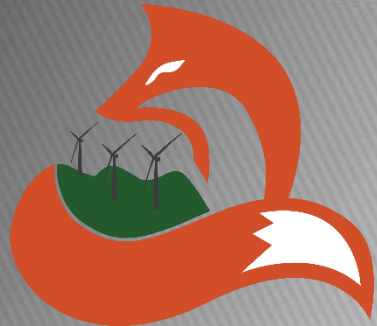


Fox Islands Electric Cooperative (FIEC)  
Fox Islands Wind (FIW)  
meeting with  
North Haven Water, Earth, Birds, and Bugs  
(WEBB) Organization



Fox Islands Wind is a nonprofit, wholly-owned subsidiary of  
Fox Islands Electric Cooperative, Inc.

# Fox Islands Electric Cooperative (Electric Delivery)

## Fox Islands Wind (Electric Supply)

- Both are member-owned (FIEC customers), nonprofit utilities
- Both are governed by a volunteer board of directors
- Both are managed by CEO Amy Turner
- Companies must work together to achieve their mission to deliver reliable, affordable, responsible energy to the Fox Islands.











# Sources of Energy:

## ISO-NE Energy Market and Fox Islands Wind

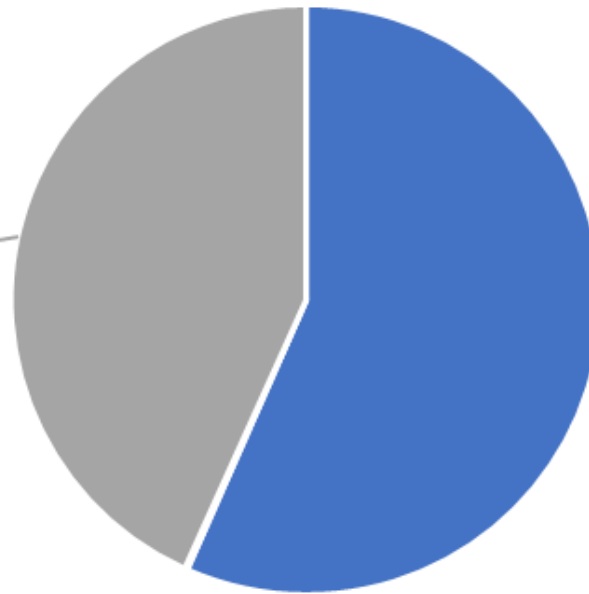




## FIEC Energy Supply (MWh)

4,577 MWh

55% Fossil Fuel  
25% Nuclear  
15% Renewables  
3% Hydro  
1% Oil



5,992 MWh

15

■ Fox Islands Wind

■ Diesel Generator

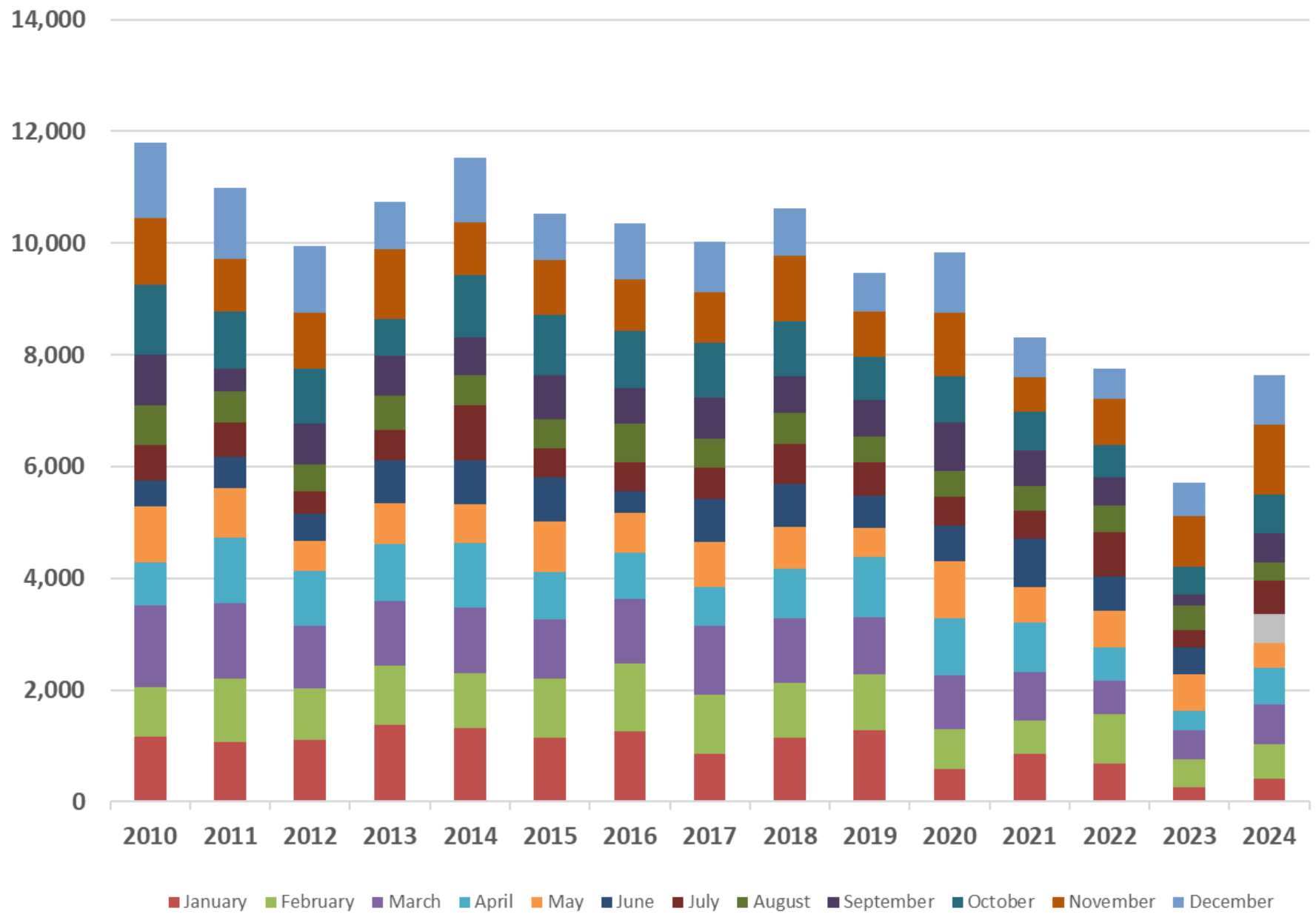
■ ISO-NE Energy Market

57% Wind + 9% System Renewables = 66% Renewable Generation in 2024

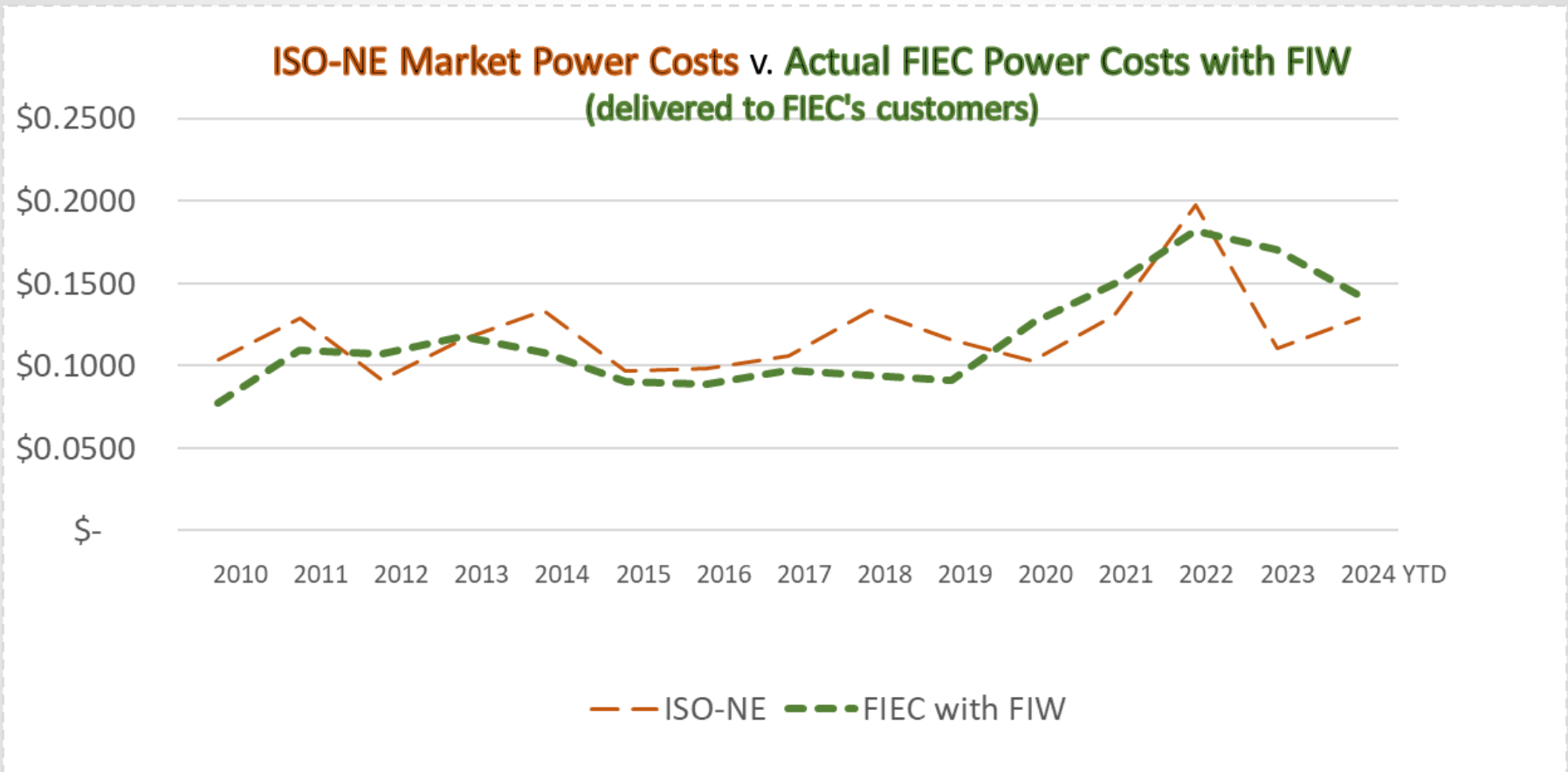
1,648 MWh Wind Sales to Market (Battery Storage Consideration)



## Fox Islands Wind Generation, 2010 to present



# Energy Cost Comparison





# New ERA Grant and Loan Award

- \$14.5M (\$3.625M grant, \$10.875M 2% loan)
- Repowering the wind turbines
- 1 MW solar array (proposed site Vinalhaven capped landfill)
- Energy Cost Model
  - New ERA Projects \$0.11 /kWh
  - Energy Market \$0.18/kWh
- Other priorities – battery storage, small grid upgrades



# Wind Power Options



# Partial Repowering

- Replace/upgrade turbine generators, gearboxes, blades
- Keep existing towers and foundations in place
- Increase efficiency and output
- Larger rotor swept area = more power
- Lower noise – nacelle insulation, fewer moving parts, quiet blades
- Upgrades to control system and substation for higher output
- Must evaluate foundation suitability
- Recycling of blades





# Vinalhaven Landfill Site

Info Energy **Design** Payments Online Proposal PDF Proposal Manage

Discard

Save



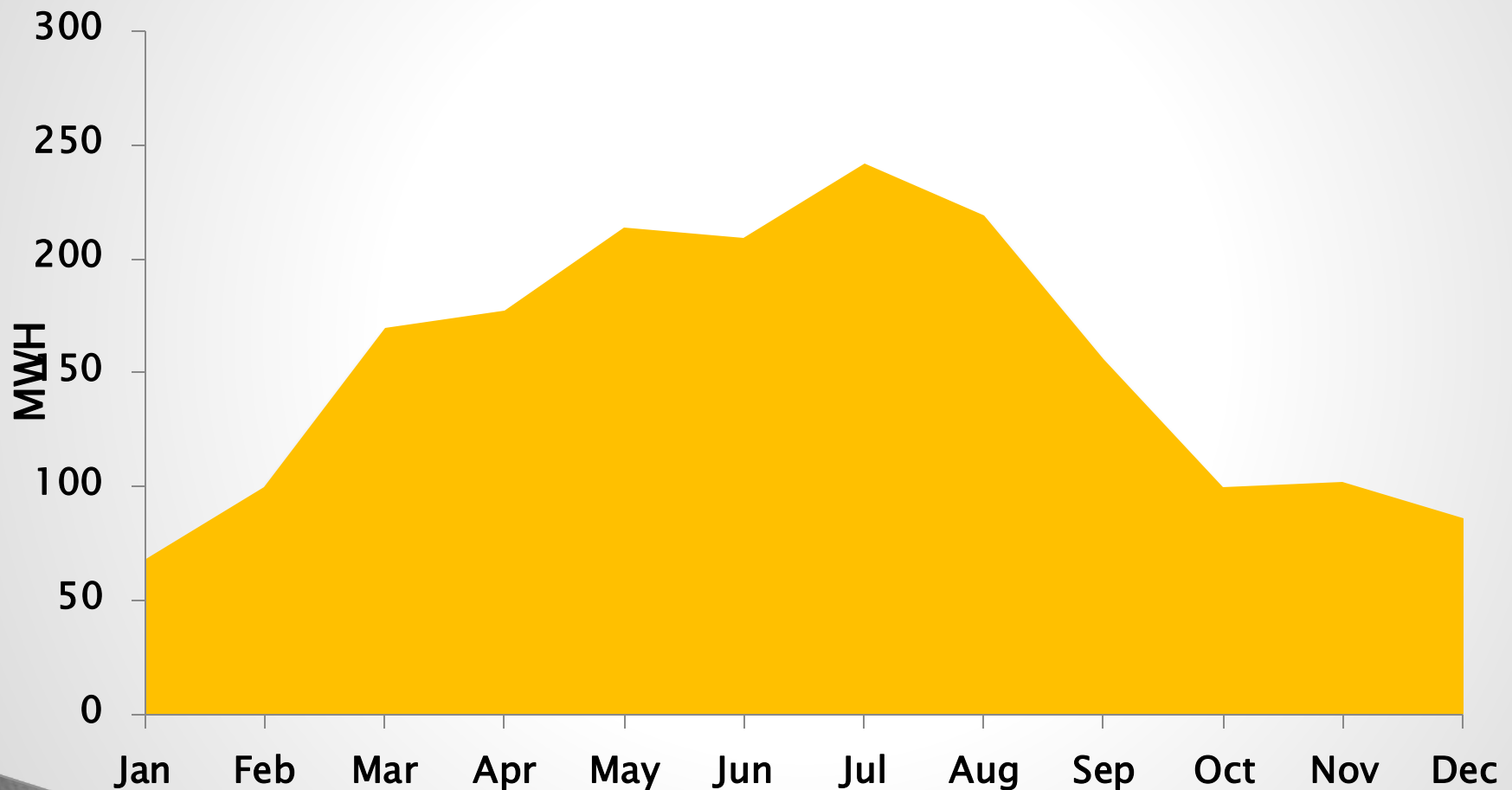
Screensho

Customer



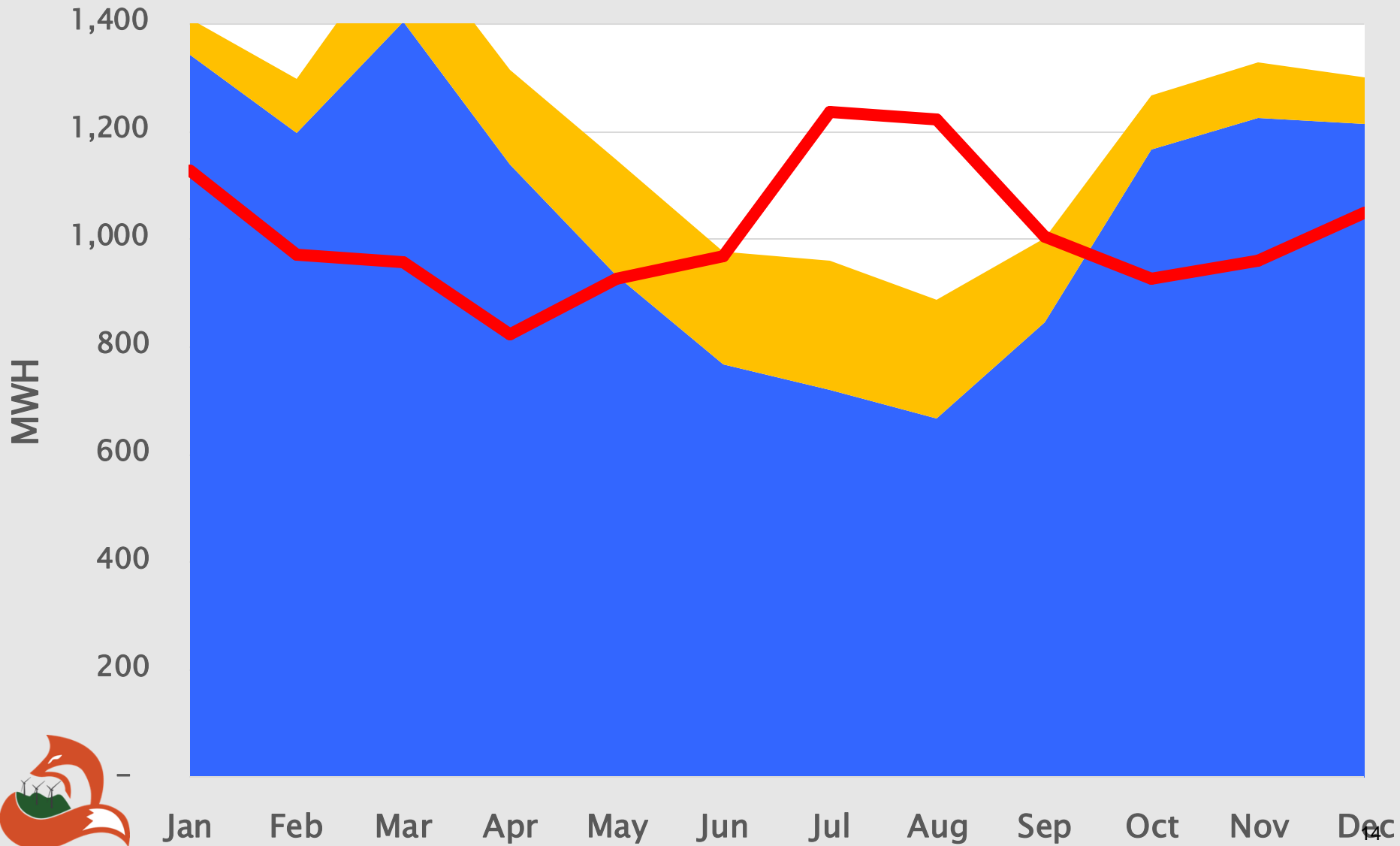
# Financial Considerations – Landfill PV

## Monthly MWH Landfill Generation



# FIW/FIEC Projected Demand vs Supply

Projected Demand (2034) vs Repowered Wind + Landfill Solar



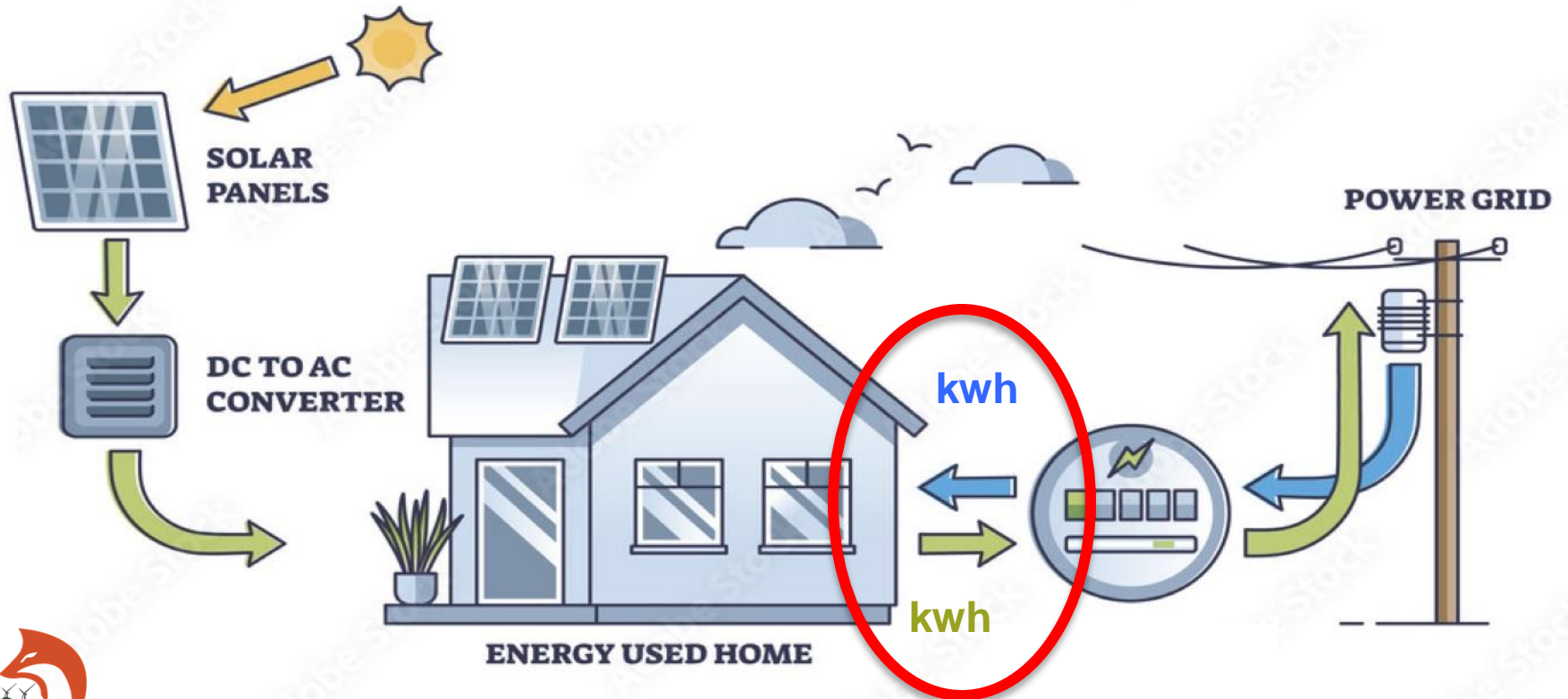


# Net Energy Billing

- Why can't we provide energy to the entire system with rooftop solar?
- Why is FIEC for renewable energy but against NEB?



# Net energy metering (NEM)



# Net Metering Effects – Rooftop PV

- Homeowner receives kWh credits at a fixed price all day long
- But Peak vs Off-peak price differences are not recognized
  - *FIEC loses money selling solar power when ISO-NE prices are low mid-day*
  - *FIEC loses money delivering power when ISO-NE prices are high at peak*
- If the customer's net credit “zeroes out” their bill, they are not paying anything toward the FIEC system upkeep or staffing, although they benefit from that system when they need power
- Non-solar-owning customers must make up the difference

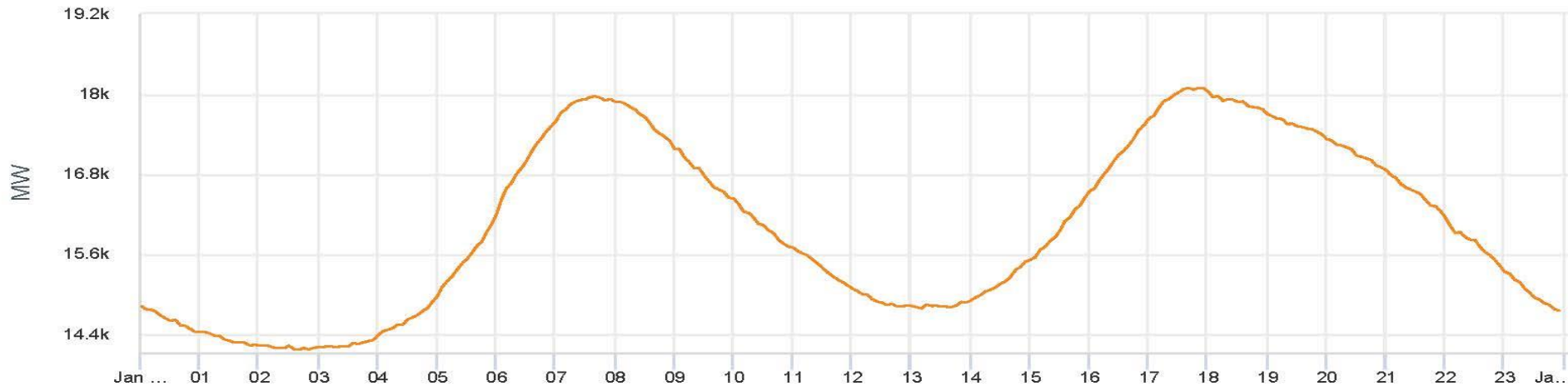




# The Cost of Market Power is Variable

System Load Graph

Date: 01/24/2025



\$130.50 - \$150.46/MWh between 10:00 a.m. and 2:00 p.m. (FIEC receives power worth \$0.13/kWh - \$0.15/kWh)

\$198.13 - \$268.51/MWh during peak hours (FIEC delivers power worth \$0.20/kWh - \$0.27/kWh)

**FIEC lost \$0.07/kWh - \$0.12/kWh on January 24, 2025**

**Losses are paid by other FIEC customers, increasing their power costs.**



# Bill Comparison

## Residential v. Residential Net-Metered

### Residential Customer

Customer Charge           \$ 15.00

kWh Use               500 kWh

Delivery Charge           \$ 68.54

Transmission             \$ 3.67

LIAP                     \$ 1.83

Energy Conservation     \$ 1.73

Energy Charge           \$134.26

Total Bill:               \$225.03

### Residential Net-Metered Customer

Customer Charge           \$15.00

kWh Use               500 kWh

kWh Generated 500 kWh

Delivery Charge           \$ 0.00

Transmission             \$ 0.00

LIAP                     \$ 0.00

Energy Conservation     \$ 0.00

Energy Charge           \$ 0.00

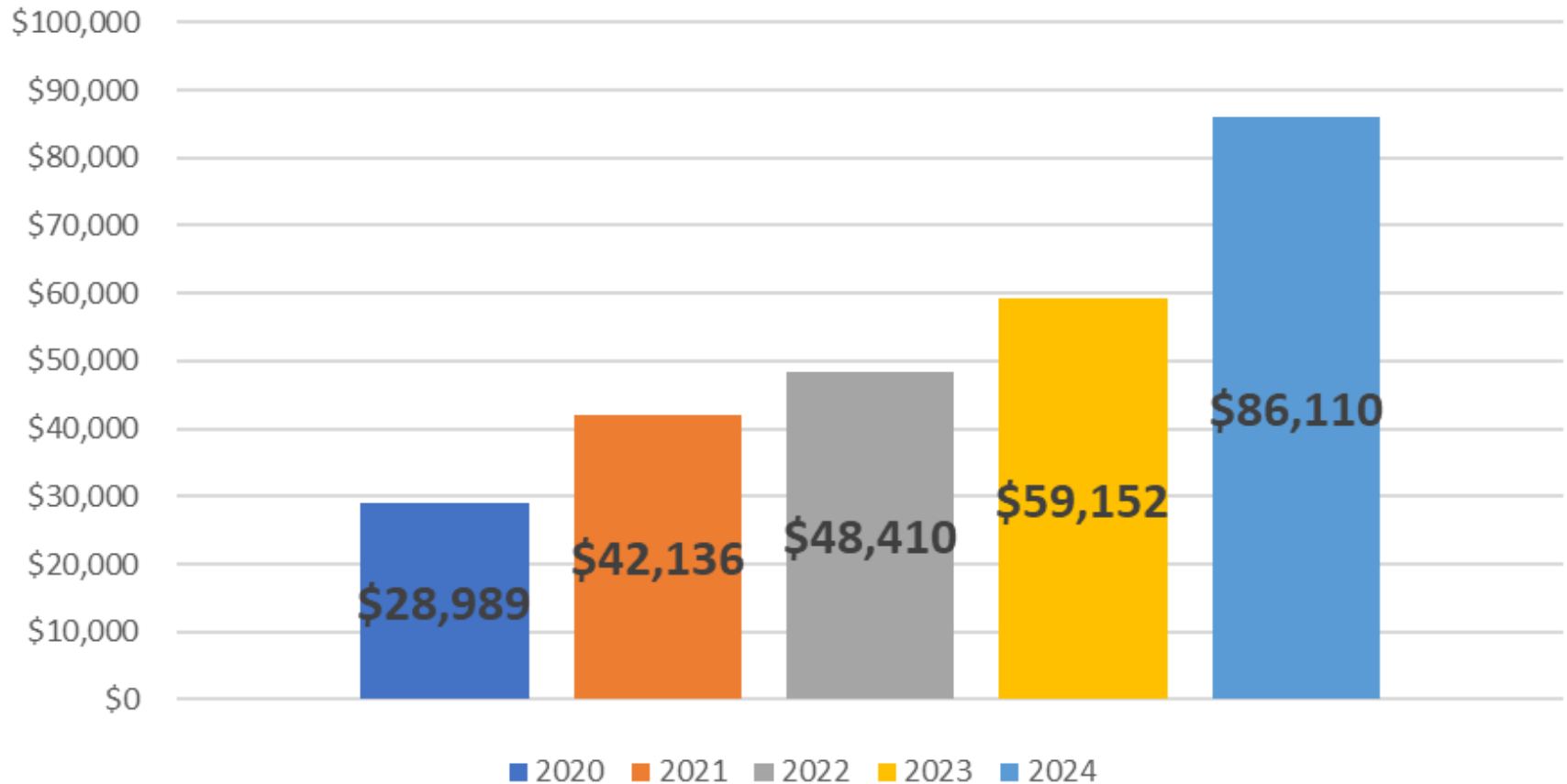
Total Bill:               \$ 15.00

**NM Customer passes up to \$59.03 in energy costs to other customers. FIEC does not recoup \$75.77 of its cost to serve the NEB customer, which leads to a rate increase.**



# Net energy metering (NEM)

Costs of NEB Shifted to Non-NEB Customers



Cost = Delivery + Energy Difference + Transmission + Forfeited Energy Credits (LIAP Funding)

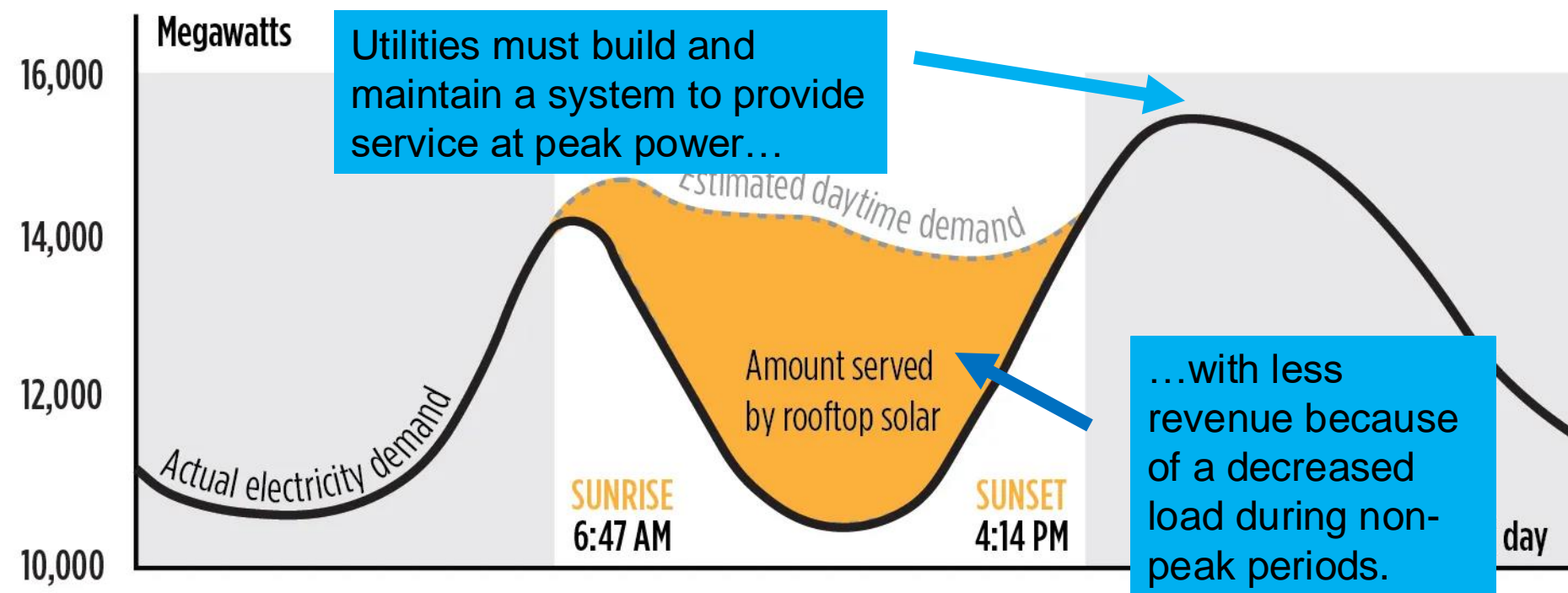




Solar power is cutting daytime electricity demand on New England's grid by Stephen Singer, Portland Press Herald, January 3, 2025.

## How rooftop solar reduces demand on New England's electric grid

Demand on the grid was lower during the day than overnight for more than 100 days in 2024. That means rooftop solar panels supplied most of the power needed in the region. Here's what electricity demand looked like on one of those days, Nov. 25.



SOURCE: ISO-New England

STAFF GRAPHIC | JAKE LAWS

# FIEC Proposed Rate Increase

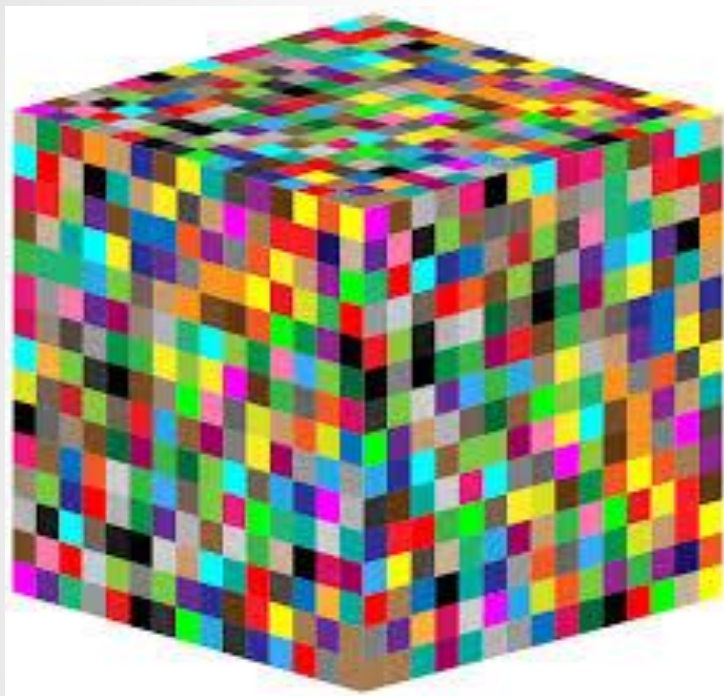
FIEC proposes to increase the Monthly Minimum Charge as follows:

<u>Service Rate Class</u>	<u>Current Minimum Charge</u>	<u>New Minimum Charge</u>
Residential	\$15.00	\$19.50
Residential Peak Period	\$40.00	\$49.50
Commercial	\$30.00	\$38.50
Large Commercial	\$150.00	\$164.50
Small Power	\$30.00	\$38.50

FIEC proposes to add a new Capacity Charge as follows:

<u>Rate Class</u>	<u>On-Peak Capacity Charge</u> <u>(June – September)</u>	<u>Off-Peak Capacity Charge</u> <u>(October – May)</u>
Residential	\$3.96/kWh	\$2.72/kWh
Residential Peak Period	\$3.96/kWh	\$2.72/kWh
Commercial	\$1.15/kWh	\$1.02/kWh
Large Commercial	\$0.55/kWh	\$0.42/kWh
Small Power	\$1.15/kWh	\$1.02/kWh

# What is Your Share of Capacity?



FIEC delivers 2.5 MW of energy during its peak load.

Typically, between 5:00-8:00 p.m.

← This cube represents a summer peak load charged \$6,000 under the Capacity Charge.

Each customer's share of the load has a value of \$3.96/kWh.

Together, all FIEC's customers pay the cost of the system's fixed costs.





# Additional Information and Resources

- [www.FoxIslandsWind.com](http://www.FoxIslandsWind.com)
- [www.FoxIslands.net](http://www.FoxIslands.net)
- Facebook @FoxIslandsWind @FoxIslandsElectricCooperative
- Email: CustomerService@FoxIslands.net
- February 10, 2025, at 6:00 p.m. Rate Increase Public Meeting  
Union Church, 25 East Main St., Vinalhaven, ME 04863  
Zoom ID: 843 5717 6342 Passcode: 344891
- Look for notices of our 2025 community meetings and customer/member vote!

