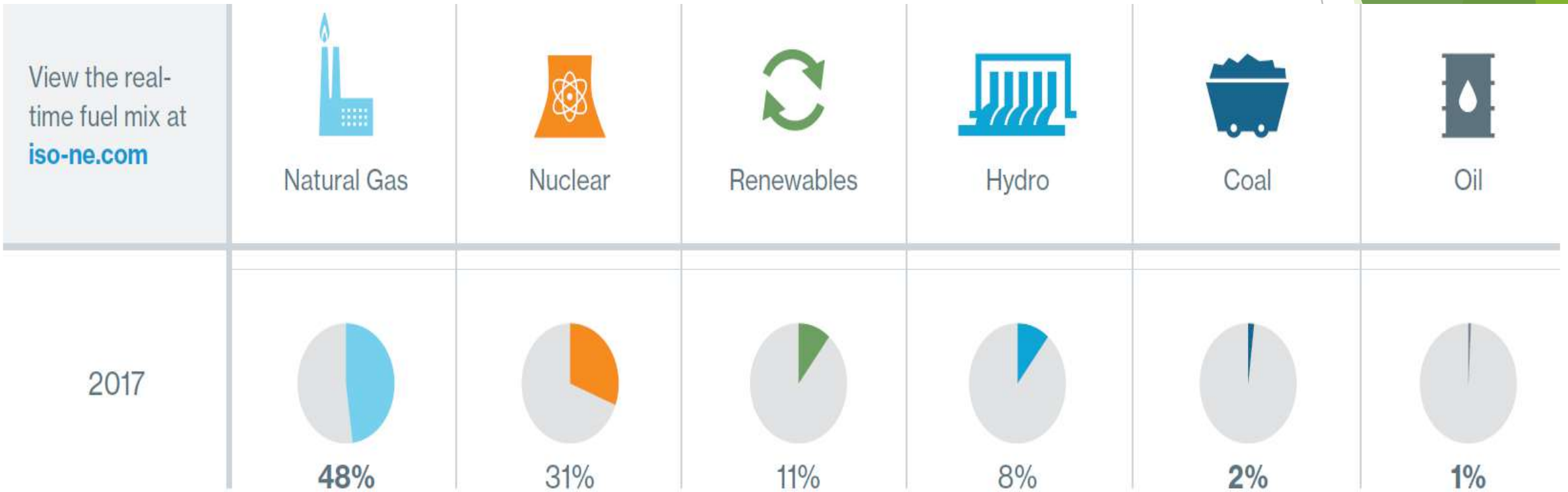
Renewable Energy Vermont

ISO-NE: Regional Electricity Sources

View the real-time fuel mix at **iso-ne.com**



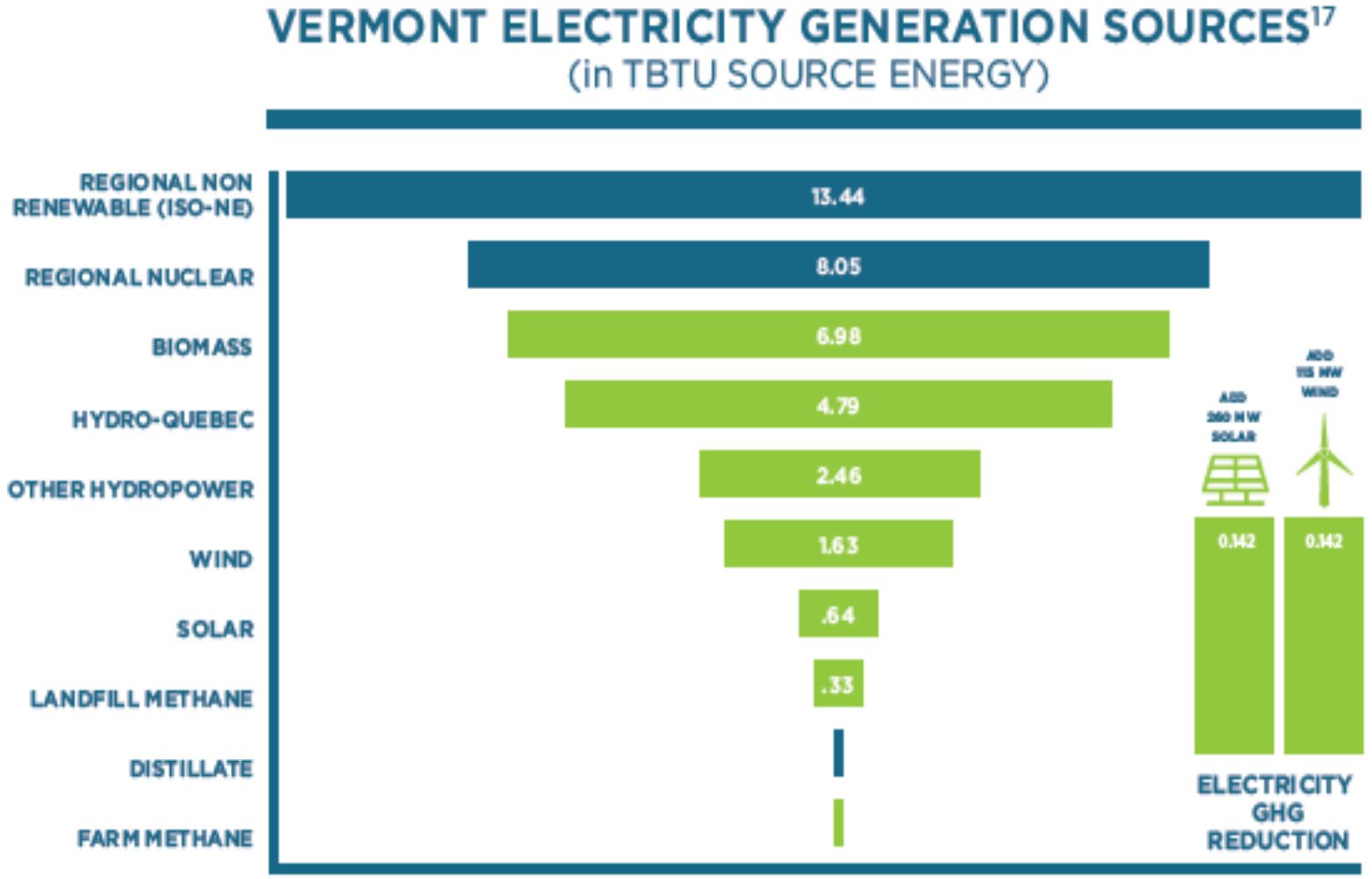
Source: ISO-NE New England Power Grid 2017-2018 Profile

Vermont's solar and wind generation only represent 12% of our total electric generation. The bulk of our electricity still comes from non-renewable imports (39%) and hydroelectric (34%).

The highest impact electricity drivers over the next 8 years would be:

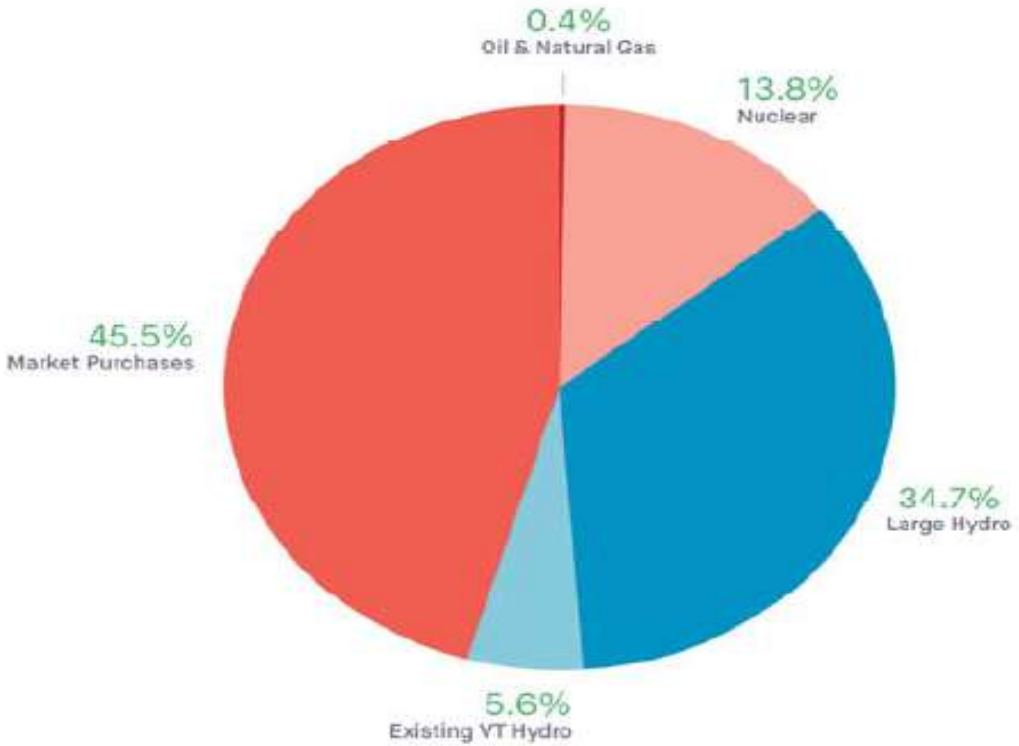
- **Solar:** Add 260MW to the current 299MW
- **Wind:** Add 115MW to the current 241MW

Vermont imports over 60% of its electricity from New England and Quebec. Only about 14% of ISO-NE electricity is renewable.



Source energy accounts for efficiency and transmission losses that occur when converting non-renewable fuel sources (primarily fossil fuels) into electricity and bringing it to Vermont. When calculating source energy, our electricity is only around **43% renewable**.

FOSSIL FUELS MAKE UP A LARGE PORTION OF VERMONTS ELECTRICITY SUPPLY

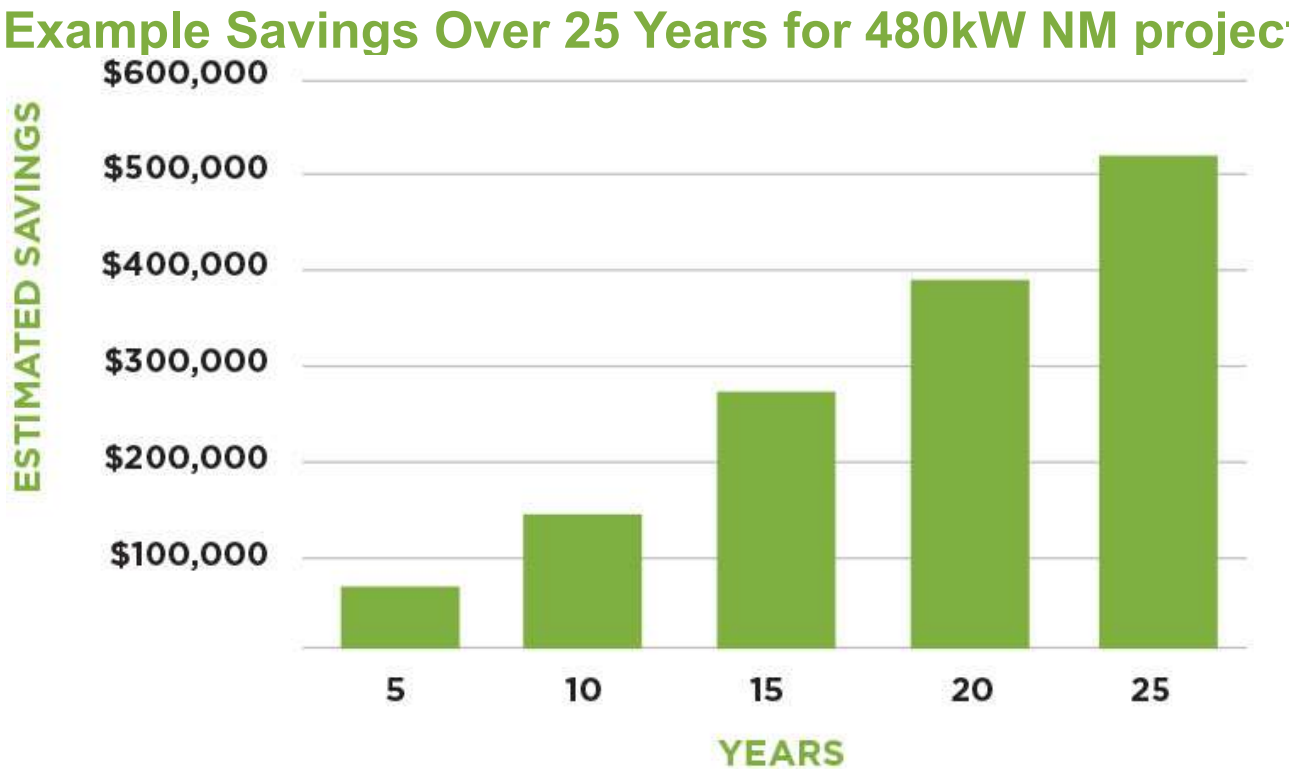


- **34.7%** Large Hydro
- **45.5%** Market Purchases
- **13.8%** Nuclear
- **5.6%** Existing VT Hydro
- **0.4%** Oil & Natural Gas

Source: GMP FY2016 Sources after Renewable Energy Credit Sales https://greenmountainpower.com/2016/12/01/fuel-mix/

Mechanisms for Municipal Solar

- **Net Metering**
- **Solar Services Agreement** (SSA), also known as a Power Purchase Agreement, allows municipalities to benefit from **federal and state tax incentives**. In an SSA, a third party owns the arrays (and utilizes the tax incentives) and "sells" the solar power back to the Municipality's meters at a predetermined discount.



Net Metering 3.0

- Compensation based on whichever is lower, the utility's blended residential rate or the statewide average blended residential rate ($0.15417/kWh)
- Four categories of Net Metering systems, plus hydro
  - Category I: 15 kW and under = +1 cent/kWh siting adjustor for 10 years
  - Category II: 15-150 kW on preferred sites = +1 cent/kWh siting adjustor for 10 years
  - Category III: 150-500 kW on preferred sites = - 2 cent/kWh siting adjustor for lifetime
  - Category IV: 15-150 kW not on preferred sites = - 3 cent/kWh siting adjustor for lifetime
- 150-500 kW projects allowed only on "preferred locations"
- REC adjustors:
  - +2 cents/kWh credit for ten years if RECs go to utility
    - drops to +1 cent/kWh for CPGs filed after July 1, 2019
  - -3 cents/kWh (debit) for the life of the system if RECs are held by the generator
- May not use net metering credits toward non-bypassable charges:
  - Customer Charge
  - Energy Efficiency Charge
  - Energy Assistance Program Charge
  - On-bill financing
- Biannual proceeding to revisit adjustors, category definitions, and levels of compensation
  - Changes to be informed by the pace of development of different types of NM

“Preferred Project Locations”

- On a pre-existing structure
- Parking lot canopies over permitted paved areas
- Previously developed land
- Brownfields
- Landfills
- Gravel pits
- Town-designated sites
- Superfund sites
- On the same parcel as an customer taking 50% or more of the output

Challenges & Opportunities Ahead

- Increasing participation & access to renewable energy solutions by low & moderate income neighbors
- Ensuring local energy plans catalyze TOTAL renewable energy deployment
  - All technologies: Solar, Wind, Local Small Hydro, Automated Wood Heating, Electric Vehicles, Heat Pumps
  - Flexibility to encourage community solar
- Maintaining Sustainable Net Metering Opportunities
  - Community Solar
  - Schools & Towns = capped at not more than 500 kW
- Solar + Storage

Resources & Action

Vermont Renewable Energy Business Listing

Show 10 entries Search:

Business Name	Technology Type	Type of Installer	County, State	REV Member	Former "Partnership Program Participant"*	Number of years in Business	Number of systems installed	Amount of MW, kW, BTU's Installed	Business Structure (LLC, S-Corp etc.)	Credentials
Acorn Renewable Energy	Solar PV	Community	Addison, VT	Yes	No	8	2	300 kW	Co-Op	
AllEarth Renewables	Solar PV	Commercial	Chittenden, VT	Yes	Yes (Full PV)	5+	3,800+	22,800 kW	S-Corp	
Building Energy	Solar PV, Solar Hot Water	Commercial, Residential	Chittenden, VT	Yes	Yes (Full PV, Full SHW)	9	200 (PV), 60 (SHW)	1.6 MW (PV), 227 kW (SHW)	S-Corp	Solar Certified Engineer
Bourne's Energy	Wood Pellet Boilers	Commercial, Residential	Washington, VT	Yes	No					
Catamount Solar	Solar PV	Commercial, Residential	Orange, VT	Yes	Yes (Full PV)	5	400		LLC	
Cutting Edge Energy	Wood Pellet Boilers	Residential	Caledonia, VT	Yes	No	5	100		LLC	
DC Energy Innovations	Solar PV, Wind	Commercial, Community, Residential,	Chittenden, VT	Yes	Yes (Full PV, Full Wind)	14	70	1.3 MW (PV), 240 kW (Wind)	S-Corp	Master Electrician, NABCEP Certified
Encore Renewable Energy	Solar PV	Commercial	Chittenden, VT	Yes	No	9	40	15 MW	LLC	
Energy Emporium	Solar PV	Commercial, Residential	New Hampshire	Yes	Yes (Full PV)	7	>150	>860kW	LLC	NABCEP
Gary MacArthur Solar	Solar PV	Commercial, Residential	Windham, VT	Yes	Yes (Full PV)	25	100+		Small Business	NABCEP

Previous Next

Find a qualified renewable energy installer

www.revermont.org/vrebl

Get involved in Regional & Town Energy Planning

Join REV

Share your climate actions, learn from others success
www.vtenergydashboard.org

Innovations in Solar

SunCommon's Solar Canopy

- ✓ Enables solar over driveways, parking lots, patios, woodpiles, etc.
- ✓ Generates enough solar for the average Vermont home
- ✓ Glass solar panels absorb light from both the front and back to take advantage of the snow
- ✓ No upfront cost, low-interest financing

Pollinator-Friendly Solar

- ✓ Uses land under solar arrays to plant native plant species
- ✓ Creates habitat for bees, birds & other threatened pollinators
- ✓ Improves storm water management & soil quality
- ✓ Example in VT: South Ridge Solar Field in Middlebury
  - ❖ Collaboration between Middle Road Adventures & "Bee the Change"

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