




BLOCK ISLAND

UTILITY DISTRICT

A Touchstone Energy® Cooperative 

Block Island, Then and Now

Life-Long Learning Lecture April 17, 2025



Jeffery M. Wright, President & CEO
jwright@blockislandutilitydistrict.com
802-730-4233

National Rural Cooperatives Association
Board of Directors, Rhode Island

Learning Opportunities

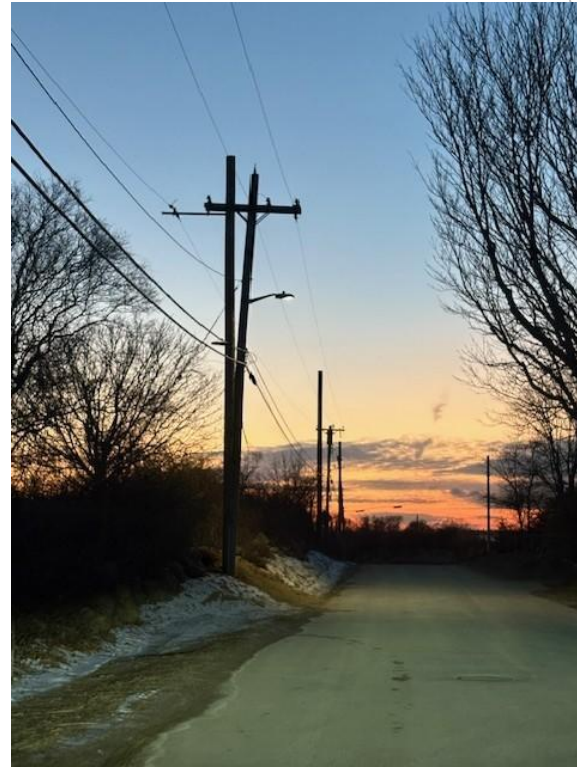
- ❑ Who is the Block Island Utility District and what is the company's mission and history? What has changed over the last 100 years - THEN And NOW?
- ❑ How has Block Island's power supply evolved?
- ❑ What is the relationship between ISO-NE, RI Energy (National Grid), Orsted, and Block Island?
 - ❑ How does the power flow?
 - ❑ How does the money flow?
- ❑ Who ensures that the lights stay on regionally and locally?
- ❑ What does the regional power supply mix look like in New England?
- ❑ What does Block Island's current power supply mix look like?

Block Island Power Company History and Timeline

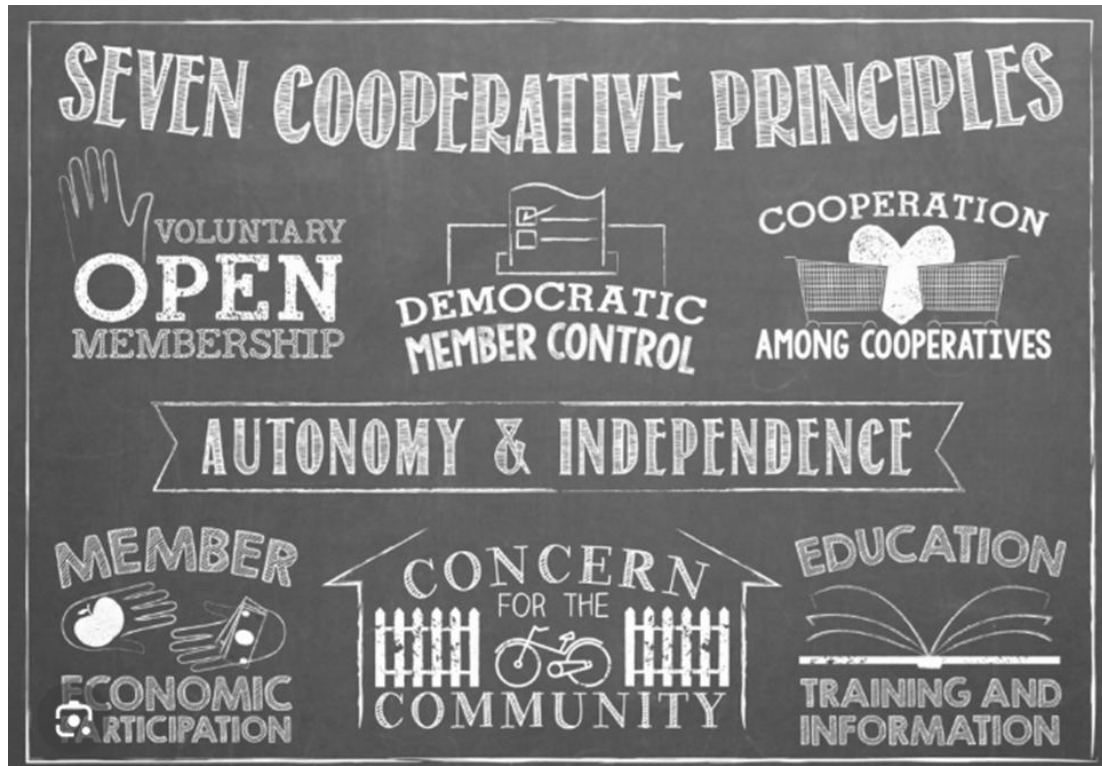
- ❑ The Block Island Power Company (BIPCO) operated from 1925 until March 2019.
 - ❑ Prior to May 1, 2017, Block Island was powered by diesel generators.
 - ❑ Three private investors owned the company from 1985-2016 and let profits take priority over O&M.
 - ❑ Power quality was poor, and customer satisfaction was low.
 - ❑ At one time electric rates were more than \$0.85/kilo-watt hour (ranked in top five highest in country).
 - ❑ The island residents demanded better.
- ❑ The Town of New Shoreham bought the controlling shares of the power company in August 2016.
- ❑ The Block Island Utility District (BIUD) was formed in February 2019.
- ❑ The BIUD purchased the power company assets on March 25, 2019.
- ❑ The BIUD is now a member-owned, member governed not-for-profit quasi-municipal entity. BIUD is a member of the National Rural Electric Cooperative Association (\$35B) that represents 990 coops across the country who serve nearly 70% of the land mass in the US.



Then and Now, Block Island's distribution infrastructure...



Then and Now, Block Island's distribution infrastructure...



Then and Now, Block Island's member satisfaction... in 2023 BIUD was given an ACSI award for ranking in the top 20% of the coops in the country for overall member satisfaction.

Evolution of the Power Company and its Power Supply

- ❑ Diesel Generators were all Block Island had to power the island prior to connecting to the submarine cable in May 2017.
 - ❑ Powering Block Island took 1,000,000 gallons of fuel per year.
 - ❑ Emissions from the generators alone exceeded 22,000,000 tons of CO2.
 - ❑ Transporting 1,000,000 gallons of fuel a year took 100 tractor trailer tankers annually.
 - ❑ Underground tanks stored up to and sometimes more than 1,000,000 gallons of fuel.
 - ❑ Underground leaking tanks (since removed) polluted the ground and put Block Island Power Company's plant and property on the state's super-fund list.

- ❑ On May 1, 2017, Block Island switched from the diesel generators to the submarine cable.

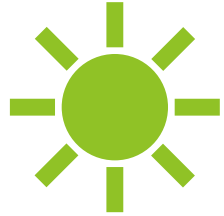
- ❑ Block Island's power supply in 2017 was provided by a 100% load follow contract provided by Shell, N.A. (mostly natural gas).

- ❑ In 2024, the BIUD Board of Directors voted to source 100% of its power supply from renewable resources. (SOMEONE PLEASE ASK WHAT THE COST OF THAT DECISION WAS!)

The cost of renewables...

- ❑ BIUD buys approximately 16,000,000 kilo-watt hours per year.
- ❑ The 100% renewable vote cost BIUD ratepayers \$165,000 and an anonymous donor \$47,000 per year.
- ❑ The added cost per kilo-watt hour for the BIUD ratepayers was \$0.01 per kilo-watt hour in 2024 and then \$0.005 per year for 2025-2033.
- ❑ Where does Block Island Utility District get its energy from?
 - ❑ Starting on November 1, 2025, BIUD will rely on these following sources for its power supply: 1% BIUD Roof Top Solar, 6% Local Net Metering, 2% Commercial Mainland Solar, 20% Hydro and the remaining 71% is made up by various resources owned and operated by Brookfield Renewable Partners (a Maine based power supply co.)

Block Island Philanthropy...



In 2018, island resident Don McClusky formed the Block Island Solar Initiative, a RI non-profit charged with driving beneficial electrification on the island.

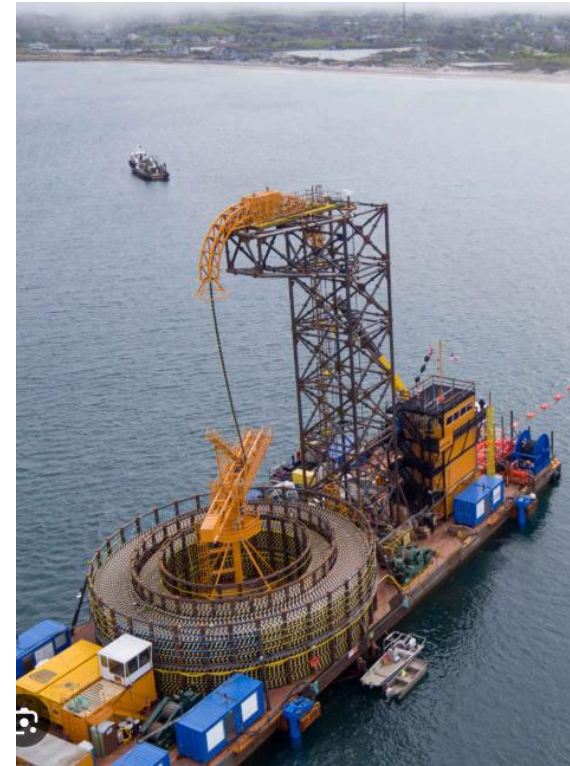


More than \$4M has been spent to date on several programs; EV subsidies, heat pumps, solar, the states first EV school bus and an EV bucket truck.



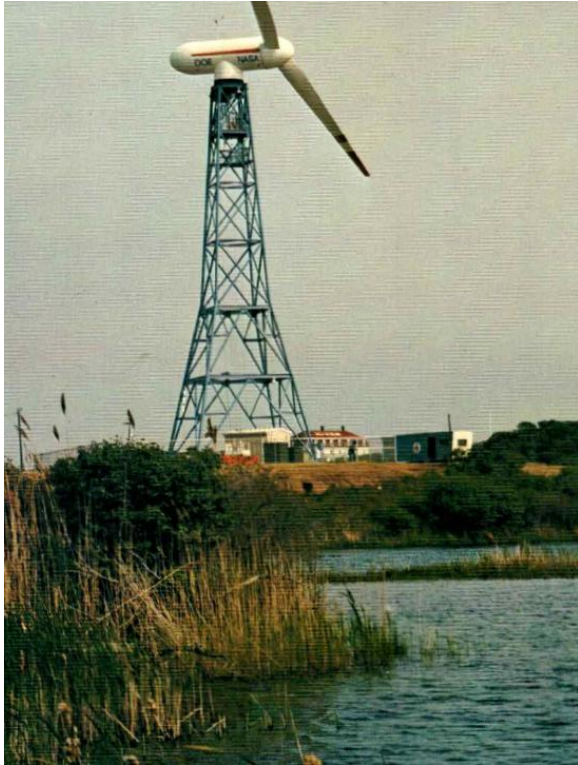
A second donor has donated a level three EV fast charger located at the power company.





Block Island's Submarine (Umbilical Cord) Cable

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Block Island's Road to 100% Renewable

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New York Power Authority -
Niagara Project



Gravel Pit Solar
Granby, CT



Turner Falls Hydro
Montague, MA

Block Island's Road to 100% Renewable

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What about the Block Island Wind Farm?

How does the Block Island Wind Farm contribute to the islands power supply evolution?

- ❑ The wind farm brought the submarine cable which gave Block Island access to the mainland ISO-NE wholesale power supply markets. The \$120M cable gave Block Island the opportunity to procure energy from the ISO-NE markets and also provided the island with a fiber connection for broadband.
- ❑ The 22-mile submarine cable was/is a life changer for the island and has done more to enable the evolution of its power supply than anything prior.

How come Block Island doesn't buy the wind farm power?

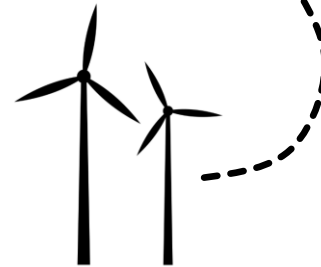
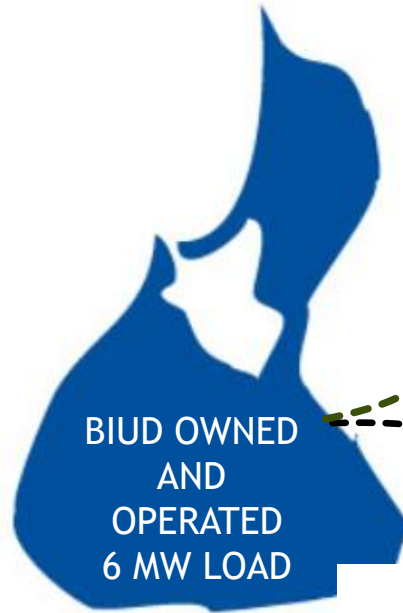
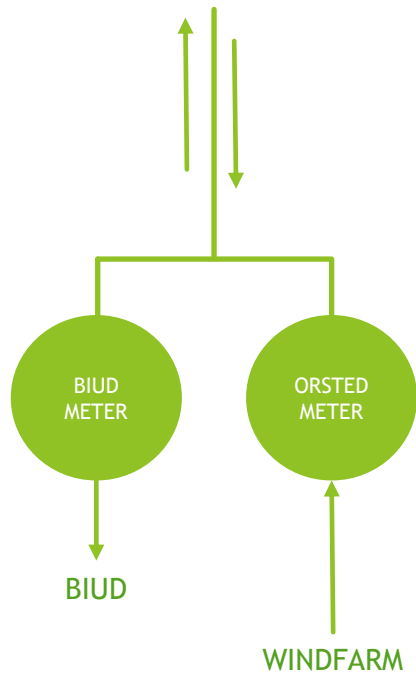
- ❑ The starting price of the wind farm power in 2016 was roughly \$260 per mega-watt hour. Block Island was able to procure power for less than \$40 per mega-watt hour at that time.

Why was Block Island's offshore wind energy so expensive?

- ❑ Initial construction costs were high partly because the Block Island project was experimental.
- ❑ Since 2016, subsequent offshore wind prices have dropped but are still more expensive than other existing resources.

Power Flows and Metering/Billing per Mega-Watt (MW)

SUBMARINE CABLE TO NARRAGANSETT (RIE)



ORSTED OWNED AND OPERATED 30 MW OUTPUT

RI OWNED AND OPERATED CABLE RATED 30 MW Feeds 17,000 RIE Customer's Mainland Homes

Questions and Answers...

Did Block Island Power ever experiment with other sources of local generation other than the diesel generators?

- ❑ Yes, in the late 1970's DOE and NASA partnered with Block Island Power by installing an experimental wind turbine. The 150' tall turbine was rated at 200 kW, enough to power half the island homes during the windy winter months. Efforts to interconnect with the diesel generators failed though and eventually the wind turbine was removed.
- ❑ Local solar (net metering) was, and still is, encouraged as was small scale residential wind turbines.
- ❑ Despite continuous efforts to harness renewable energy, the island's primary energy source was nearly 100% fossil fuel sourced in the form of diesel.

How have electric rates changed since 2016?

- ❑ During any oil crisis electric rates would spike due to the price of fuel. Despite an all-time high of > \$0.85/kWh our rates now are \$0.026/kWh in the winter, \$0.035/kWh in the spring and fall and \$0.45/kWh in July and August.
- ❑ Since 2012 electric rates have been dropped more than 50% and CO2 emissions (Tons/Year) have been reduced from >22,000,000 to less than 10,000. (We still run diesels for emergencies and planned cable outages)

Relationship between ISO-NE, Block Island, Orsted and RI Energy

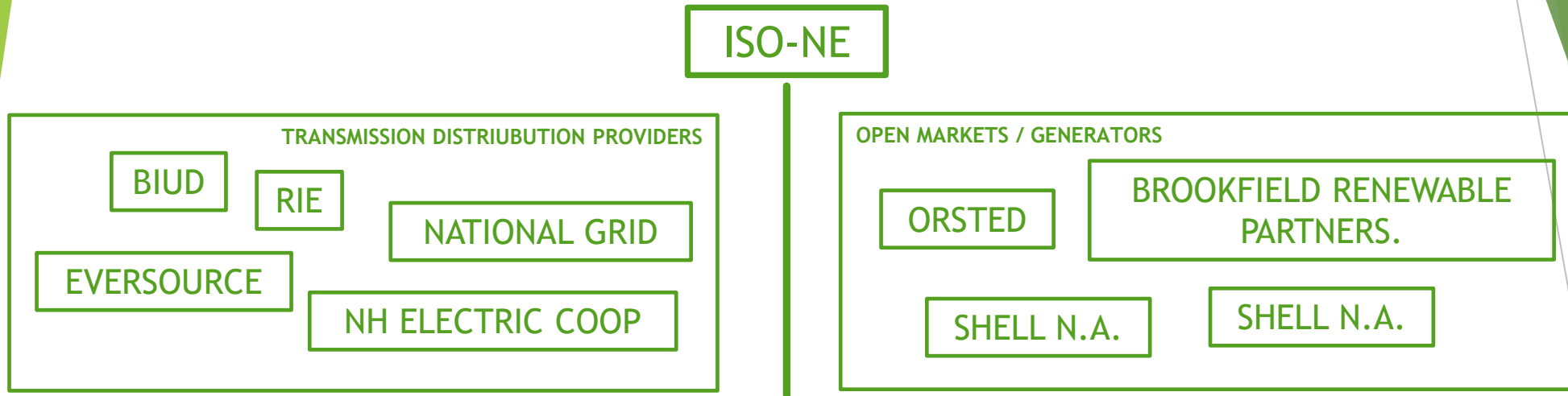
- ❑ The BIUD is Block Island's electric provider.
 - ❑ BIUD procures all of its own energy from wholesale suppliers.
 - ❑ BIUD has no financial or governance ties to RI Energy or Orsted.
 - ❑ BIUD is governed by an elected five-person Board of Directors.

- ❑ Rhode Island Energy (RIE) is BIUD's transmission provider via the submarine cable and its RI transmission infrastructure.

- ❑ ISO-NE is the New England Grid Operator that has jurisdiction over all entities.

- ❑ Orsted is a Danish based for-profit offshore wind energy developer.

New England Electric Utility and Markets Structure

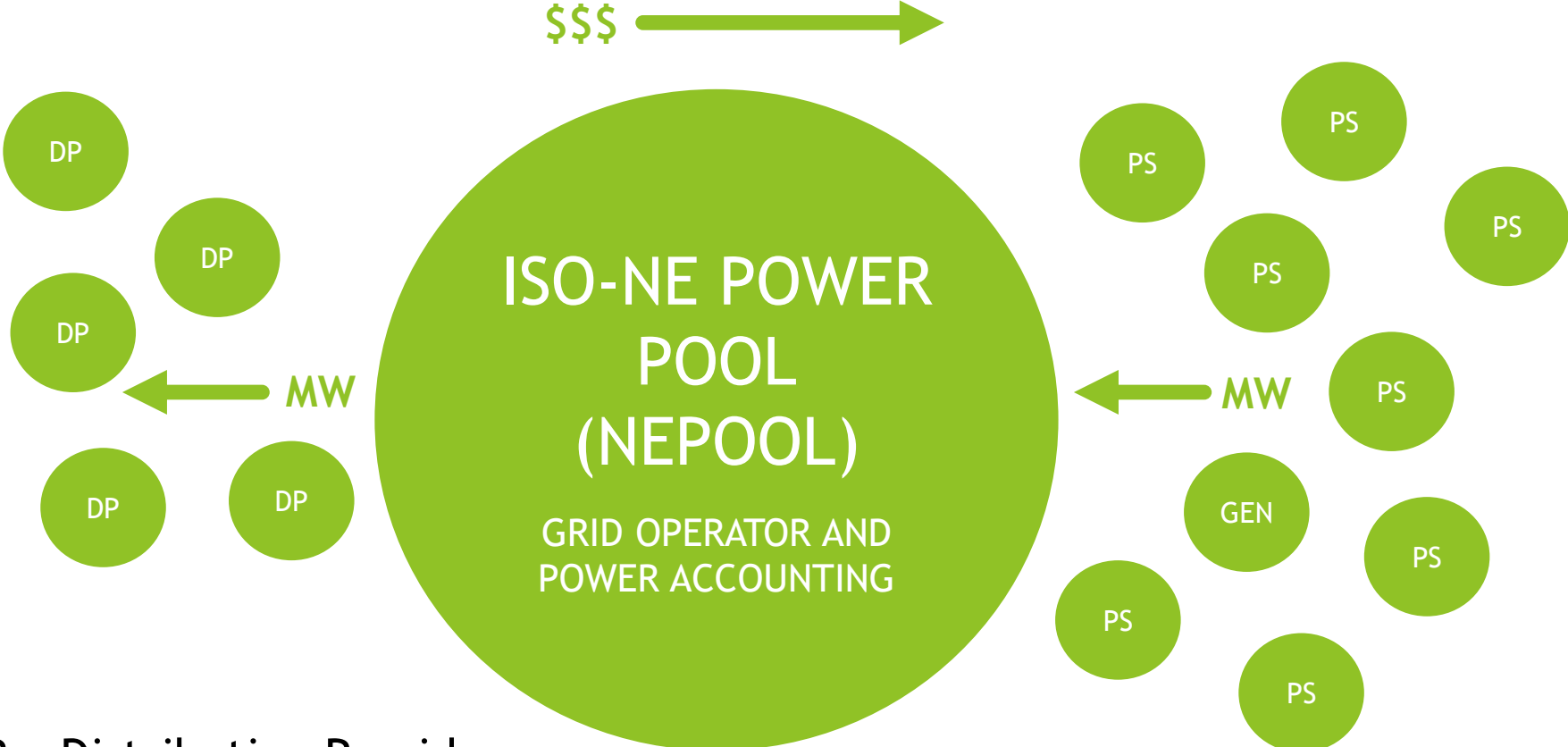


COSUMER LOAD



GENERATION

Physical Power Flows vs. Contracts



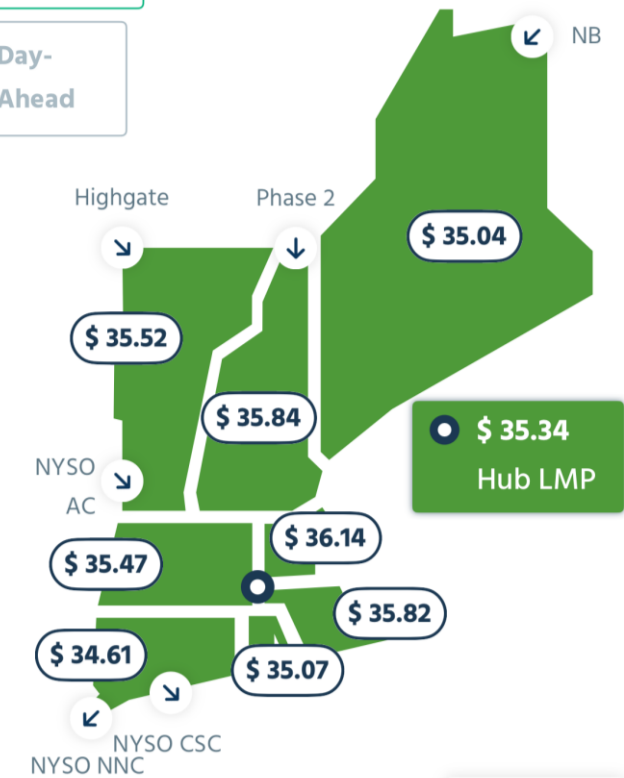
DP = Distribution Provider
PS = Power Supplier

ISO-NE Regional Power Supply Mix

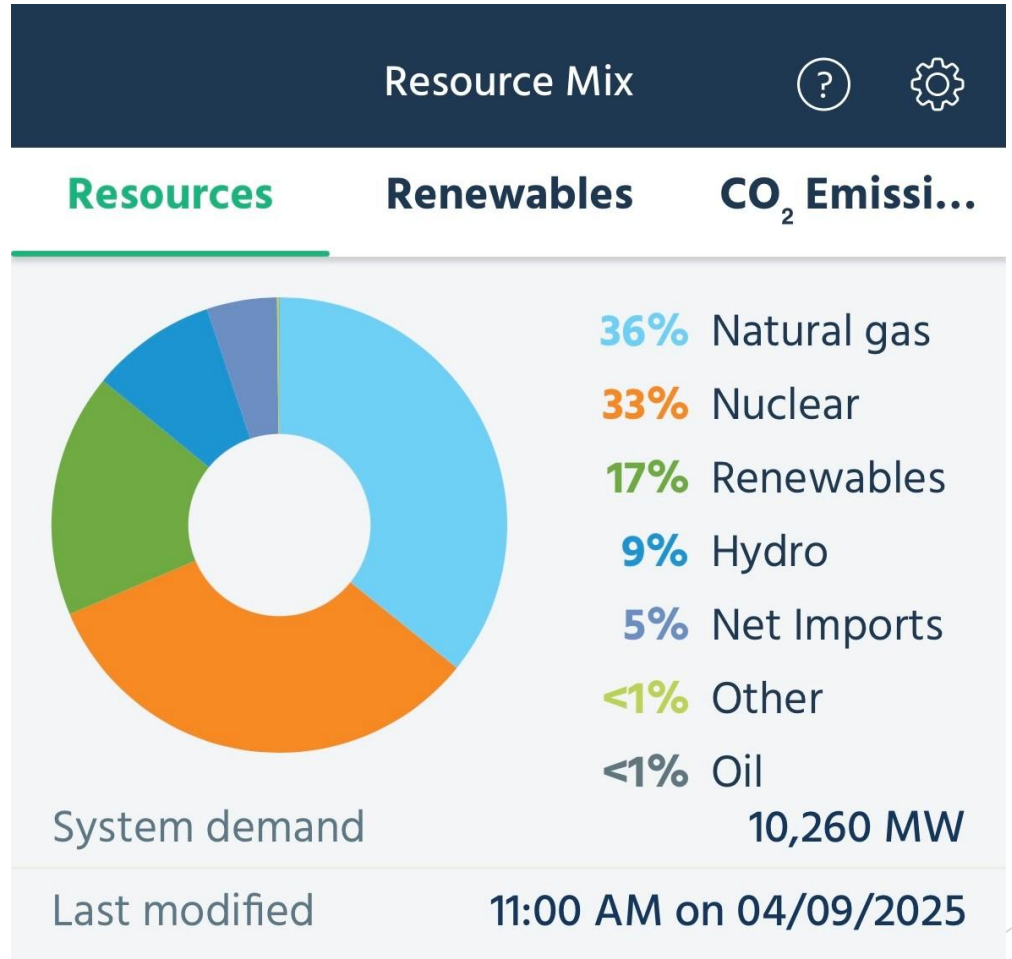
Price Map	Demand C...	Zones
10,260 MW SYSTEM DEMAND	\$ 35.47 NE ENERGY	Normal SYSTEM STATUS

Real-Time

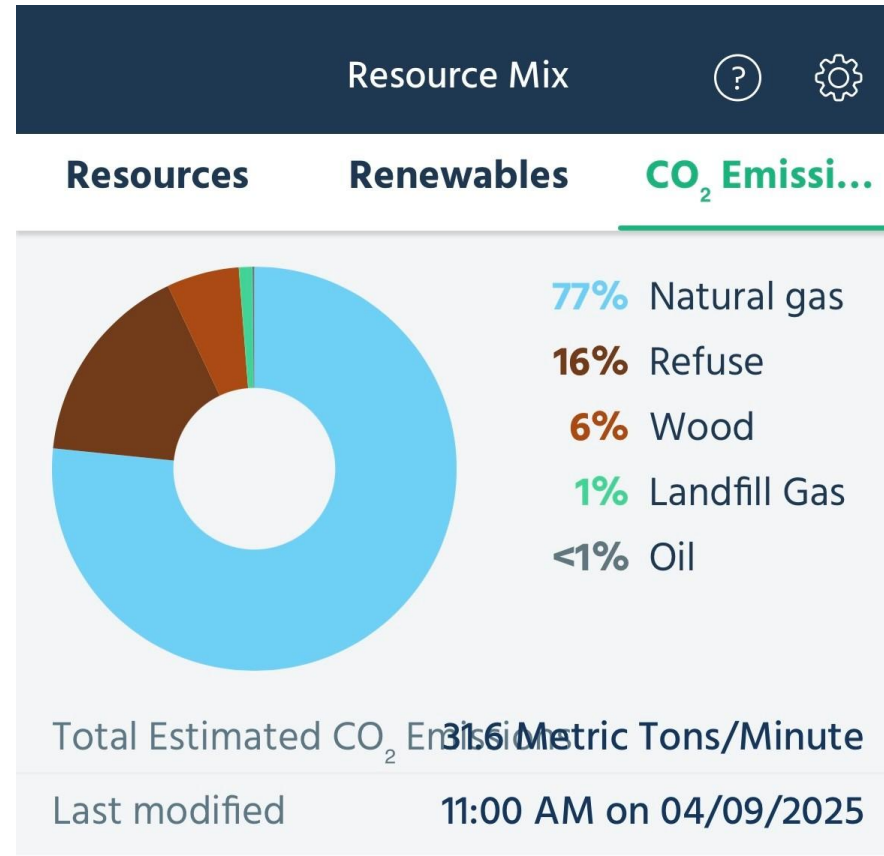
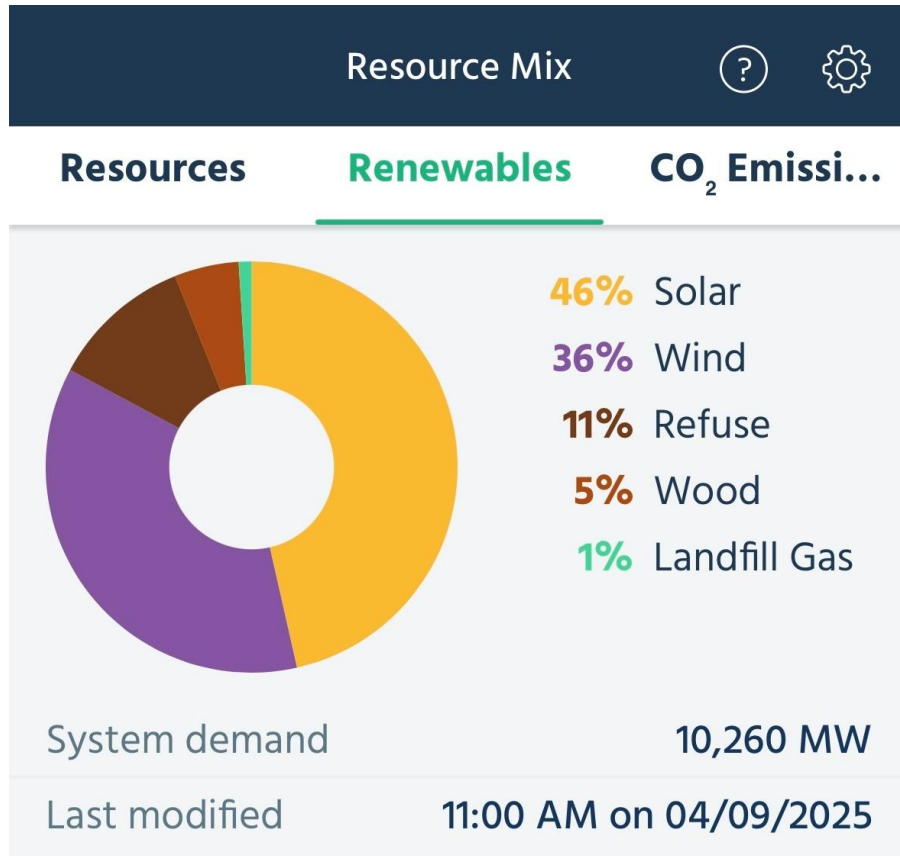
Day-Ahead



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ISO-NE Regional Power Supply Mix



Questions and Answers