Webinar: NH Energy Policy 101

Sustainable Hanover | Thursday, July 16, 10:30am | Henry Herndon, Clean Energy NH

Agenda

1. Who is Clean Energy NH?
2. Understanding Electricity Markets & Costs
3. Net Metering
4. Renewable Portfolio Standard
5. Energy Efficiency & NHSaves
6. Community Power

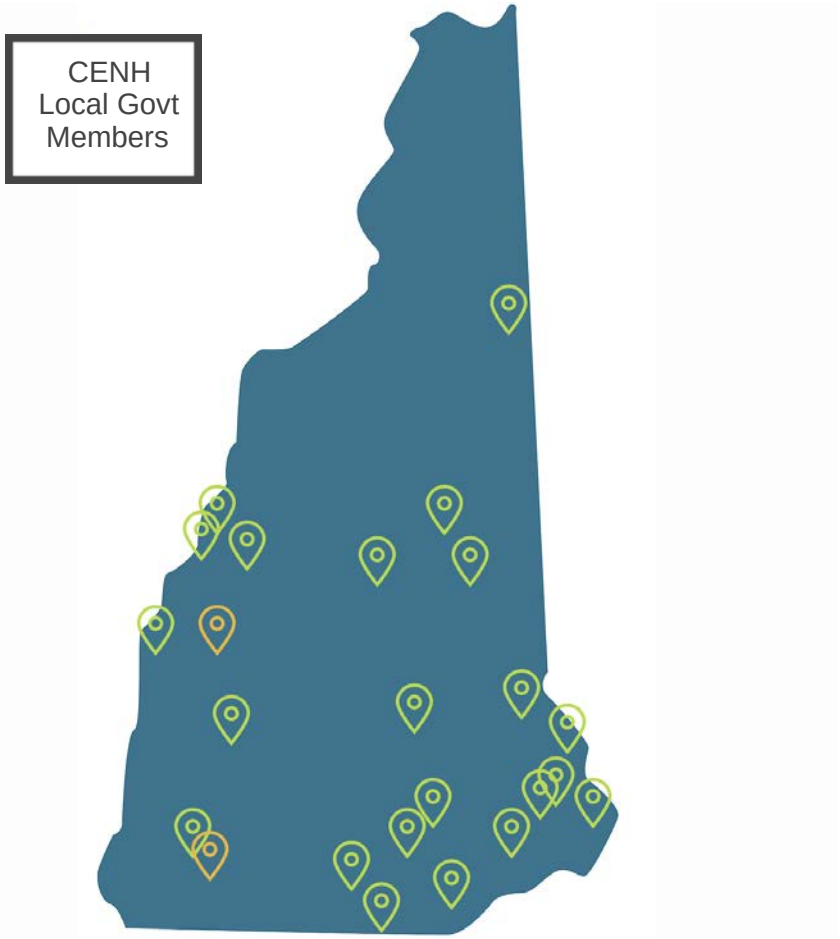
CLEAN ENERGY NH

Your Voice in All Energy Matters

Who is Clean Energy NH?

www.cleanenergynh.org/membership

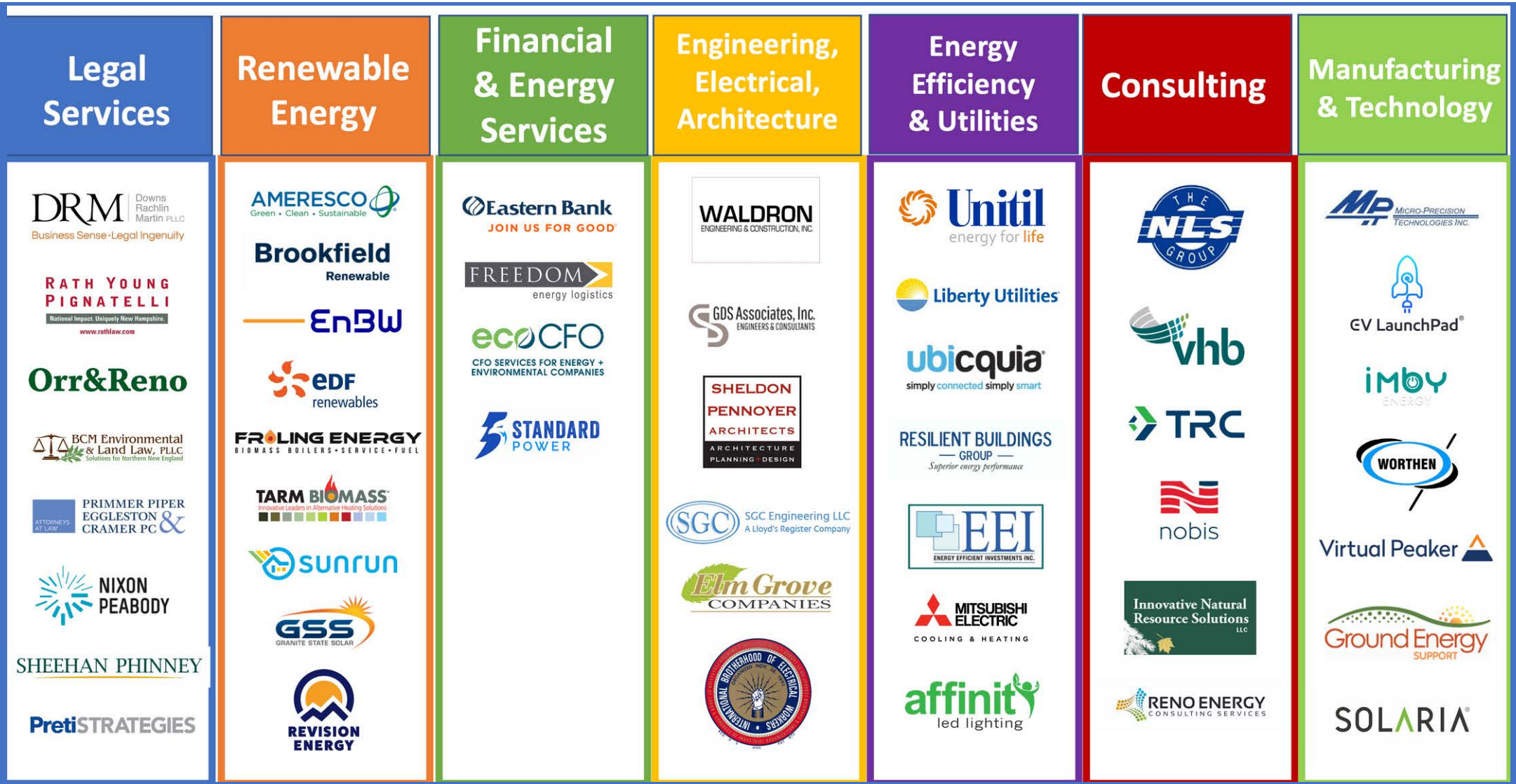
www.cleanenergynh.org/policy



- 501(c)(3) Nonprofit
- Membership-based
  - +130 Business Members
  - +300 Individual Members
  - 24 Local Govt Members
- Education Focused
  - Legislative & regulatory policy
  - Market development
  - Technical assistance for community energy projects

OUR MISSION: To promote clean energy and technologies through education and advocacy for a stronger economic future.

Selected Clean Energy NH Business Memb



Section 2

Understanding Electricity Markets &Costs

Understanding Electricity Markets & Cost

Retail electricity **rates** can be as high as $0.18 per kilowatt-hour (kWh), some of the highest in the nation.

SUPPLY (COMPETITIVE MARKET) (~$0.08/KWH)

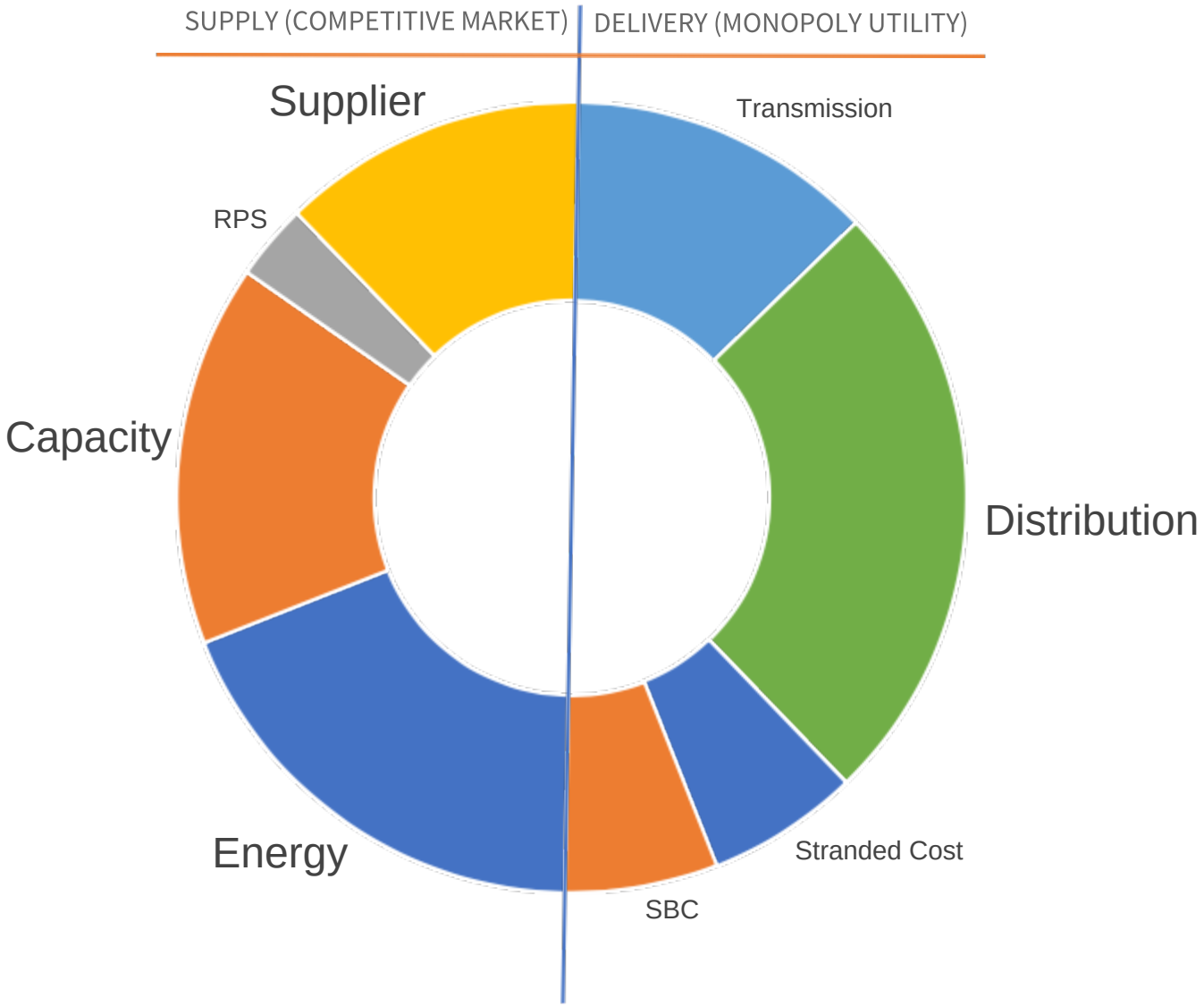
- **Energy costs, avg. $0.033/kWH**
  Fluctuate in real time in ISO New England wholesale markets
- **Capacity cost $0.027/kWh in 2019**
  Fixed annually based on the single hour of annual peak load
- **Renewable Portfolio Standard ~$0.007/kWh**
  Cost of compliance with state renewable energy policy targets
- **Energy Suppliers~$0.01-$0.02/kWh**
  Intermediaries between wholesale markets and customers
  Can be thought of as insurance / risk management

DELIVERY (UTILITY MONOPOLY) (~$0.08/KWH)

- **Transmission ~$0.017/kWh**
  Based on monthly peak loads; fastest growing bucket of costs
- **Distribution ~$0.04/kWh**
  Your local utility; prices set by the Public Utilities Commission
- **Stranded Costs ~$0.01/kWh**
  Bad investments socialized across all rate payers
- **System Benefits Charge ~$0.007/kWh**
  Funding for NHSaves energy efficiency programs

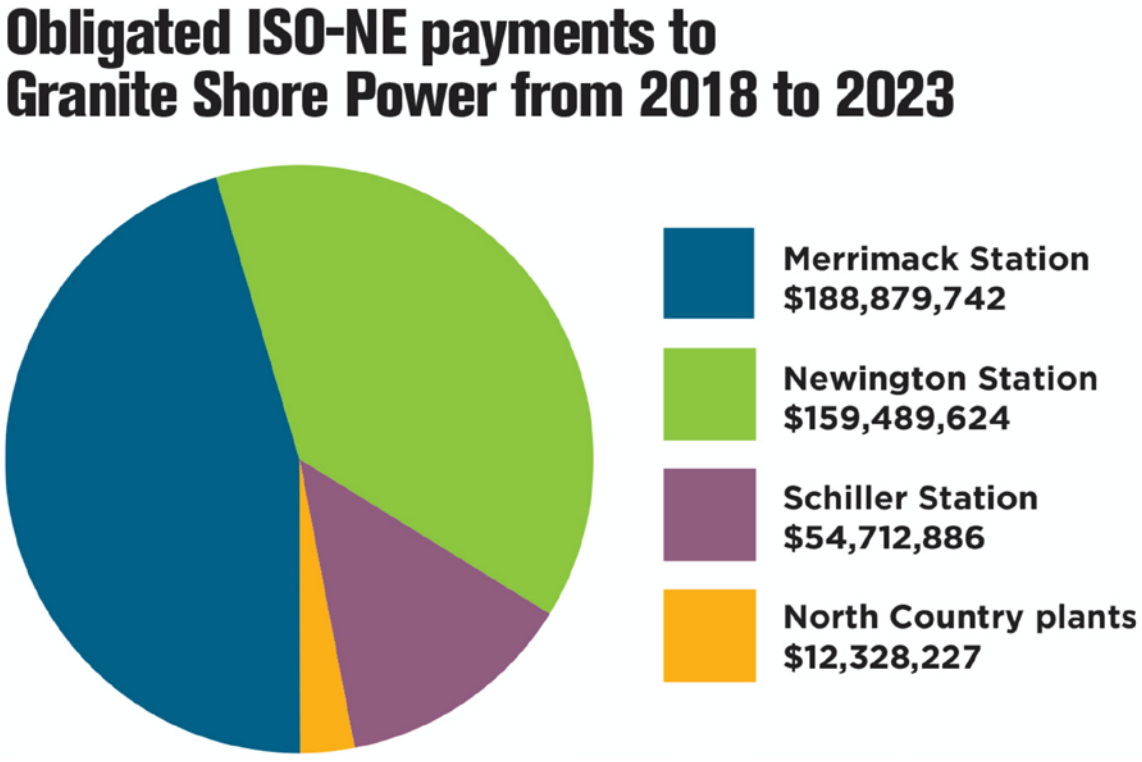
While NH has high rates, **bills** are on par with the rest of the nation

Understanding Electricity Markets & Cost

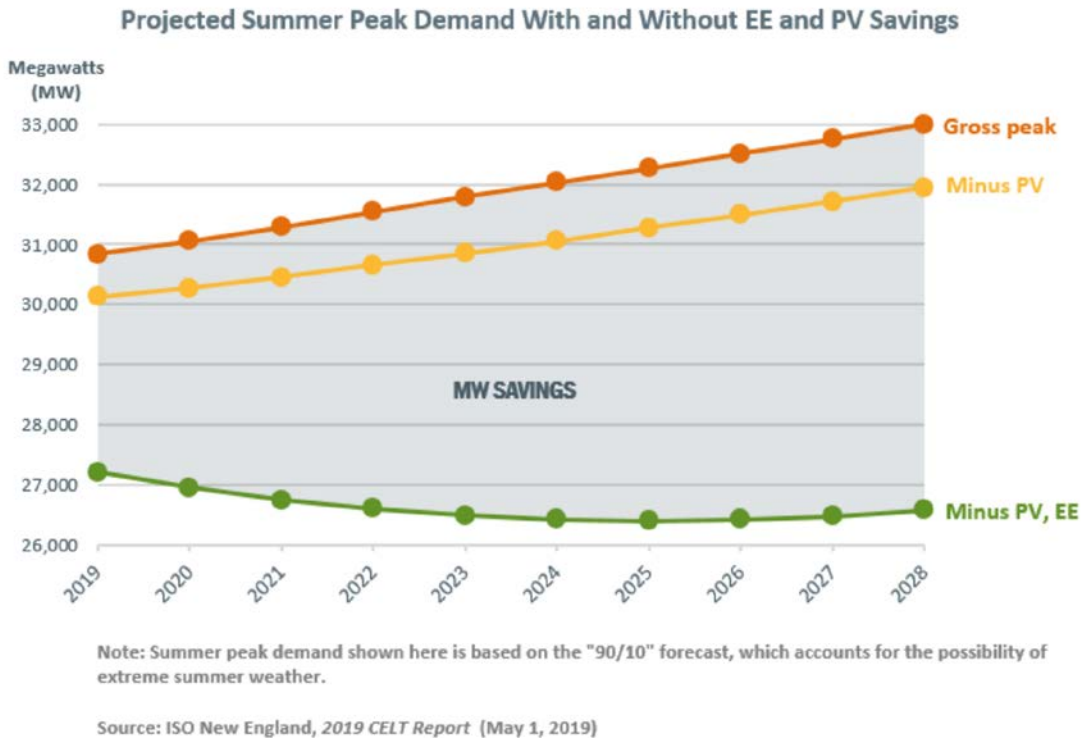


Capacity Markets Subsidize Centralized Power Pla

Merrimack Coal Station receives $20-$50 million in capacity payments annually, despite rarely generating power



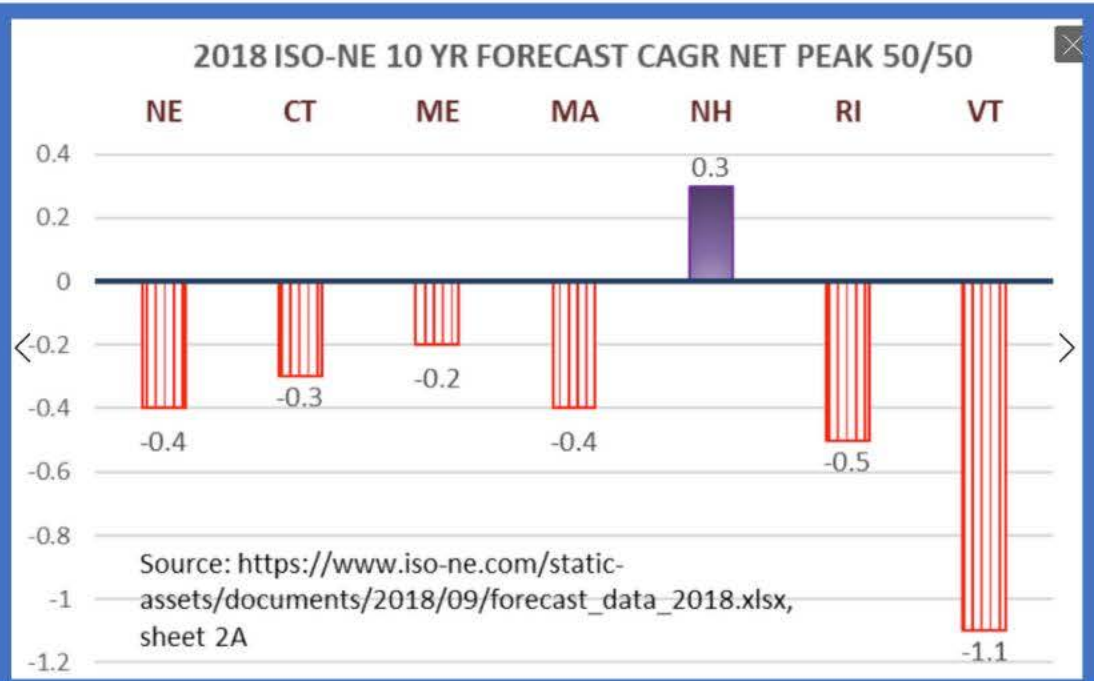
Source: NH Biz Review. 8/16/19. Sanders, B. "How long will NH continue to have fossil fuel generators?" https://www.nhbr.com/how-long-will-new-hampshire-continue-to-have-fossil-fuel-generators/



Energy efficiency and solar reduce capacity costs

NH Has a **Transmission** Cost Problem

NH Transmission costs are growing while all other New England state's are declining



Monthly peak loads drive Transmission costs

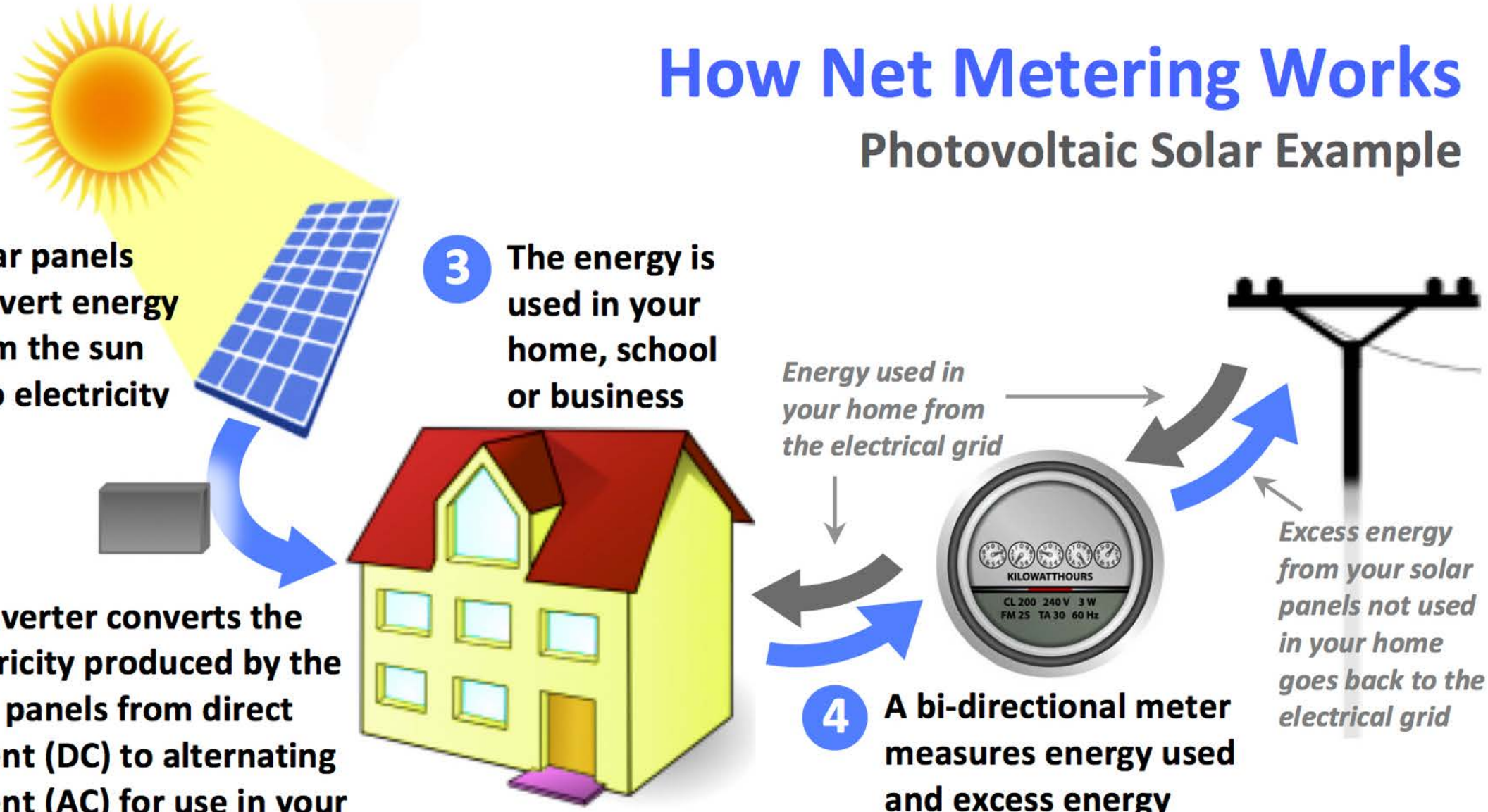
Efficiency, distributed solar, batteries, price signals, and other NH-based technologies can lower monthly peaks

Section 3

Net Metering

How Net Metering Works

Photovoltaic Solar Example



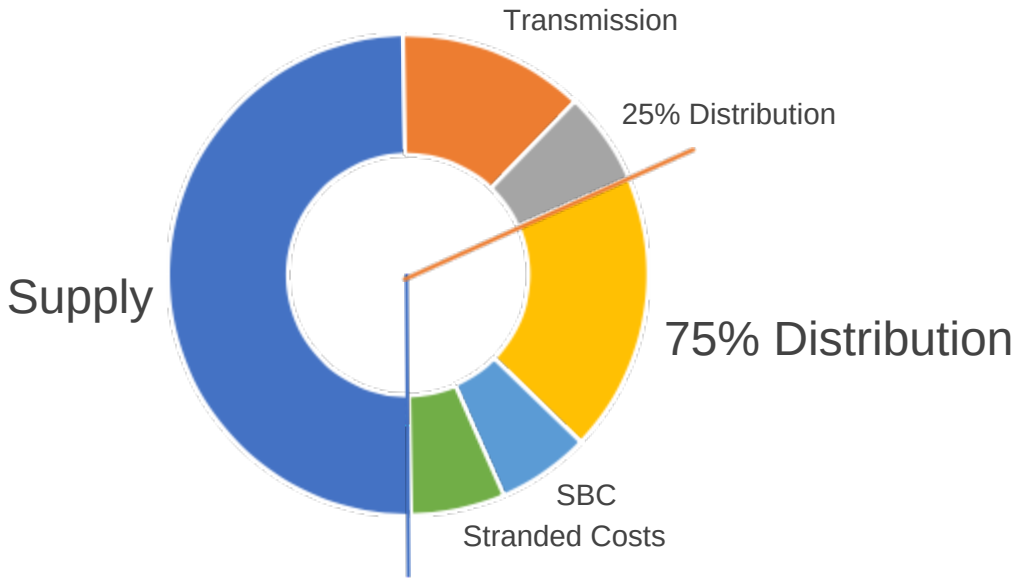
Net Metering

Large Net Metering generators (>100 kilowatts [kW]) are credited for Electricity Supply, but not for Delivery.

Small Net Metering generators (<100 kW) are credited for Supply, Transmission, and 25% of Distribution.

Large Net Metering Generators > 100 kW

Small Net Metering Generators < 100kW



Renewable energy generators up to 1 megawatt (MW), or 1,000 kW can participate in Net Metering.

Section 4

Renewable Portfolio Standard

NH's RPS is Lacks Ambitio

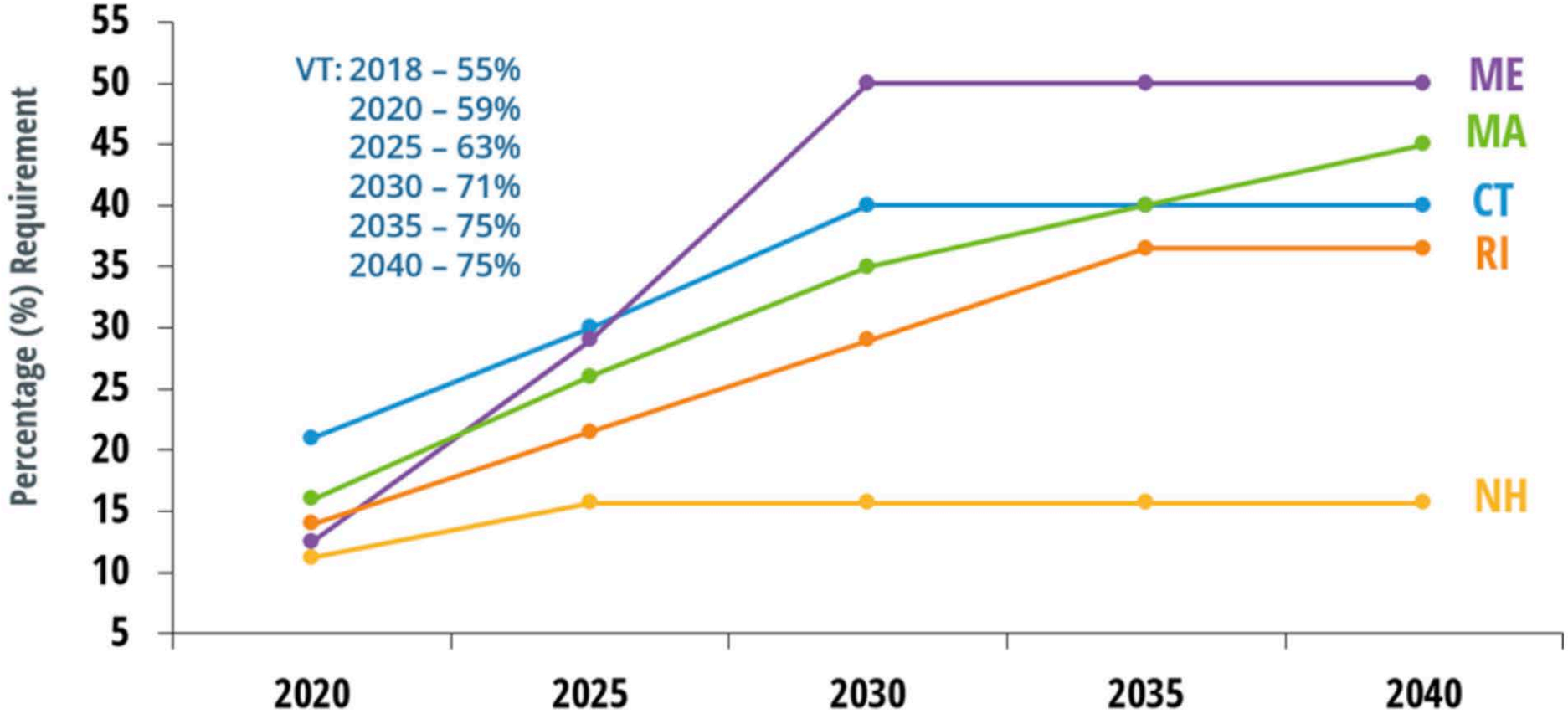
State law requires energy providers to purchase or acquire Renewable Energy Certificates (**RECs**)

	Total	Class I (New Renewables)	Class II (Solar)	Class III (Existing Biomass/Methane)	Class IV(Existing Hydro)
2020	21%	11%	>1%	8%	1.5%
2021	22%	11%	>1%	8%	1.5%
2022	23%	12%	>1%	8%	1.5%
2023	23%	13%	>1%	8%	1.5%
2024	24%	14%	>1%	8%	1.5%
2025	25%	15%	>1%	8%	1.5%

Energy providers may also pay Alternative Compliance Payments (**ACPs**), which fund rebates, grants, and incentives through the Renewable Energy Fund

https://www.puc.nh.gov/sustainable%20energy/renewableenergyfund.html

State Renewable Portfolio Standard (RPS)



Notes: State RPS requirements promote the development of renewable energy resources by requiring electricity providers (electric distribution companies and competitive suppliers) to serve a minimum percentage of their retail load using renewable energy. Connecticut's Class I RPS requirement plateaus at 40% in 2030. Maine's Class I/IA RPS requirement increases to 50% in 2030 and remains at that level each year thereafter. Massachusetts' Class I RPS requirement increases by 2% each year between 2020 and 2030, reverting back to 1% each year thereafter, with no stated expiration date. New Hampshire's percentages include the requirements for both Class I and Class II resources (Class II resources are new solar technologies beginning operation after January 1, 2006). New Hampshire's Class I and Class II RPS requirements plateau at 15.7% in 2025. Rhode Island's requirement for 'new' renewable energy plateaus at 36.5% in 2035. Vermont's 'total renewable energy' requirement plateaus at 75% in 2032; it recognizes all forms of new and existing renewable energy and is unique in classifying large-scale hydropower as renewable.

Source: ISO New England

Renewable Portfolio Standard Takeaway

RPS costs ~$0.007/kWh of the total retail rate of $0.18/kWh

- Solar penetration in New Hampshire currently exceeds the 2025 RPS goal of 0.7%
- Every $1 expended by the Renewable Energy Fund stimulates $6 of private investment in renewable energy
- More ambitious and realistic RPS goals in other states attract solar developers and investment
- The Renewable Energy Fund is strapped for cash; a more realistic goal for Class II Solar would bolster funding and stimulate investment

New Hampshire-based energy resources like solar, storage, hydro, etc. can reduce capacity costs, transmission costs, and other drivers of increasing electricity costs

Section 5

Energy Efficiency &NHSaves

Energy Efficiency & NHSaves

System Benefits Charge of ~$0.007/kWh generates revenue to invest in building upgrades and energy efficiency

- **$65.7 Million:** 2020 NHSaves Electric Budget
- **$11.1 Million:** 2020 NHSaves Gas Budget
- www.nhsaves.org

NHSaves energy efficiency investments are cost-effective and help keep electricity rates low

Section 6

Community Power Aggregation

Community Power Aggregations Control Supp

CPAs bulk purchase Supply on behalf of all participating residents and businesses within a city, town, or county

CPAs can provide other energy services (renewables, distributed energy, transportation electrification, etc.)

Watch Community Power Webinar Here
https://www.youtube.com/watch?v=p-ilv_Fo_38&feature=youtu.be

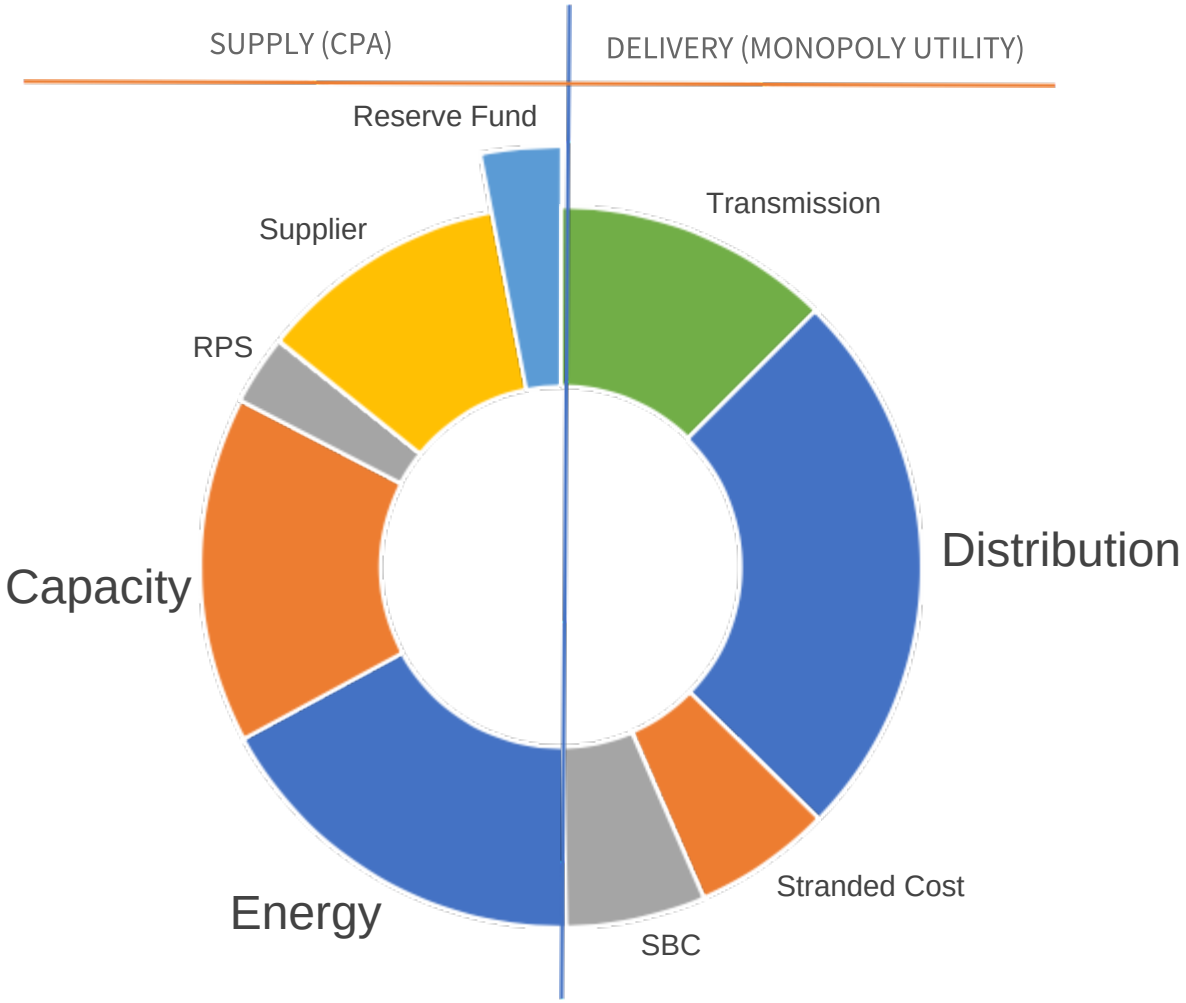
- CPAs buy **Energy Supply**
  Energy, Capacity, RPS, Supplier
- Monopoly Utilities **Deliver** Power
  Transmission, Distribution, Stranded Cost, SBC

More Information at
www.communitypowernh.org

CPAs democratize energy markets to the community level

Community Power Aggregations Buy Supply

CPAs broker for Supply on behalf of all residents and businesses in a city, town, or county



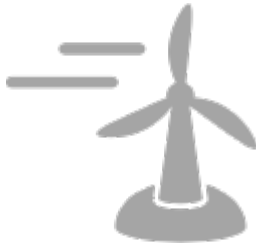
Benefits of Community Power Aggregation

Local Control

Democratizing energy procurement to the community level

Lower Costs

MA, NY, CA and other markets have demonstrated lower rates than regulated utilities



Renewables

Build & Buy Clean Energy

Energy Independence & Market Innovation

New Technologies

Market Competition

Price Signals

Customer Empowerment

Community Power New Hampshire (CPNH

CPNH is forming as a Joint Powers Authority to enable widespread CPA implementation in New Hampshire

- Cities, towns, counties are working together to establish **Community Power New Hampshire (CPNH)**
- Public Power membership organization
- Ensures local control, democratic oversight, ongoing community engagement
- Shared expert services, economies of scale, no duplicative overhead

CLEAN ENERGY NH

Your Voice in All Energy Matters

Questions & Discussion

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