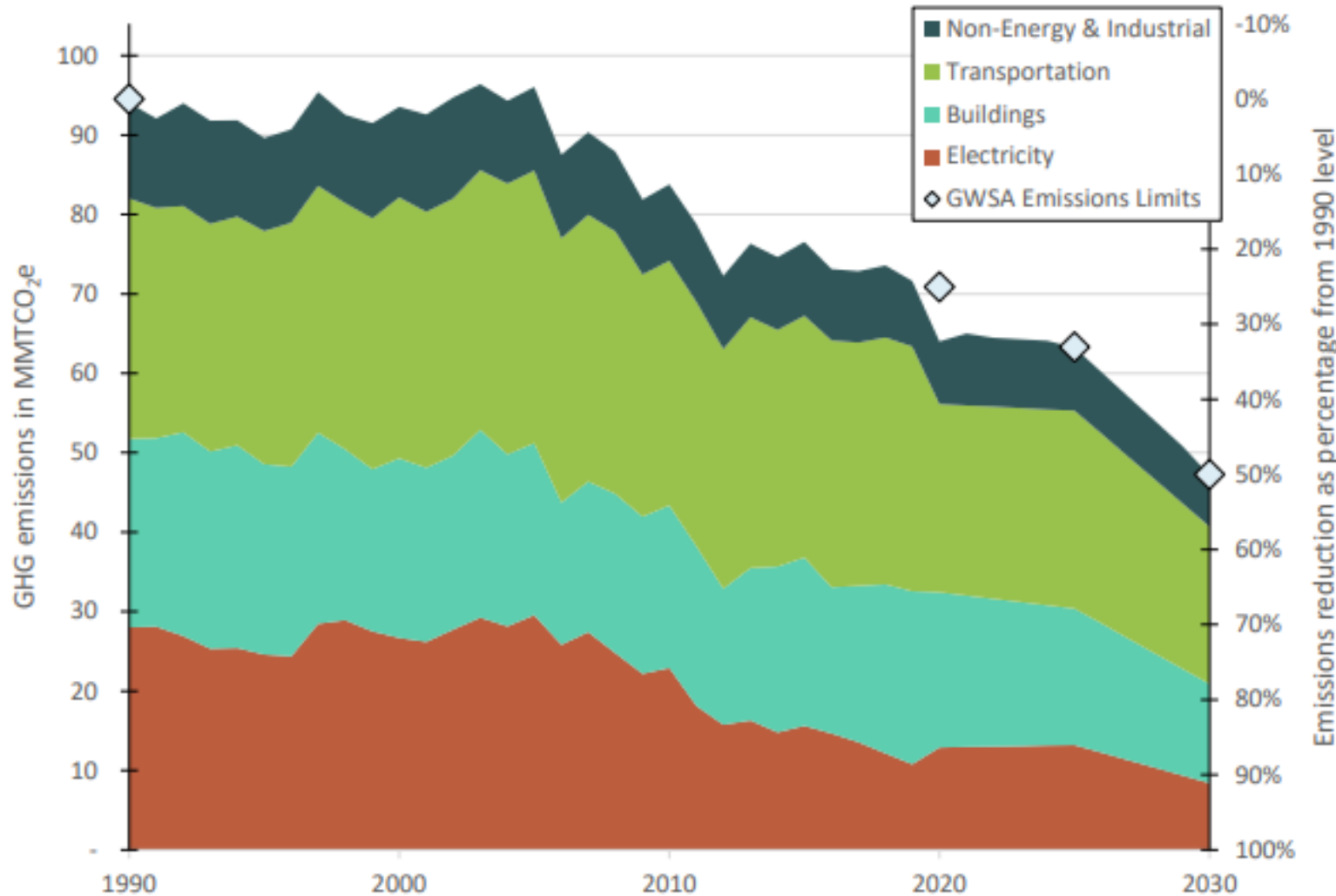


My Climate Goals

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

1. Describe how wind turbines capture energy and convert it into electricity.
2. Identify examples of climate-critical professionals who work to design, build, and maintain offshore wind farms.
3. Discuss how Massachusetts's ports and other infrastructure contribute to the offshore wind industry.

Emissions-wide GHG Emissions by Sector



MA Climate Goals

- Reduce greenhouse gas emissions by 85% by 2030
- Achieve net-zero emissions by 2050



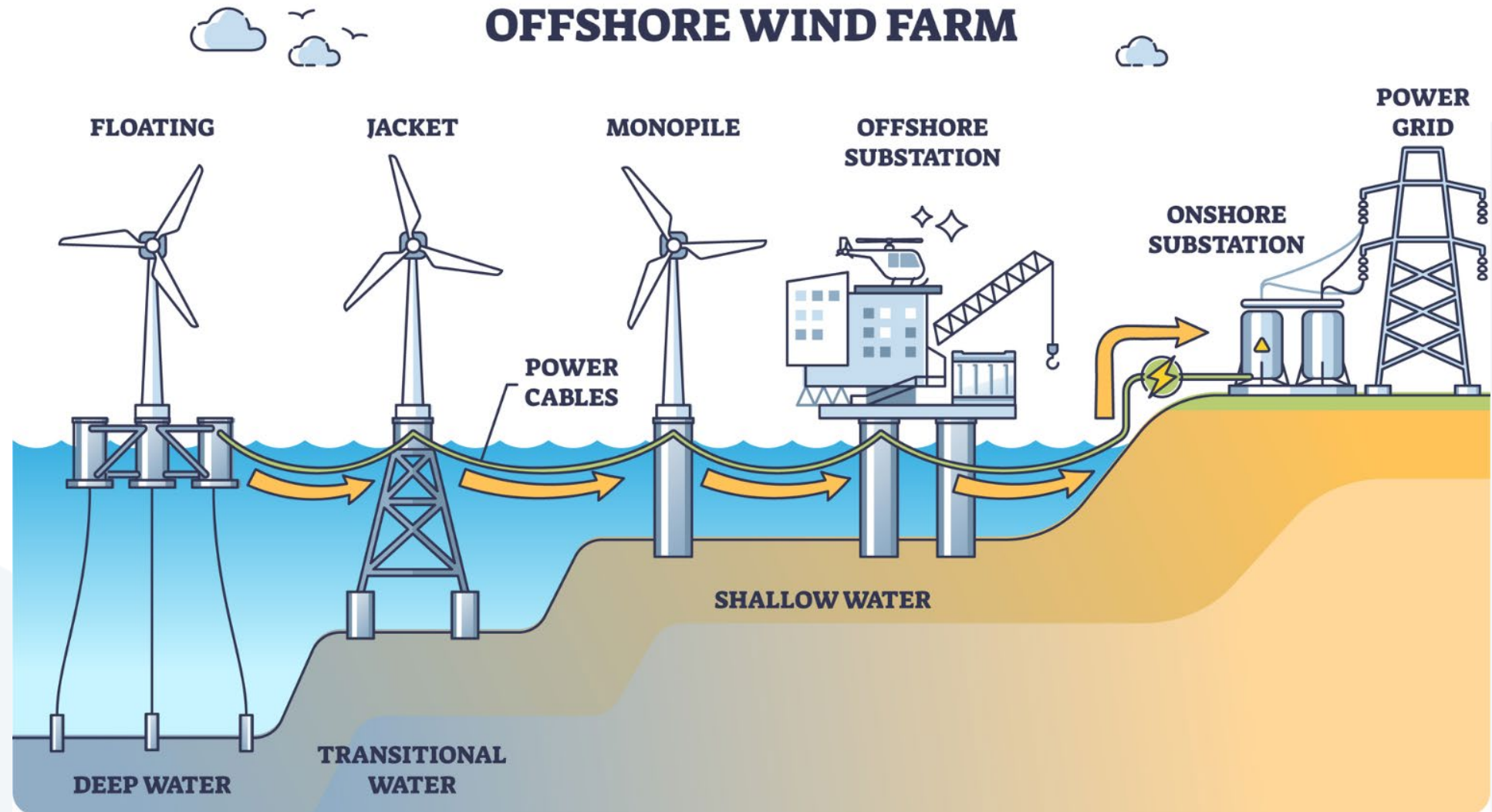
Climate Heroes

Careers in Offshore Wind Projects:

- Engineering and design
- Construction and installation
 - Millwrights, Welders, Painters, Iron Workers, Piledrivers, Electricians
- Operations and maintenance
 - Quality Control, Tug Workers, Longshoremen, Rope Access Technicians
- Environmental science
- Project management and logistics



Introduction to Offshore Wind Power





Environmental Benefits

- Reduces greenhouse gas emissions
- Decreases air pollution
- Sustainable resource with long-term potential
- Energy can be stored for later use



Community Benefits

- Creates jobs in manufacturing, installation, and maintenance
- Stabilizes energy prices
- Attracts investment opportunities
- Strengthens the resiliency of the energy grid



Wind Testing Technology Center



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Climate Watch: Video





Climate Watch Discussion

1. What impact do you think the wind terminal will have on residents who live nearby?
2. How might this affect Massachusetts residents who live outside of New Bedford?
3. There are many careers mentioned in the video. What career would you like to learn more about?



MA Ports and Wind Energy

New Bedford Wind Terminal and Salem Offshore Wind Terminal features:

- Heavy-duty wharves with heavy-lift capacity
- Reinforced storage and assembly space
- Deep water berths and dredging capability

Image source: Vineyard Wind 1 Project



Group Activity

How could **other** historic ports support offshore wind?

In groups, you will:

- Evaluate your assigned port.
- Determine the likelihood of this port being used in future projects.
- Identify necessary upgrades.
- Present your findings to the class.



Activity Debrief

How does this exercise help us answer today's Big Question:

How will large-scale offshore wind projects transform Massachusetts's energy sources?





Key Points

- Wind turbines convert wind energy into electricity.
- Offshore wind projects support Massachusetts's clean energy and economic goals.
- Ports such as New Bedford and Salem are vital to the offshore wind industry.



Closing Activity

Reflect on today's lesson for one minute, then answer the following questions:

- What did you learn about offshore wind power today that surprised you?
- Why are Massachusetts's ports so important to the offshore wind industry?



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