

Vermont's Current Renewable Electricity Policies & Programs

PUBLIC SERVICE DEPARTMENT

FEBRUARY 14 AND 15, 2023



Welcome!

The **Vermont Public Service Department (Department)** is an agency within the executive branch of Vermont state government.

The Department represents the public interest in matters regarding energy, telecommunications, water and wastewater.



Many staff from the Department are supporting today's webinar:

TJ Poor – Director of Planning

Anne Margolis – Deputy Director of Planning

Claire McIlvennie – Data & Equity Policy Manager

Lou Cecere – Planning Engineer

Adam Jacobs – Utilities Economic Analyst

Chris Heine – Clean Energy Program Specialist

Philip Picotte – Utilities Economic Analyst

Andrew Perchlik - Director, Clean Energy Development Fund

Webinar Logistics

Please remain muted with video off throughout the webinar.

We welcome participants to write questions in the chat box or, if you are unable to do so, raise your hand to ask the question directly.

If you would like to ask your question directly, you can press unmute (if joining via the web) or *6 (if joining by phone).

Closed captioning is available for today's webinar, but please be aware the captions are autogenerated any may not be 100% accurate.



The webinar is being recorded and will be posted on the Department's renewables website after the event, along with copies of the slides: <https://publicservice.vermont.gov/renewables>

Context

This webinar series is part of an effort by the Public Service Department **to review our current state electricity policies and programs**, as recommended by the state Comprehensive Energy Plan and Climate Action Plan.

Throughout the process the Department **wants to hear from people like you** to better understand what Vermonters think is important in our state electricity policies and programs.



There will be a variety of ways to be involved throughout the process, and we hope you'll join us!

Objectives

Today's webinar will answer two core questions:



What are Vermont's current policies and programs to promote the adoption of renewable electricity?



How have these policies and programs impacted the adoption of renewable electricity resources over time?

Tell us about yourself!

UNDERSTANDING WHO IS IN THE AUDIENCE

Tell us about yourself!

One of the goals the Department has for the process to review our renewable electricity programs and policies is to engage with a broader array of Vermonters than we have historically reached with our events.

As part of this effort, we have a few questions here to help us better understand who is in the audience today and the perspectives you're bringing to the table.

Answering these questions in voluntary! Please answer as many or as few as you feel comfortable.

All responses will be anonymous.

We'll use the data collected here:

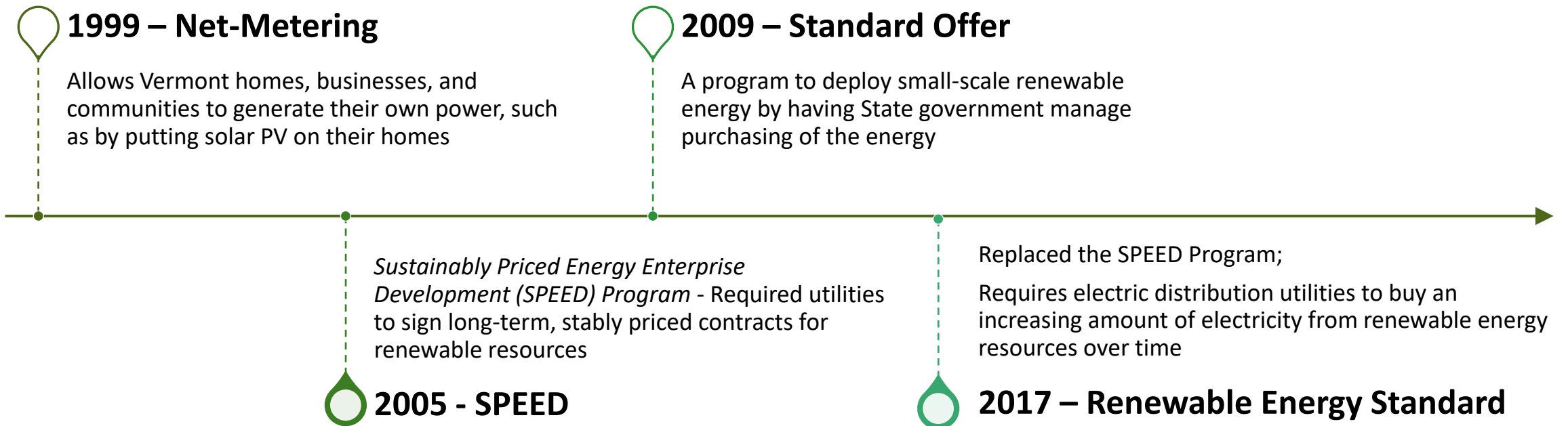
- Internally to help inform our outreach efforts moving forward
- In our reports on this process, to be transparent about who we did (and didn't) hear from to offer context for our recommendations

Current Policies & Programs

AN OVERVIEW

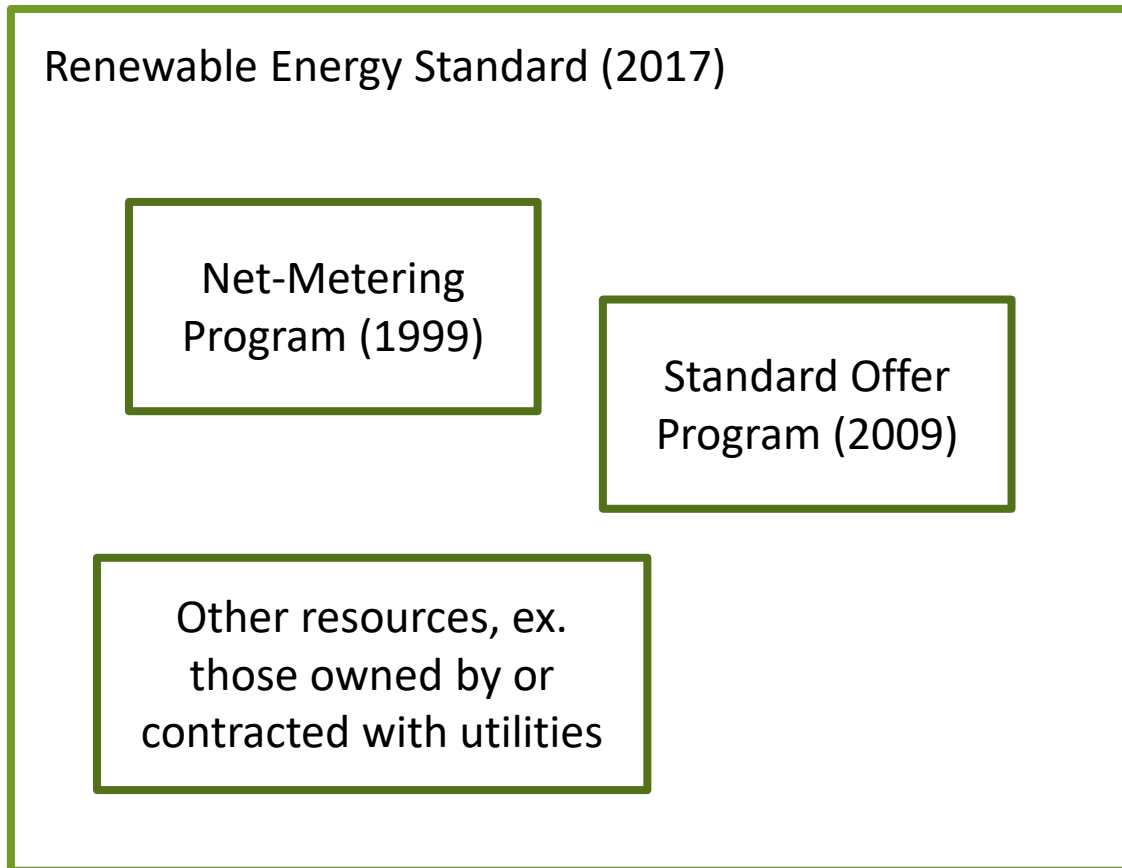
Core Policies & Programs

Over the last 20+ years, Vermont has developed several policies and programs to support renewable electricity in the state. These include:



In Vermont law, these programs are described in [Title 30, Chapter 89 “Renewable Energy Programs”](#)

Core Policies & Programs



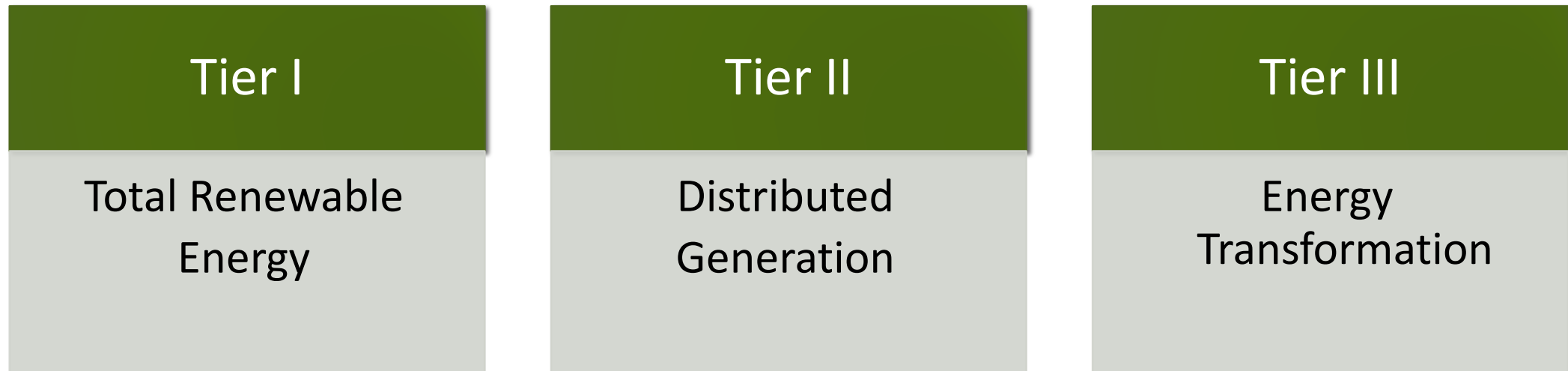
Currently, the **Renewable Energy Standard (RES)** sets the overarching requirements for increasing the supply of renewable electricity in Vermont.

Resources developed under **other programs** support achieving the requirements of the RES.

In this presentation, we'll discuss the Renewable Energy Standard first, following by Standard Offer and Net-Metering.

Renewable Energy Standard

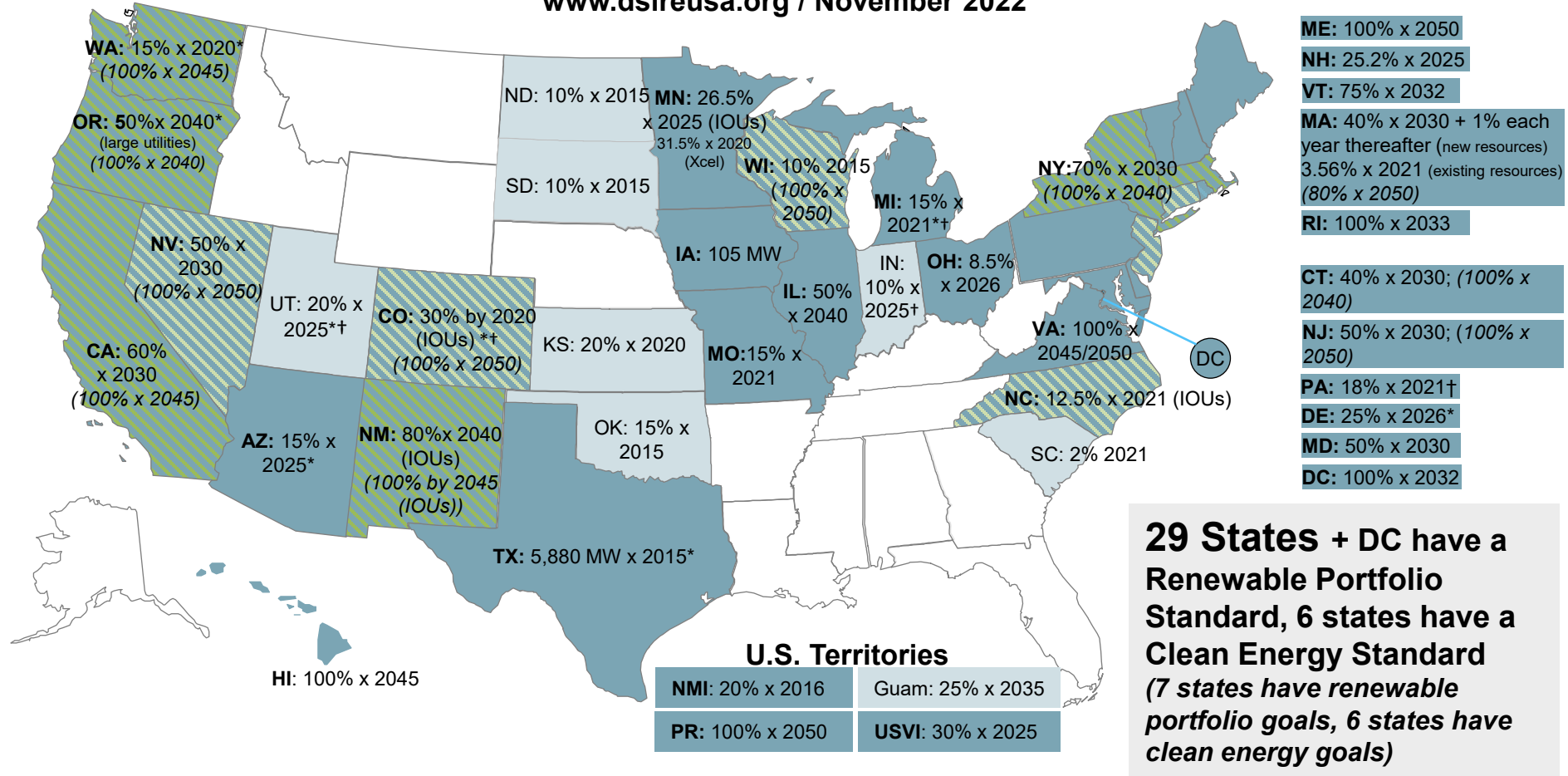
The Renewable Energy Standard requires Vermont electric distribution utilities to purchase or own a specific amount of electricity generated from renewable resources. This requirement is outlined in three different Tiers:



Tiers 1 and 2 require that utilities retire renewable energy certificates (RECs) to show they are in compliance, and utilities had to start complying in 2017.

Renewable & Clean Energy Standards

www.dsireusa.org / November 2022



Renewable portfolio standard
 Clean energy standard
 Renewable portfolio goal
 Clean energy goal

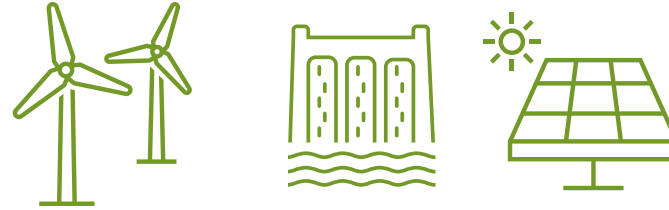
* Extra credit for solar or customer-sited renewables
 † Includes non-renewable alternative resources

How does Vermont define “renewable”?

In Vermont law (**30 V.S.A. § 8002**), “**renewable energy**” is defined as:

Energy produced using a technology that relies on a resource that is being consumed at a harvest rate at or below its natural regeneration rate

What is a renewable energy certificate (REC)?



RENEWABLE ENERGY GENERATORS

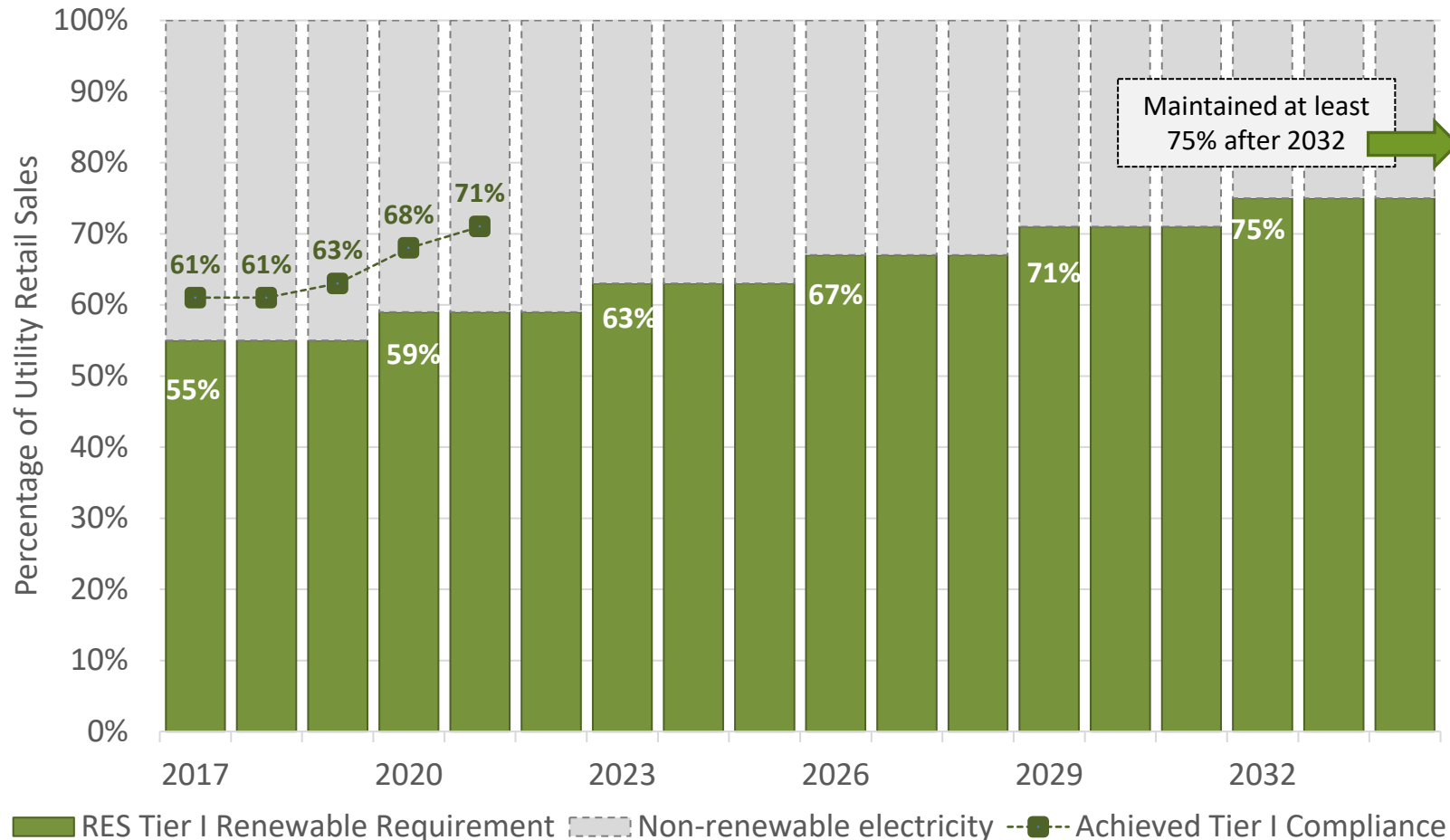


RECs provide a mechanism to:

1. Demonstrate that someone created the electrons coming from renewable resources
2. Prevent two different entities from claiming credit for supporting the same resource
3. Demonstrate compliance with the Renewable Energy Standard

RECs can be sold together with the electricity (i.e. bundled together) OR separately from the electricity (i.e. unbundled).

Renewable Energy Standard – Tier I



Eligibility:

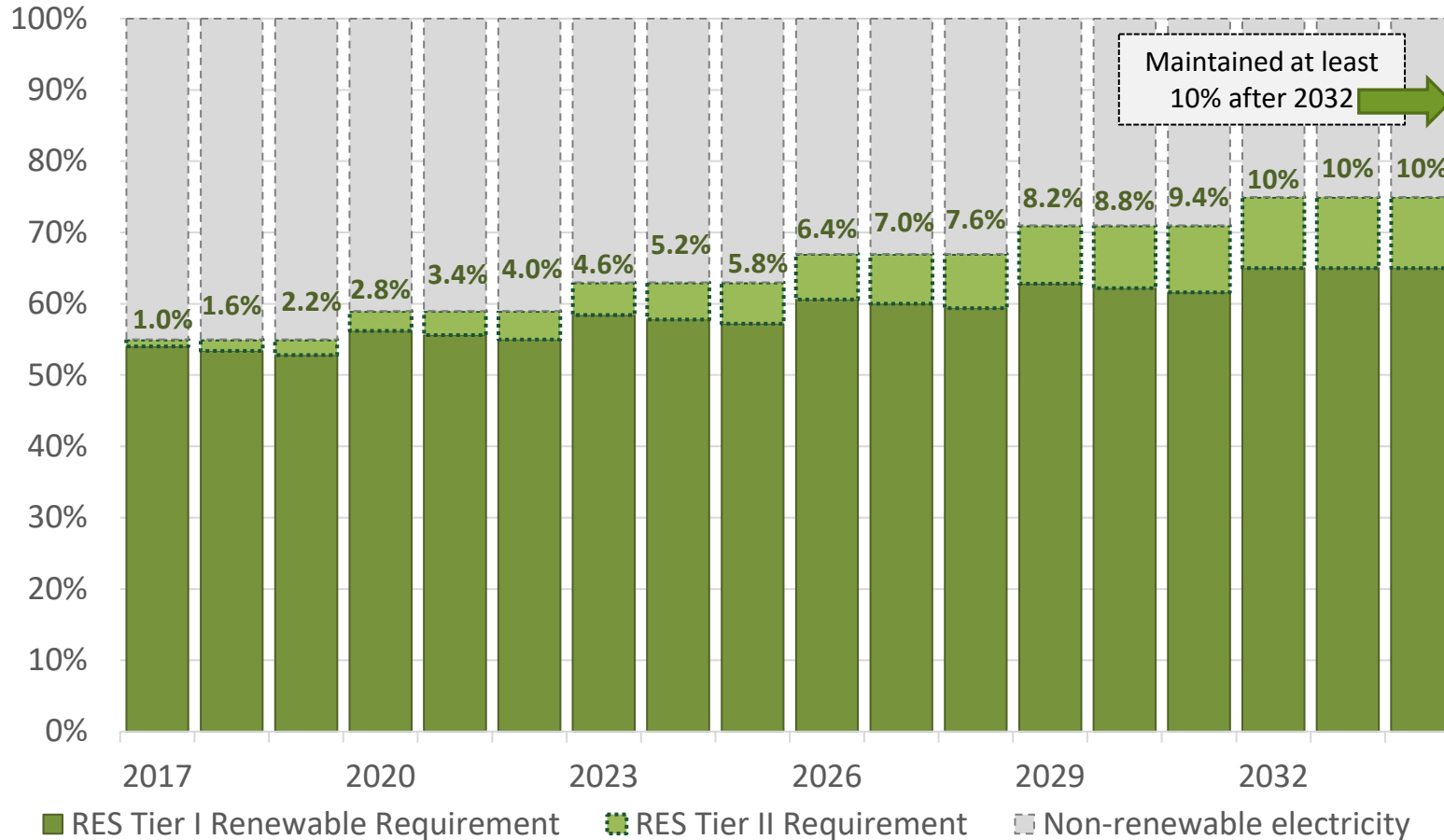
Any renewable resource that can provide power to the New England region, including imports from outside the region (ex. from New York, Quebec) regardless of when the resource was built.

Often met with hydroelectric resources

Utilities had to retire renewable energy certificates to cover **55%** of their retail sales **starting in 2017**.

The requirement **increases 4% every 3 years** until reaching 75% in 2032.

Renewable Energy Standard – Tier II



Eligibility:

Renewable resources

1. Built after June 30, 2015
2. Located in Vermont
3. Less than 5 MW in size

This requirement is a carve-out of the Tier I requirement.

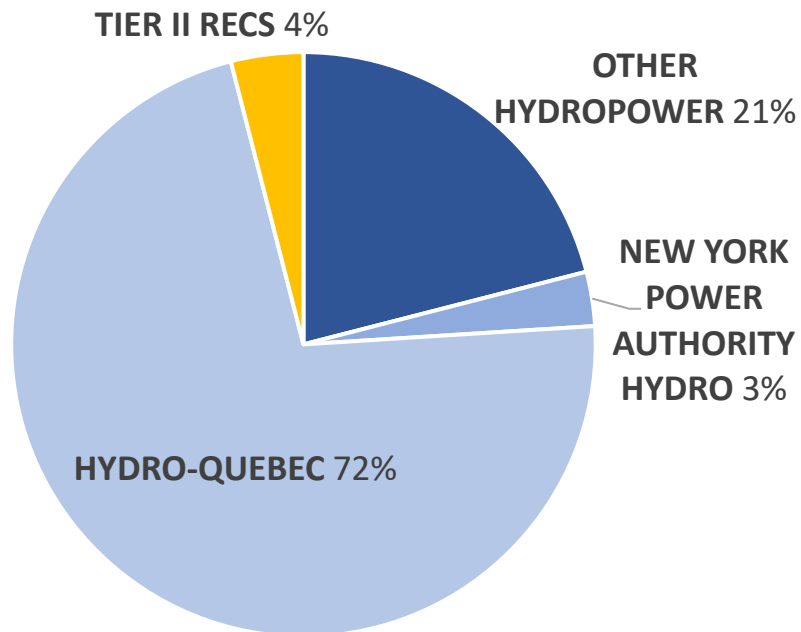
Often met with resources from the **Standard Offer** and **Net-Metering** Programs or those with contracts with the Vermont utilities

Utilities had to retire Tier II renewable energy certificates to cover **1%** of their retail sales **starting in 2017**.

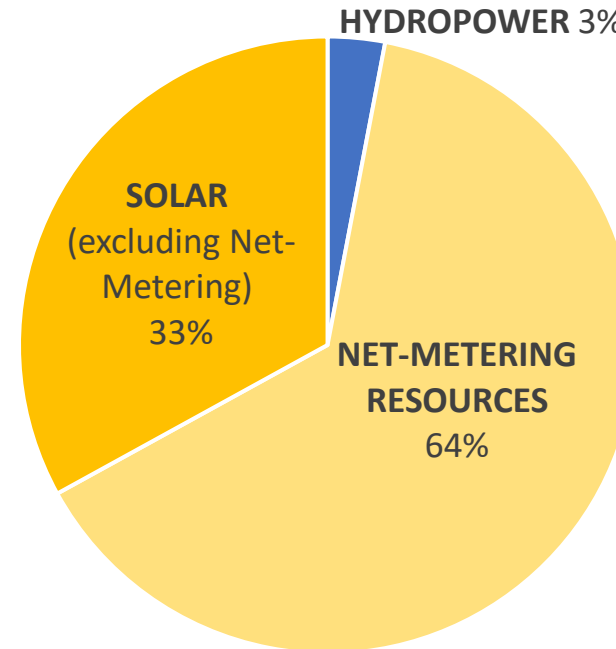
This requirement **increases 3/5% every year**.

2021 Tiers 1 & 2 Compliance by Resource

2021 RES TIER I REC RETIREMENTS



2021 RES TIER II REC RETIREMENTS



Note: Utilities must retire Renewable Energy Certificates (RECs) assigned to them from net-metering projects installed after 2017. They do not have to (but can) retire RECs from resources in the Standard Offer program.

Questions?

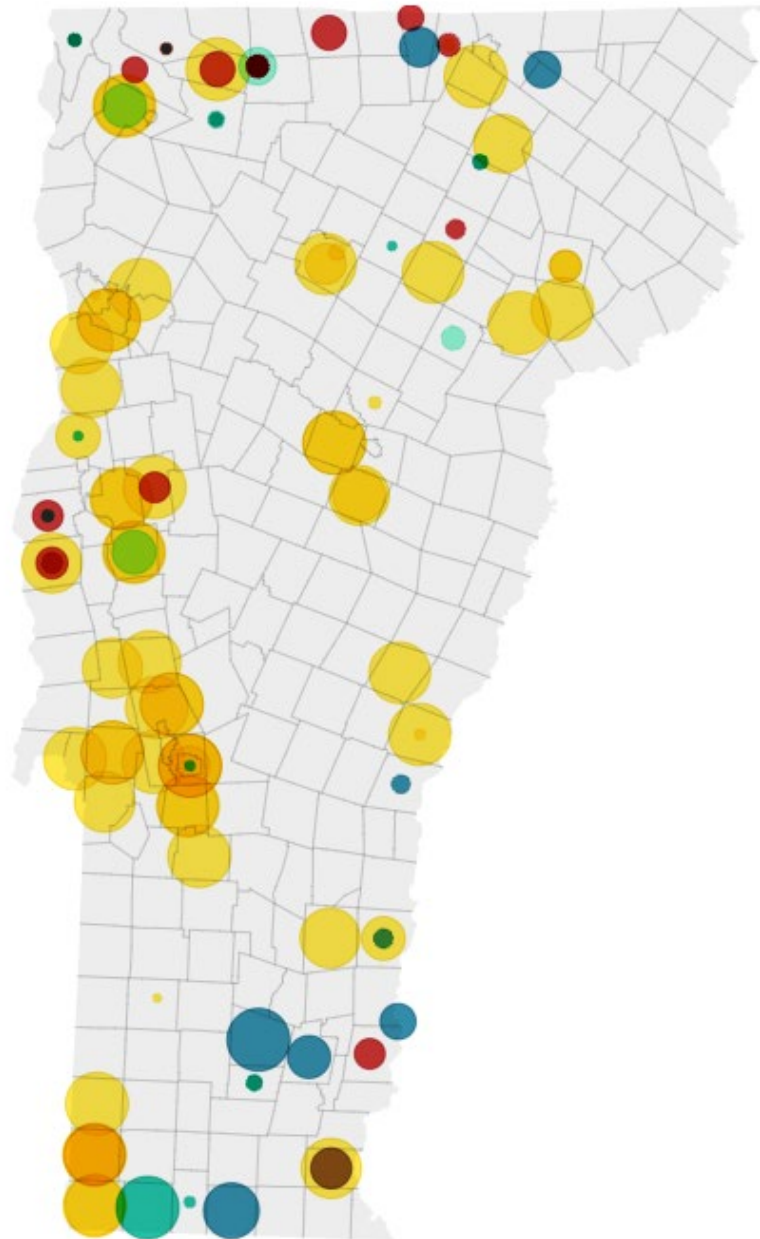
Please enter questions in the chat or, if you are unable, raise your hand to be called on.



If you're calling in on the phone, please press *6 to unmute when you are called on.

Biomass Farm Methane Food Waste
Hydroelectric Solar Wind

Capacity
(MW)



Standard Offer Program

The Standard Offer program aimed to stimulate **small (≤ 2.2 MW), in-state** renewable energy development.

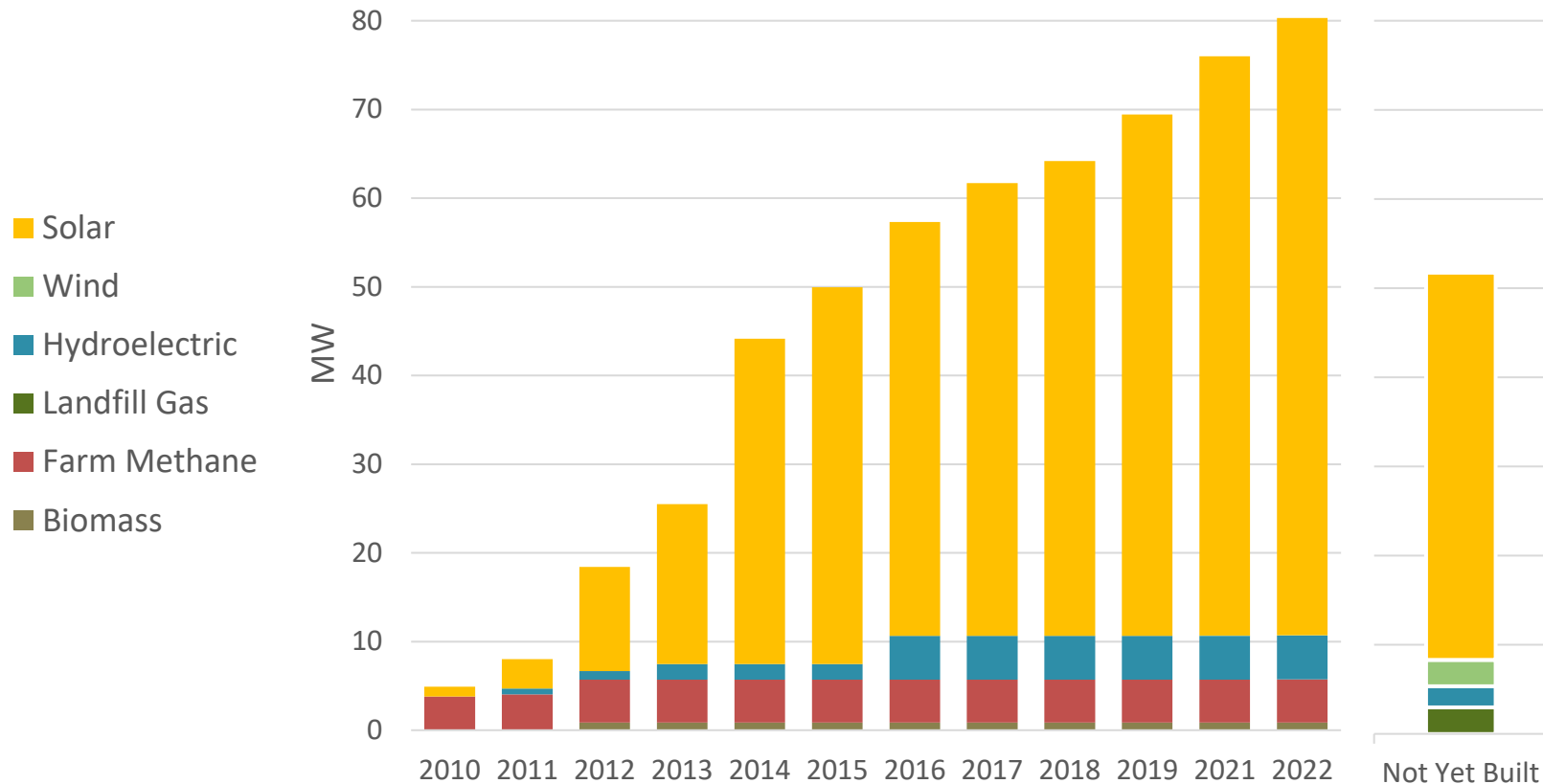
These resources were developed through a centralized solicitation process overseen by the Public Utilities Commission. Originally a lottery system, the program evolved to an annual solicitation for projects.

Projects were selected based on **least-cost** and **resource diversity** criteria and provides long-term, fixed price contracts for resources paid by utilities

The program had a cap of 127.5 MW, which has now all been awarded in contracts. **This means that as of 2023 no new solicitations are scheduled.**

Standard Offer Program

Cumulative Installed Amount of MW By Year



Since 2010, the Standard Offer Program has helped build **over 80 MW** of distributed generation in Vermont:

- 87% Solar
- 6% Farm Methane
- 6% Hydroelectric
- 1% Biomass
- < 1% Wind

An **additional 52 MW** of generation has been awarded a contract but **not yet built**.

In 2022, these plants produced over **126,000 MWh** of electricity.

Standard Offer Program – Base Load

30 V.S.A. § 8009 Baseload renewable power portfolio requirement

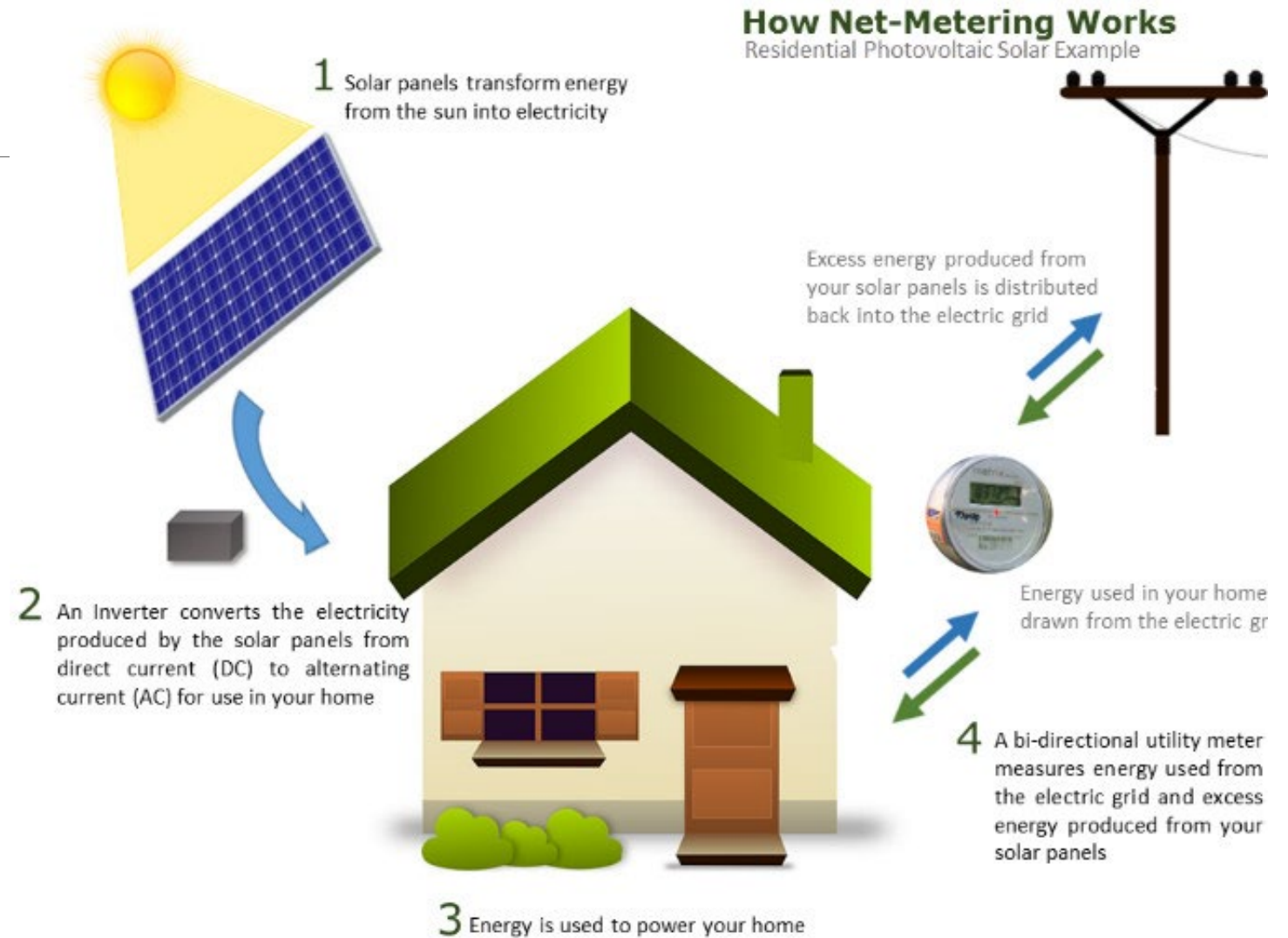
- Encourages plants that “produces electricity essentially continuously at a constant rate”
- Specific to one biomass facility in Vermont: Ryegate Biomass Facility
- Fixed price contract, through 2032 if meets certain contract milestones
- The Public Utility Commission has a contract with the facility and the Vermont distribution utilities are required to purchase the energy and Renewable Energy Credits from the contract

Net-Metering

Provides a way for Vermont homes and businesses to **self-generate electricity** and **supports in-state renewable energy generation**.

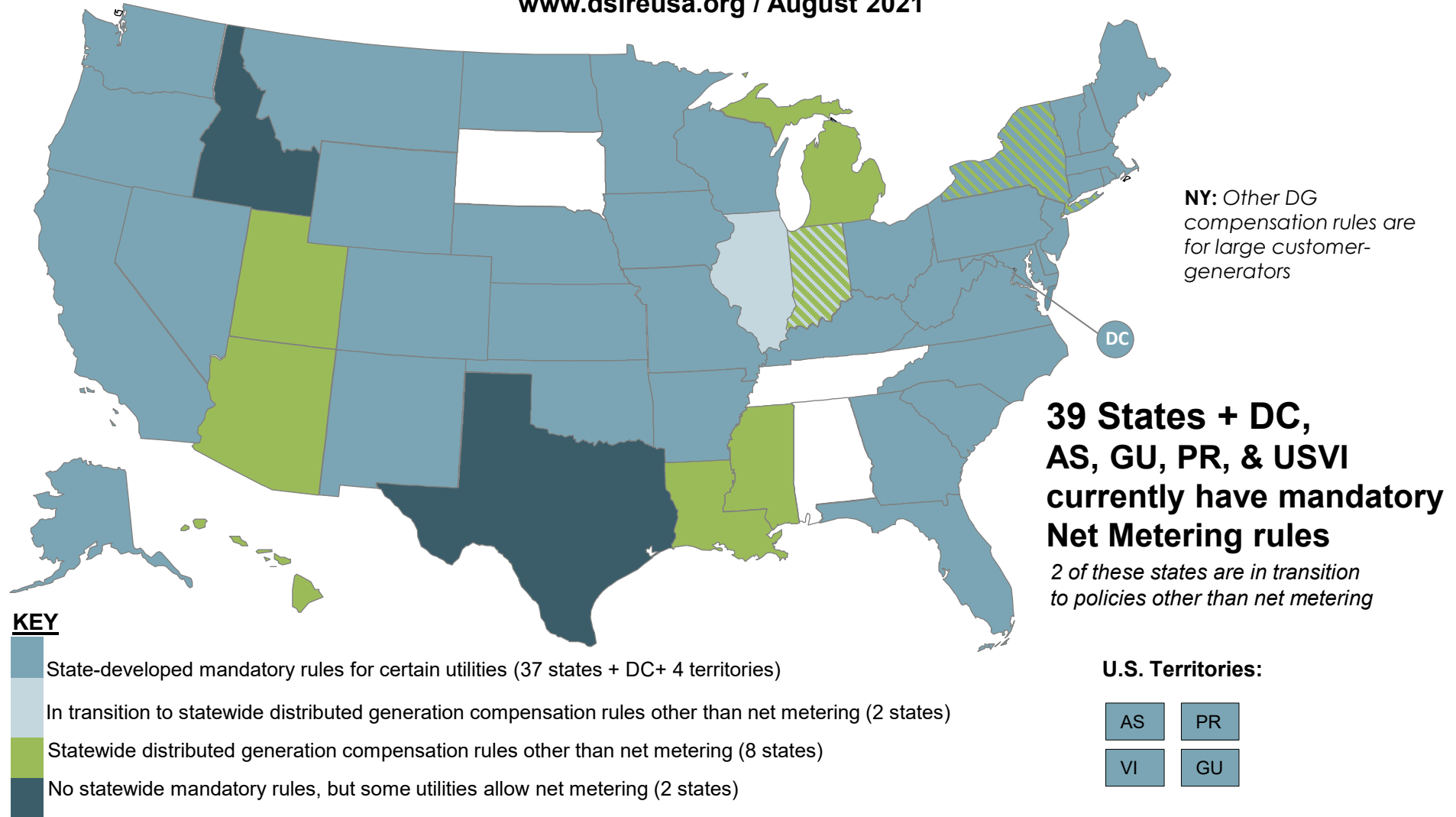
The program has existed since 1999, and the current version (“**Net-Metering 2.0**”) started January 2017.

The Public Utility Commission reviews the compensation rates in the program every two years, and is currently on the fifth rate revision, effective Sept 1, 2022 (“**Net-Metering 2.5**”)



Net Metering

www.dsireusa.org / August 2021



Net-Metering Program – Compensation Structure

In the current program, net-metering systems are compensated for their production based on:

Generation



How much electricity did your system generate each month and how did that compare to your electric usage? Is the system offsetting consumption?

Category (Capacity
x Location)



Category I: smaller than 15 kW
Category II: 15 -150 kW on a preferred site*
Category III: 150-500 kW on a preferred site
Category IV: 15-150 kW not on a preferred site



REC Disposition



Did you keep the Renewable Energy Certificate or assign it to the utility?

*Preferred sites include pre-existing structures, parking lot canopies, previously developed land, brownfields, landfills, gravel pits, town-designated sites, Superfund sites, on the same parcel as a customer taking at least 50% of output

Net-Metering Program – Compensation Structure

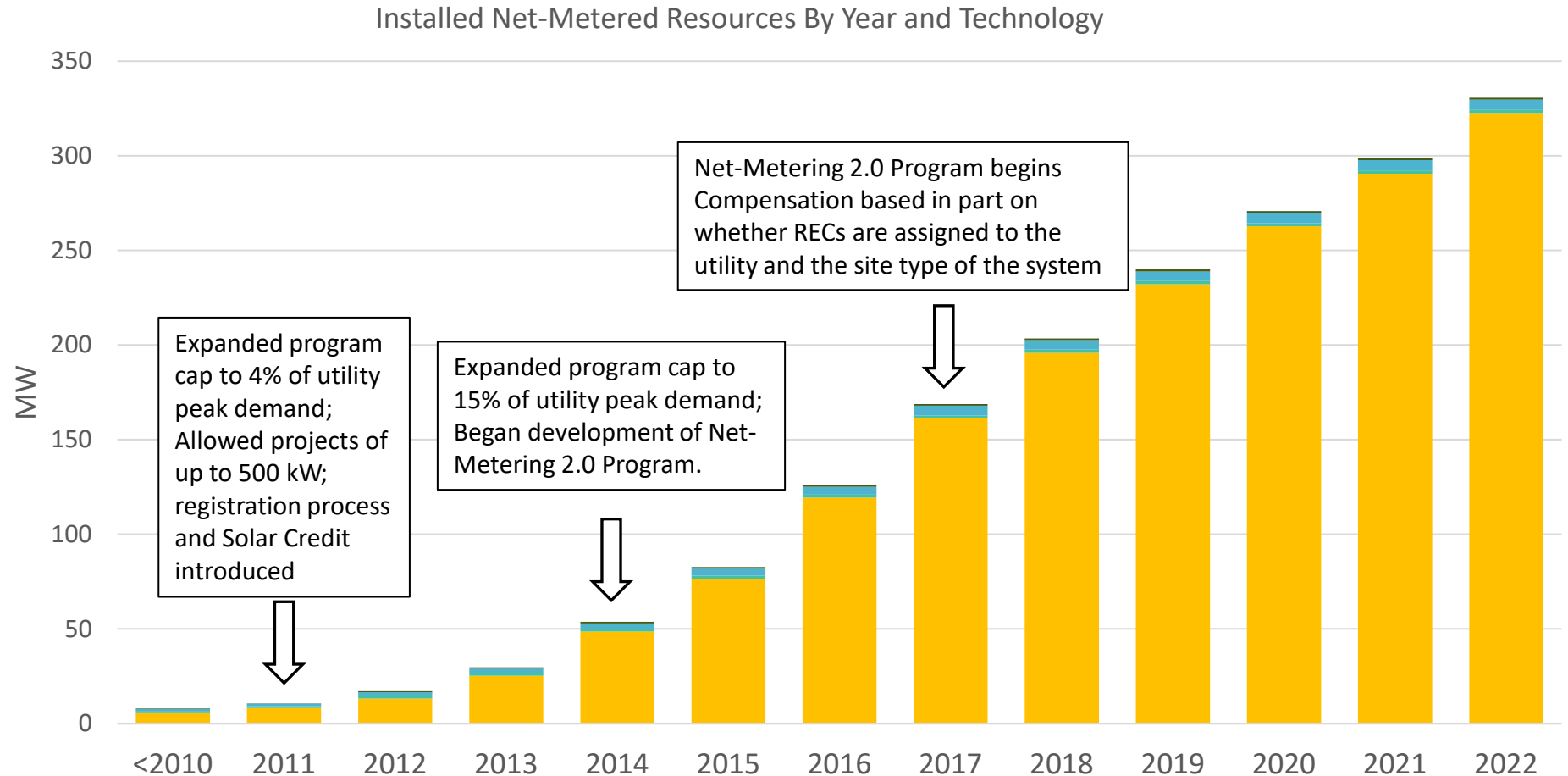
Program	CPG Application Date	Statewide Blended Rate	RECs		CATEGORY				
			Transfer to Utility	Retain Ownership	I	II	III	IV	Hydro
NM 1.0 ²⁷	before 1/1/2017	\$0.149	n/a		n/a				
NM 2.0	1/1/2017 - 6/30/2018	\$0.149	\$0.03	-\$0.03	\$0.01	\$0.01	-\$0.01	-\$0.03	\$0.00
NM 2.1	7/1/2018 - 6/30/2019	\$0.154	\$0.02	-\$0.03	\$0.01	\$0.01	-\$0.02	-\$0.03	\$0.00
NM 2.2	7/1/2019 – 2/1/2021	\$0.154	\$0.01	-\$0.03	\$0.01	\$0.01	-\$0.02	-\$0.03	\$0.00
NM 2.3	2/2/2021 – 8/31/2021	\$0.164	\$0.00	-\$0.04	\$0.00	\$0.00	-\$0.03	-\$0.04	\$0.00
NM 2.4	9/1/2021 – 8/31/2022	\$0.164	\$0.00	-\$0.04	-\$0.01	-\$0.01	-\$0.04	-\$0.05	\$0.00
NM 2.5	9/1/2022 – 6/30,2024	\$0.17141	\$0.00	-\$0.04	-\$0.02	-\$0.02	-\$0.05	-\$0.06	\$0.00

Net-Metering Program - Resources

Prior to 2008: Net-metering was limited to 1% of a utility's 1996 peak demand, group net-metering was limited to 100 kW on farms.

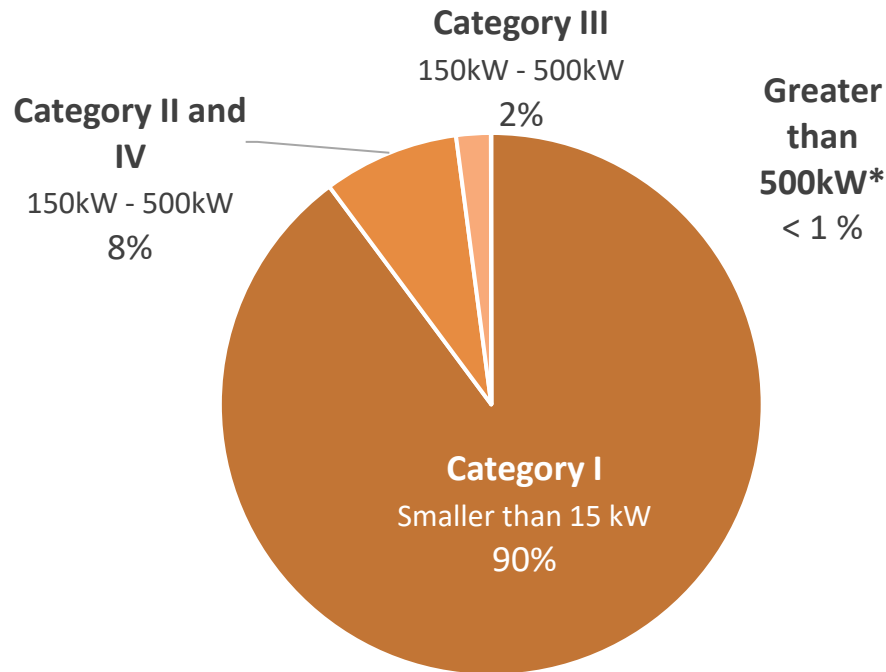
In 2008: Group net-metering was opened up, the size cap expanded to 250 kW, and the program cap was expanded to 2% of a utility's 1996 peak demand. Simplified siting for small systems established.

- Biomass
- Hydropower
- Wind
- Solar



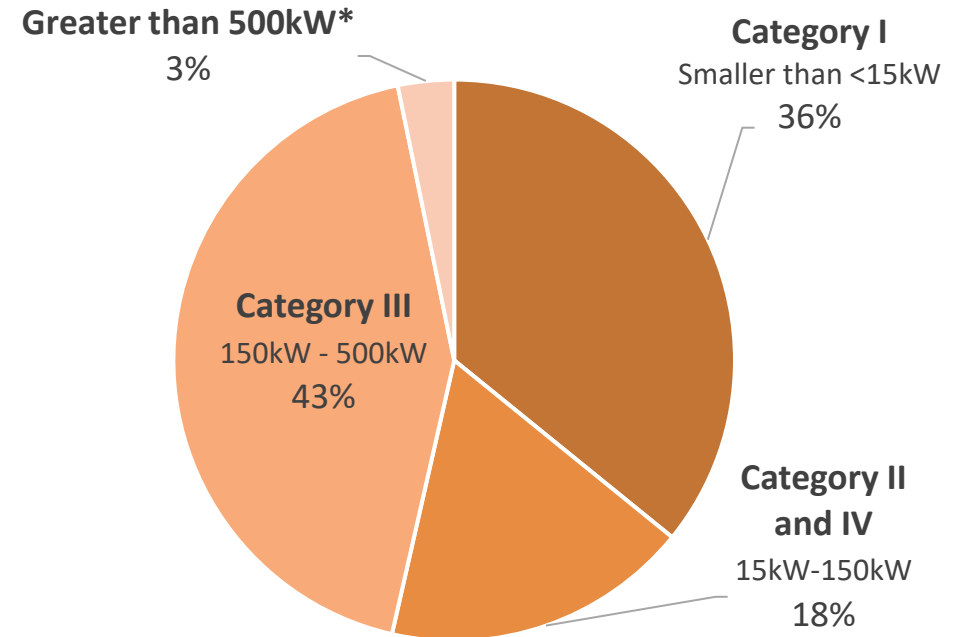
Net-Metering Program – Solar

Number of Solar PV Sites by Size/Category



There are currently **over 17,300** net-metered solar plants in Vermont. **90% of them are small**, typically residential systems (Category I).

Total Installed MW By Size/Category



These small, **Category I systems make up 36%** of the total installed capacity across the state, compared to **43% of installed capacity from larger, Category III systems**.

*Systems of more than 500 kW were allowed in limited circumstances under the old, net-metering 1.0 program

Questions?

Please enter questions in the chat or, if you are unable, raise your hand to be called on.



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Circling Back to Our Objectives

We hope you learned about / refreshed your information on:

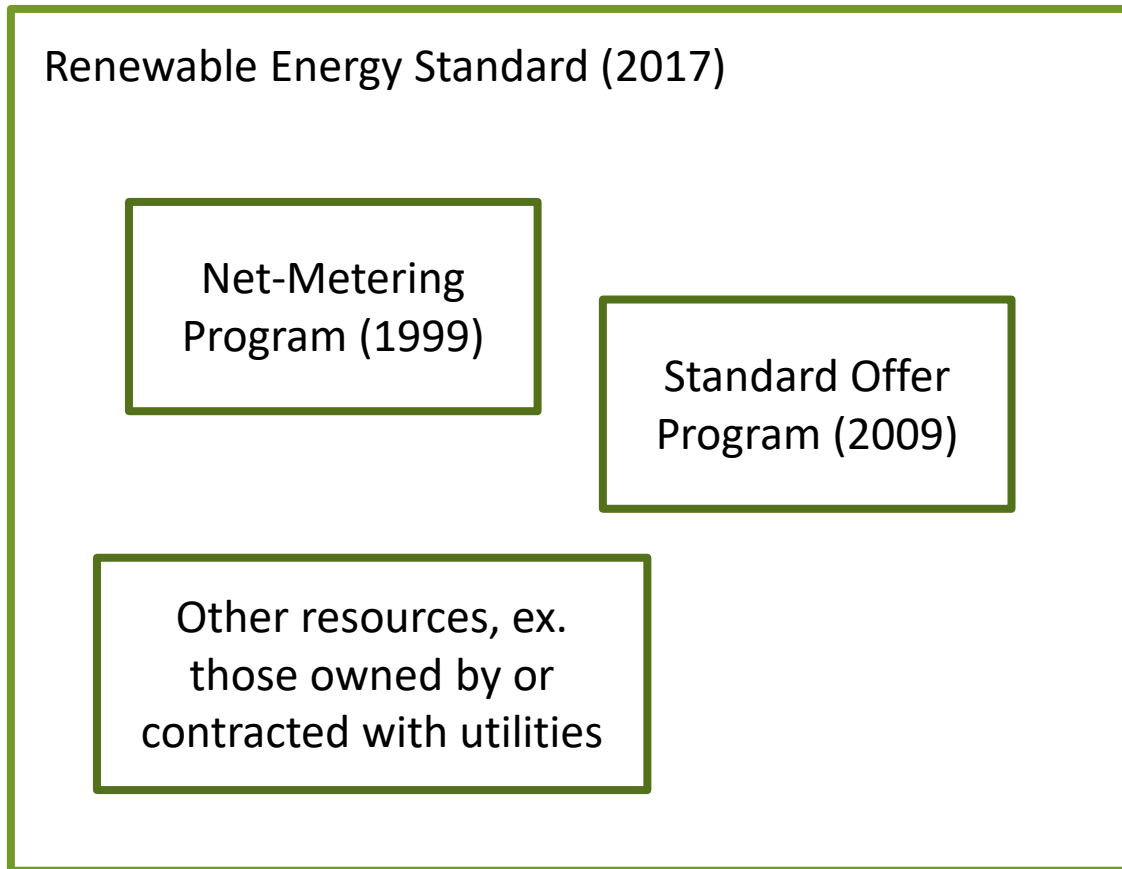


Vermont's Renewable Energy Standard and the Standard Offer and Net-Metering Programs



How these policies and programs have impacted the adoption of renewable electricity resources over the last 20 years

Revisiting Core Policies & Programs









Today, we've discussed how our current programs and policies, developed at different points in time and in silos, work to increase renewable electricity in Vermont.

Moving forward, we have an opportunity to look at these programs together and whether any modifications might help them more cohesively and effectively meet our state renewable energy goals and climate requirements.

Revisiting Core Policies & Programs

How might future policies and programs best achieve the goals outlined in Vermont energy policy considering issues like:

- Adequate electricity 
- Affordability of rates 
- Cost-effective use of resources
- Economic vitality 
- Efficient use of resources
- Environmental justice & equity 
- Reliable electricity 
- Secure electricity
- Sustainable & Environmentally Sound 



Question 1: What is your biggest takeaway from today?



Question 2: What topics would you like to hear more about?

Poll: Reflections on what you heard today

Next Steps

INTERESTED IN LEARNING MORE AND INFLUENCING WHERE VERMONT'S ELECTRICITY COMES FROM IN THE FUTURE?

Webinar Series

Webinar 3: Parking Lot Session

- Agenda to be announced based on common questions asked during Webinars 1 and 2.
- Dates, times, & registration:
 - Monday March 13, 6:00 pm-7:30 pm
 - **Updated Date/Time:** Wednesday March 15, 12:00pm-1:30pm

Register at: <https://publicservice.vermont.gov/renewables>

Coming Soon: Renewable Energy Credits and their Markets

- A Deeper Dive into Renewable Energy Credits with Jason Gifford from Sustainable Energy Advantage
- Check back soon for more details, which will also be distributed to registered stakeholders

Thank you!

Questions or comments about next steps in the process to review renewable electricity policies and programs?

Interested in staying in the loop and hearing about upcoming events?

Email PSD.REPrograms@vermont.gov to reach out and/or be added to our mailing list.