**STATE OF RHODE ISLAND**
**PUBLIC UTILITIES COMMISSION**

| | | |
|---|---|---|
| **IN RE: BLOCK ISLAND UTILITY DISTRICT** | **:** | |
| **ANNUAL RECALCULATION – LAST RESORT** | **:** | **DOCKET NO. 23-43-EL** |
| **SERVICE AND TRANSMISSION CHARGES** | **:** | |

**BLOCK ISLAND UTILITY DISTRICT'S RESPONSES TO**
**PUBLIC UTILITIES COMMISSION'S RECORD REQUESTS**
*(Issued December 15, 2023)*

RR-1: Please provide the April 2023 Minutes referenced by Mr. Wright, or the ones that include Mr. Kieny's presentation to the Board that included discussion of RECs.

***Response:***

See Attachment JMW-9.

Prepared by: Jeffery Wright

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*(Issued December 15, 2023)*

RR-2: For each unit-specific contract, please advise whether BIUD is receiving the certificates. If BIUD is not receiving certificates related to NYPA power, please advise where they are going. With respect to the certificates which BIUD is receiving, please advise if they are transferred manually or by automated process.

***Response:***

New York Power Authority ("NYPA")
Transferred from NYPA to Massachusetts Municipal Wholesale Electric Company ("MMWEC") and then MMWEC transfers to BIUD

FirstLight's Cabot and Turners
Transferred by FirstLight directly to BIUD

Gravel Pit Solar III – (expected operations late 2024)
Will be transferred automatically from Gravel Pit Solar to BIUD

Prepared by: Jeffery Wright with assistance from Energy New England

# Block Island Utility District
# Meeting of the Board of Commissioners
# Thursday, March 23, 2023 @4:00pm

In attendance: Board of Directors: Barbara MacMullan, Mary Jane Balser, Eliot Taubman, John Warfel, Tom Risom.

Jeffery Wright, Tracy Fredericks, Tom Durden, Evan Carey, Craig Kieny of ISO-Analysis, Inc.

Barbara called the meeting to order at 4:10

1. **Public Input**-Jeff Wright, Evan Carey and Tom Risom all reported on the NRECA conference in Nashville.
   Evan thanked the board for allowing him to attend the NRECA conference in Nashville. Evan stated that it was a great experience and to see how other Coops work. Highlights were networking, the programs, and the keynote speakers.
   Tom reported that he had a great time and really learned a lot about EV chargers and how they are using them, and the considerations each COOP has.

2. **Board of Commissioners Working Session- Power Supply and Transmission Strategic Planning with Craig Kieny of ISO-Analysis, Inc.**

   Craig Kieny presented to the Board of Directors. An in-depth discussion was had regarding power supply strategy and BIUD's current portfolio. The power point presentation is on file and posted to our website.

   Barbara MacMullan made a motion to adjourn the meeting, the motion was seconded by Eliot, the motion passed unanimously. The meeting adjourned at 6:58pm.

Minutes Approved on May 25, 2023

# Power Supply Discussion

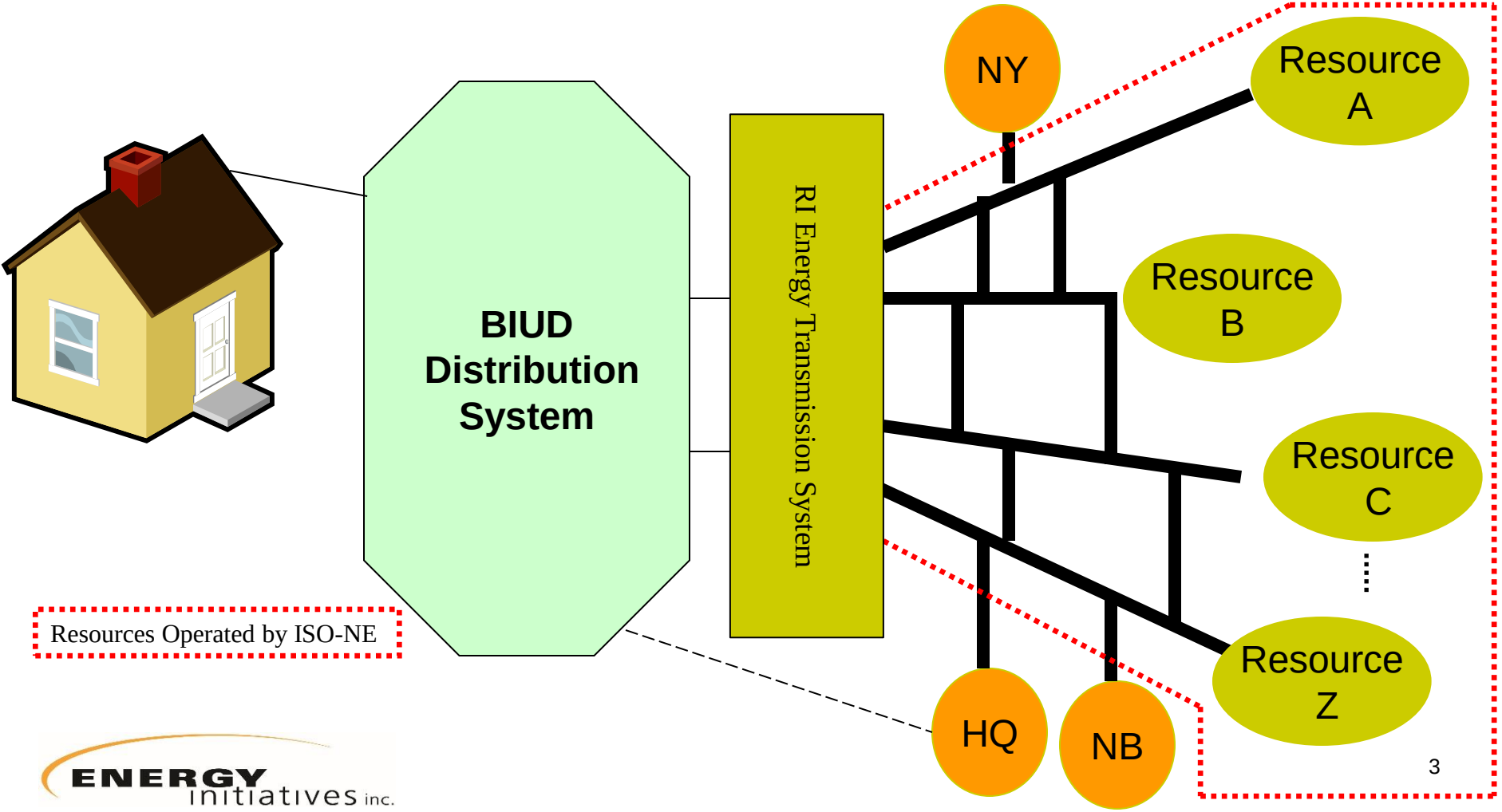
Block Island Utility District

March 23, 2023

# Topics To Be Covered

- ISO New England (ISO-NE or ISO) Functions
- Energy Market Hedging
  - Recommendation – The Board consider establishing a hedging schedule with Min/Max hedging levels at different intervals
- Renewable Energy Strategies
  - Recommendation – The Board consider whether or not it wants to establish a self-imposed renewable or carbon-free energy standard.

# Resources Operated by ISO New England



# ISO Services

1. Maintain regional transmission system integrity
   - i. Monitor loads
   - ii. Dispatch generators and Price Response customers
   - iii. Import/export with neighboring ISOs
   - iv. Maintain proper reserve and regulation levels

   **Real-Time**

   - v. Transmission upgrades
   - vi. Load and generation forecasts
   - vii. Generator interconnection studies

   **Long-Term**

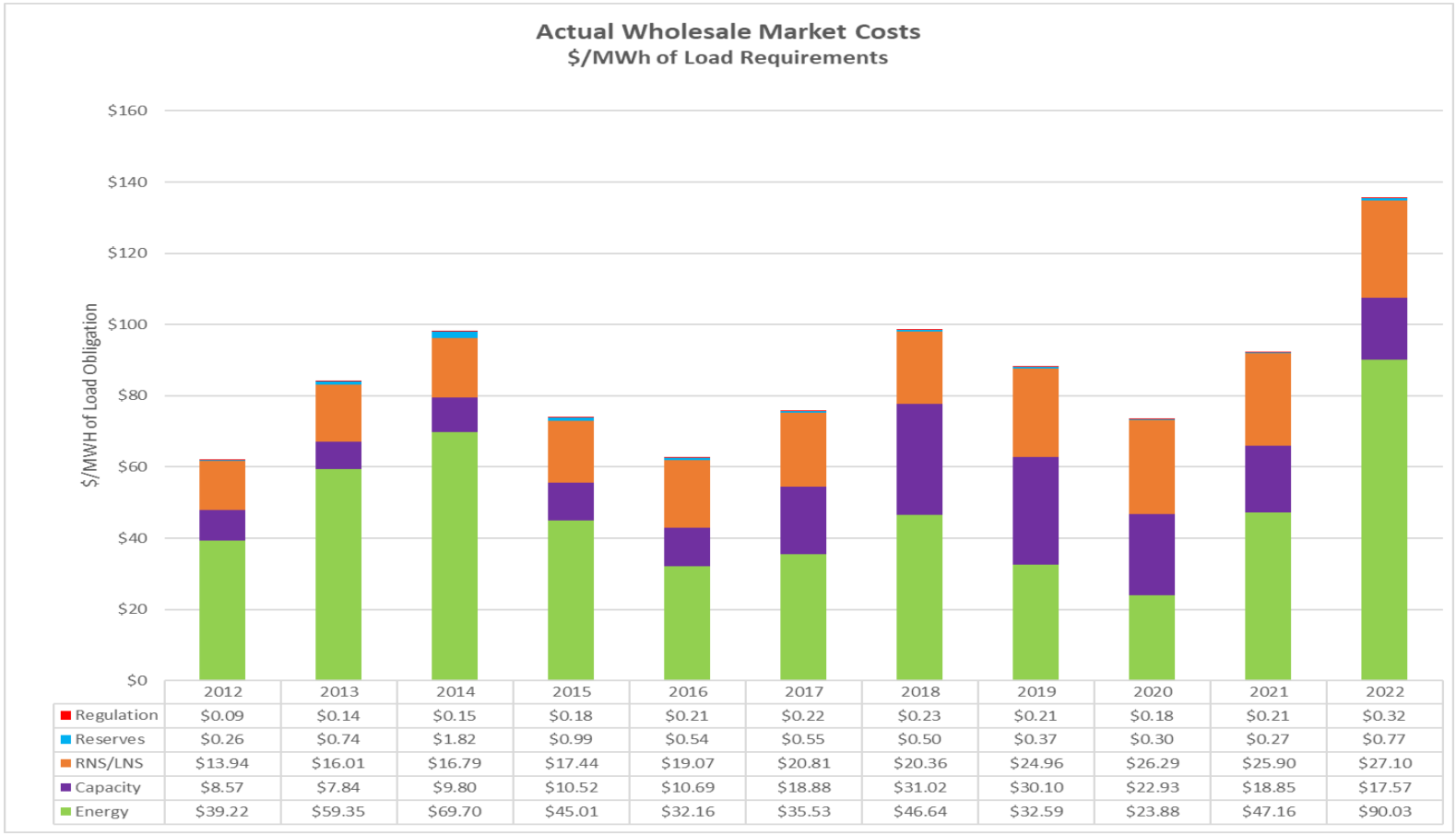
# ISO Services (continued)

2. Operate trading markets to promote wholesale competition

- **Energy** – compensates generators for producing electricity and charges load for use of electricity.
- **Capacity** – ensures sufficient generating capacity in NE to meet projected peak plus a reserve margin.
- **Regulation** – compensate generators who back down their generating units slightly to allow for instantaneous changes in load.
- **Reserves** – compensate generators for providing stand-by service that can be brought on line in 10 or 30 minutes in the event of a unit outage.

3. Administer Billing for Regional Transmission Service

# Cost Comparison of ISO Markets



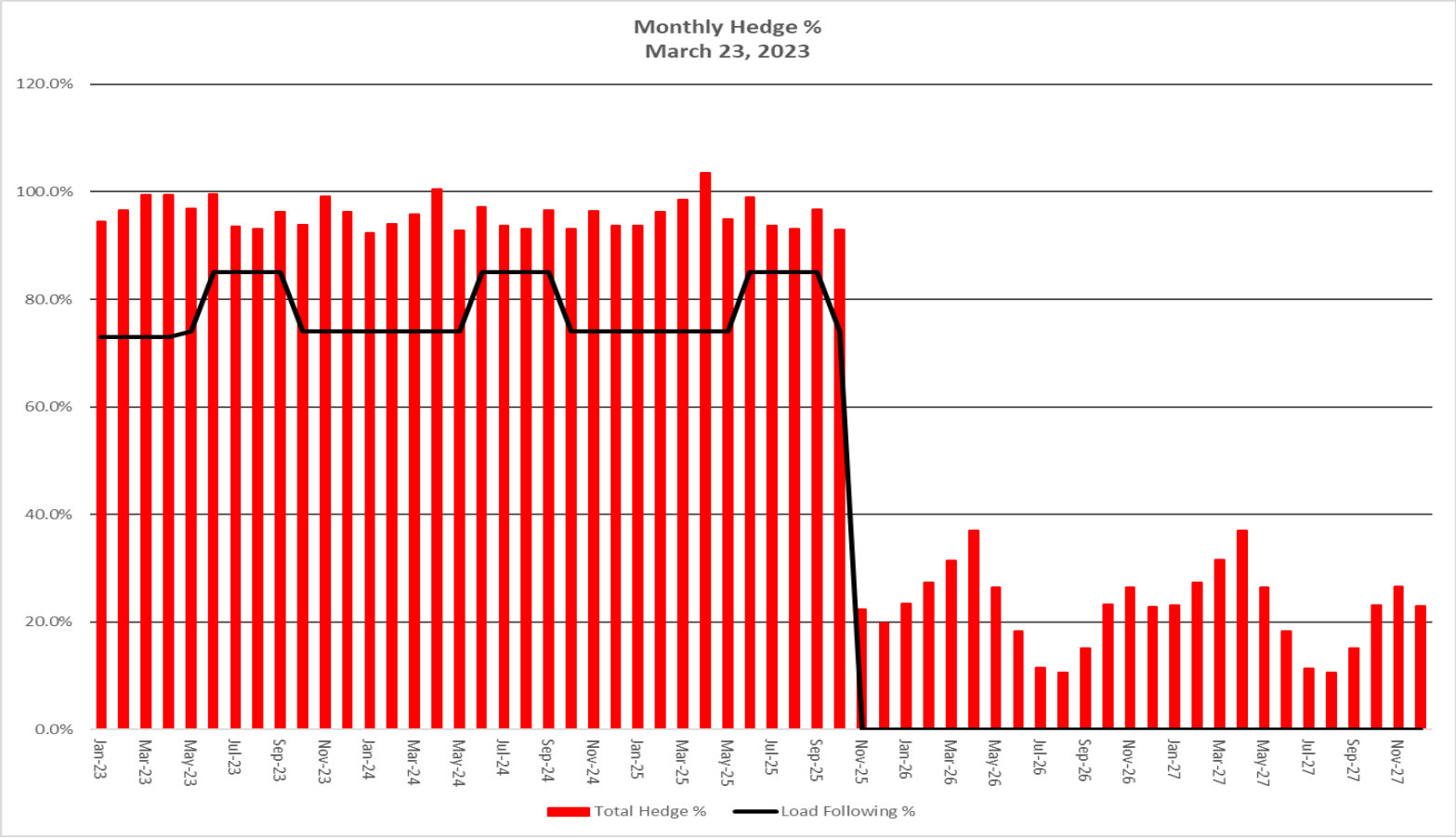

| | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Regulation | $0.09 | $0.14 | $0.15 | $0.18 | $0.21 | $0.22 | $0.23 | $0.21 | $0.18 | $0.21 | $0.32 |
| Reserves | $0.26 | $0.74 | $1.82 | $0.99 | $0.54 | $0.55 | $0.50 | $0.37 | $0.30 | $0.27 | $0.77 |
| RNS/LNS | $13.94 | $16.01 | $16.79 | $17.44 | $19.07 | $20.81 | $20.36 | $24.96 | $26.29 | $25.90 | $27.10 |
| Capacity | $8.57 | $7.84 | $9.80 | $10.52 | $10.69 | $18.88 | $31.02 | $30.10 | $22.93 | $18.85 | $17.57 |
| Energy | $39.22 | $59.35 | $69.70 | $45.01 | $32.16 | $35.53 | $46.64 | $32.59 | $23.88 | $47.16 | $90.03 |

ENERGY initiatives inc.

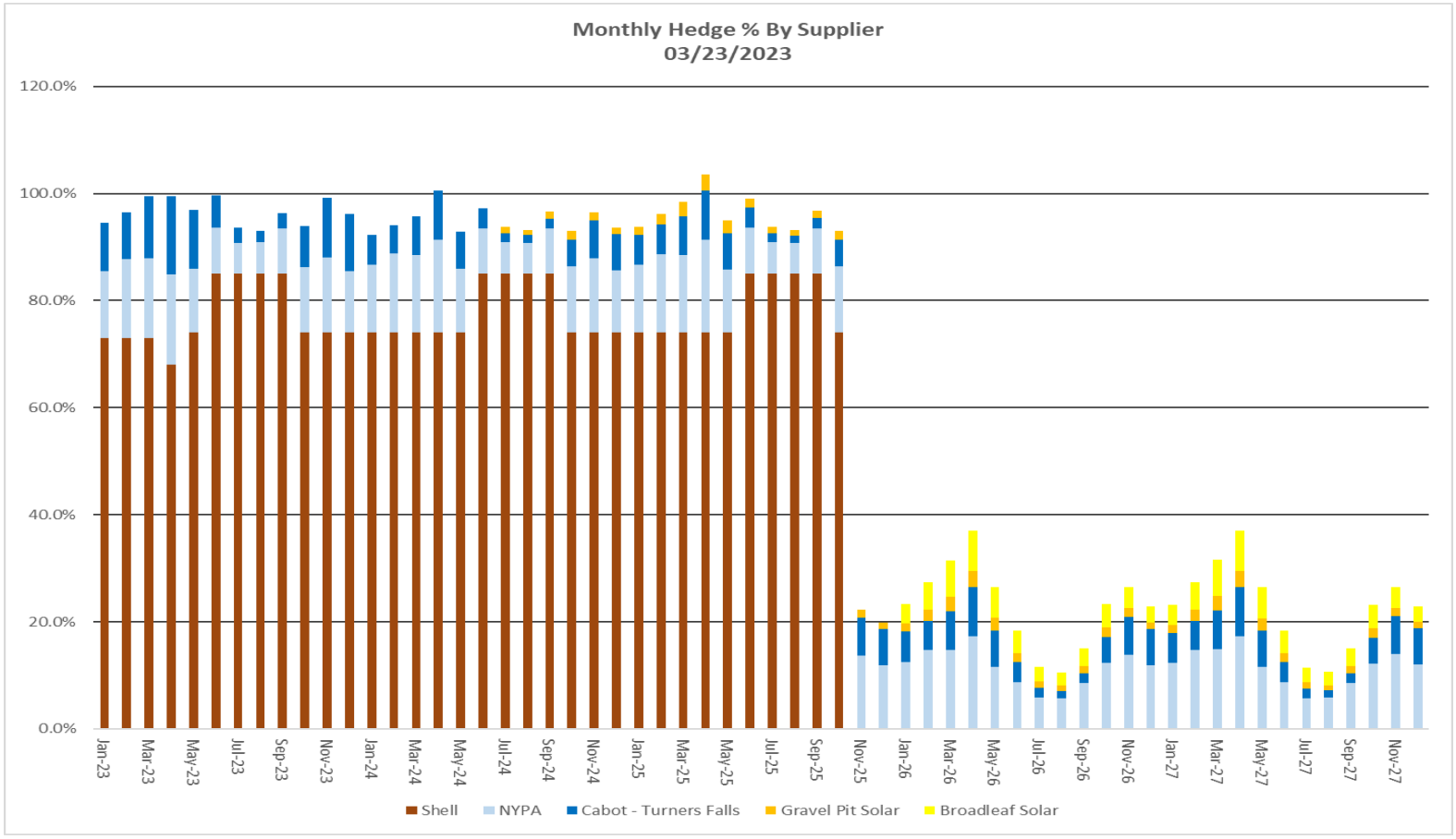
# Spot Market Energy - Drivers

- Spot Market Natural Gas Prices
  - Weather
- Oil and LNG are factors in the winter
- Outages of Large Units
- Transmission outages
- Geo-political

# BIUD Hedge % 2023-2027

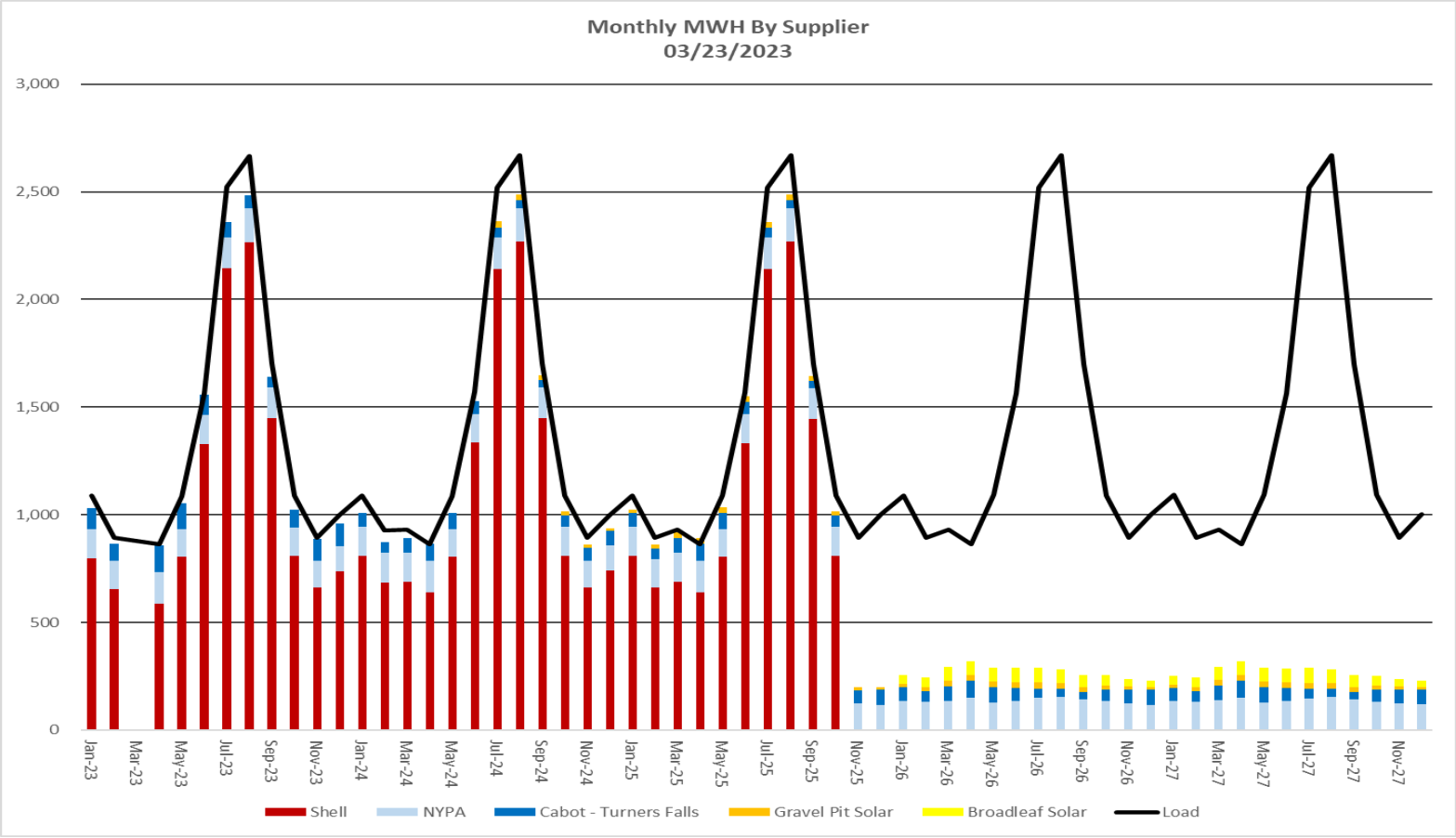


# BIUD Hedge % by Supplier 2023-2027

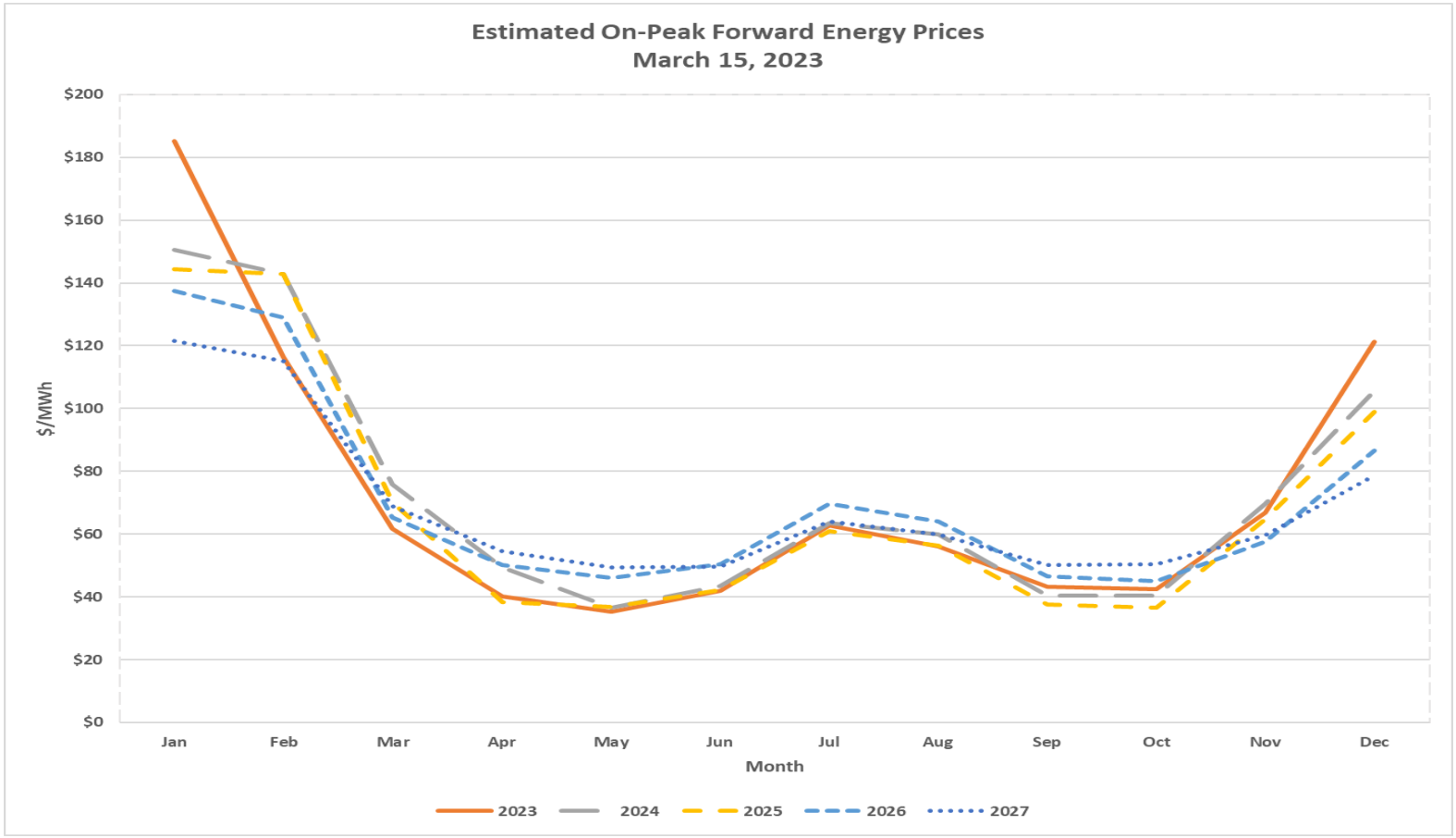



ENERGY initiatives inc.

# BIUD MWh by Supplier 2023-2027



# Forward Market Prices for On-Peak Energy



# Forward Market Prices - 2026 On-Peak Energy

# Common Hedging Instruments or Products

- Firm Strips of Power
  - On-Peak, Off-Peak, Around the Clock Structures
  - Easily entered
  - Buyer is guaranteed delivery in every hour Buyer is guaranteed delivery in every hour
  - Load risk is on Buyer
- Unit Contingent – (Cabot, Turner Falls, Broadleaf)
  - Only get energy when resource produces
  - Resource risk is on Buyer
  - Load risk is on Buyer
  - Priced at a discount to Firm strips of power
- Load Following – (Shell)
  - Supplier agrees to provide energy at a certain % of buyer's load
  - Resource risk is on Supplier
  - Load risk is on Supplier

# Purposes of Hedging

- Price certainty
- Price stability
- Eliminate potential for highest cost
- A price you can live with

Note: The purpose of Hedging is not to get the lowest cost.

# Factors That Can Lead to Failure

- Under-procure, purchase at price above budget
- Over-procure, sell at a price below budget
- Unit not available when costs are high
- Spikes in Load when spot market prices > Marginal Revenue

# What Can the Board Do?

- Provide Guidance on How Much to be Hedge by When

- Things to Consider
  - Minimum and Maximum Hedge %
  - Procurement Schedule
  - How much to procure from any one supplier at time
  - Fuel types to consider

| | | Year 0 | | Year 1 | | Year 2 | | Year 3 | | Year …. | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| Year 0 | Q1 | | | | | | | | | | |
| | Q2 | | | | | | | | | | |
| | Q3 | | | | | | | | | | |
| | Q4 | | | | | | | | | | |

# What do we mean by 100% Carbon Free and 100% Renewable?

- **Generally Accepted Definition** – Load Serving Entity purchases RECs (for Renewable Resources) and/or Environmental Attributes (for Nuclear) equal to total amount of energy requirements on an **annual** or **monthly** basis.
  - Not necessarily 100% Carbon Free or Renewable on an hourly basis
  - Not necessarily purchasing energy from Carbon Free or Renewable Resources.

- **Alternative #1** – Load Serving Entity purchases energy and RECs equal to total amount of energy requirements on an **annual** basis or **monthly** basis.
  - Not 100% Carbon Free or Renewable on an hourly basis
  - Some hours short energy and buying off spot market, some hours excess renewable energy and selling on spot market.
  - Can sell valuable RECs and purchasing cheap RECs is allowed.

- **Alternative #2** –purchase energy and associated RECs and/or Environmental Attributes (for Nuclear) from Carbon Free or Renewable resources equal to its load on an **Hourly** basis.
  - Extremely difficult to do, but it will be necessary once all utilities need to be 100%.

# RI Renewable Energy Standard

| Year | New | Existing | Total |
|---|---|---|---|
| 2020+ | 14% | 2% | 16% |

Existing Requirement can be filled by New Resources.

**DEFINITIONS**

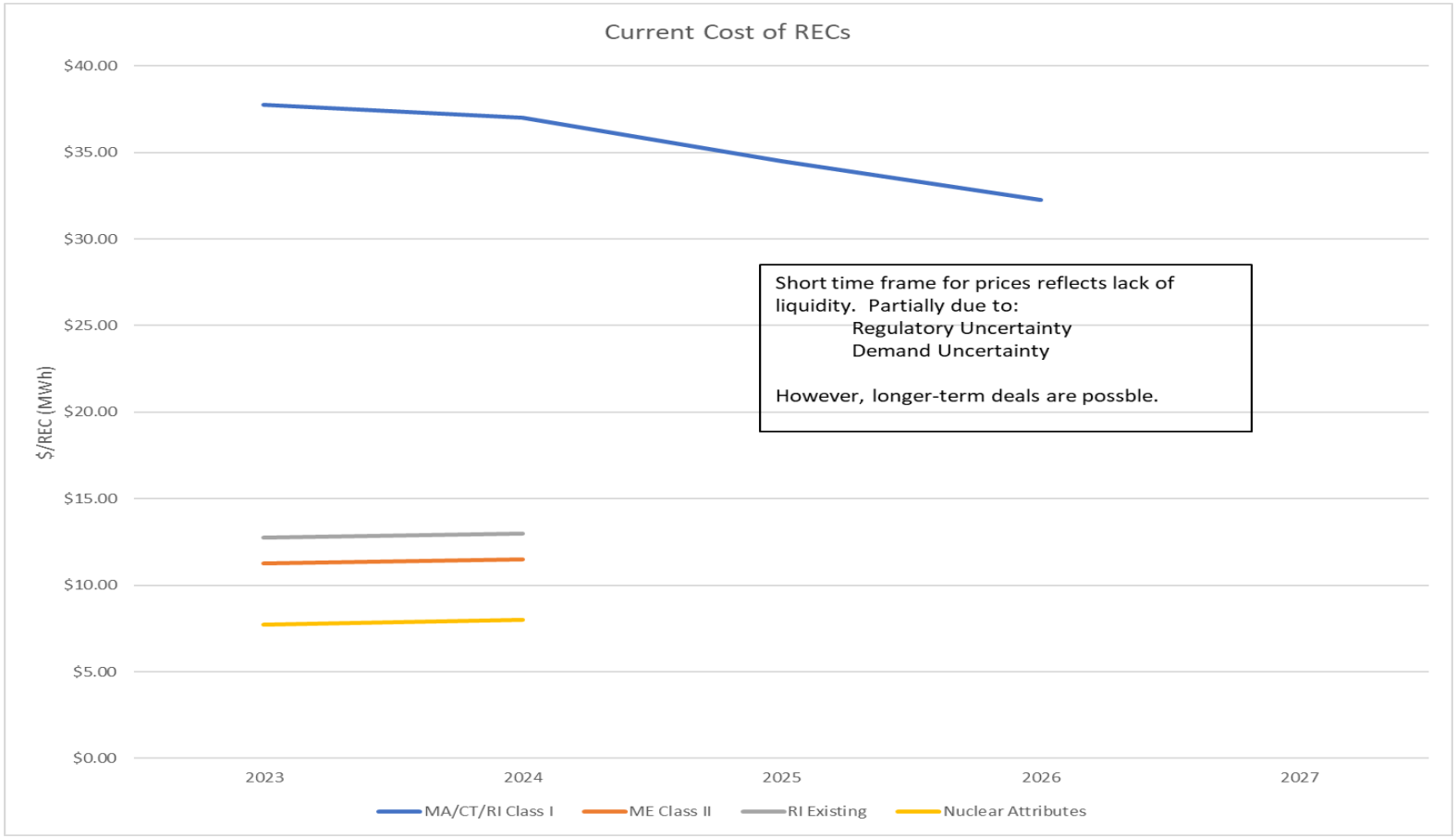
- New – On-line after December 31, 1997
- Existing – On-line prior to January 1, 1998

**ELIGIBLE RESOURCES**

- Wind
- Solar
- Small Hydro
- Geothermal
- Some Biomass

Resources in Control Areas adjacent to New England are eligible with unit-specific contracts and proof energy was delivered into NE.

# Costs of Environmental Attributes



# Cost to Meet RI Renewable Energy Standard

| Year | Class I | Existing | Total $ | Cents/kWh of Total Load |
|---|---|---|---|---|
| 2023 | $86,173 | $9,752 | $95,926 | 0.629 |
| 2024 | $80,678 | $5,180 | $85,858 | 0.562 |
| 2025 | $70,436 | $4,879 | $75,315 | 0.494 |
| 2026 | $48,688 | $5,102 | $53,790 | 0.353 |
| 2027 | $45,882 | $5,357 | $51,239 | 0.336 |

# What Can the Board Do?

- Consider whether or not you want to establish Renewable or Carbon Free requirements
- Determine how you want to measure
  - Annual
  - Monthly
  - Hourly
- Determine how much of your portfolio to be Renewable
- Determine what Resources you want to support
  - Existing
  - New
  - Sources