



Net Metering & Solar in VT



Solar Drops 50% in 2017



Mid-scale (150-500kW) solar project capacity dropped 73%

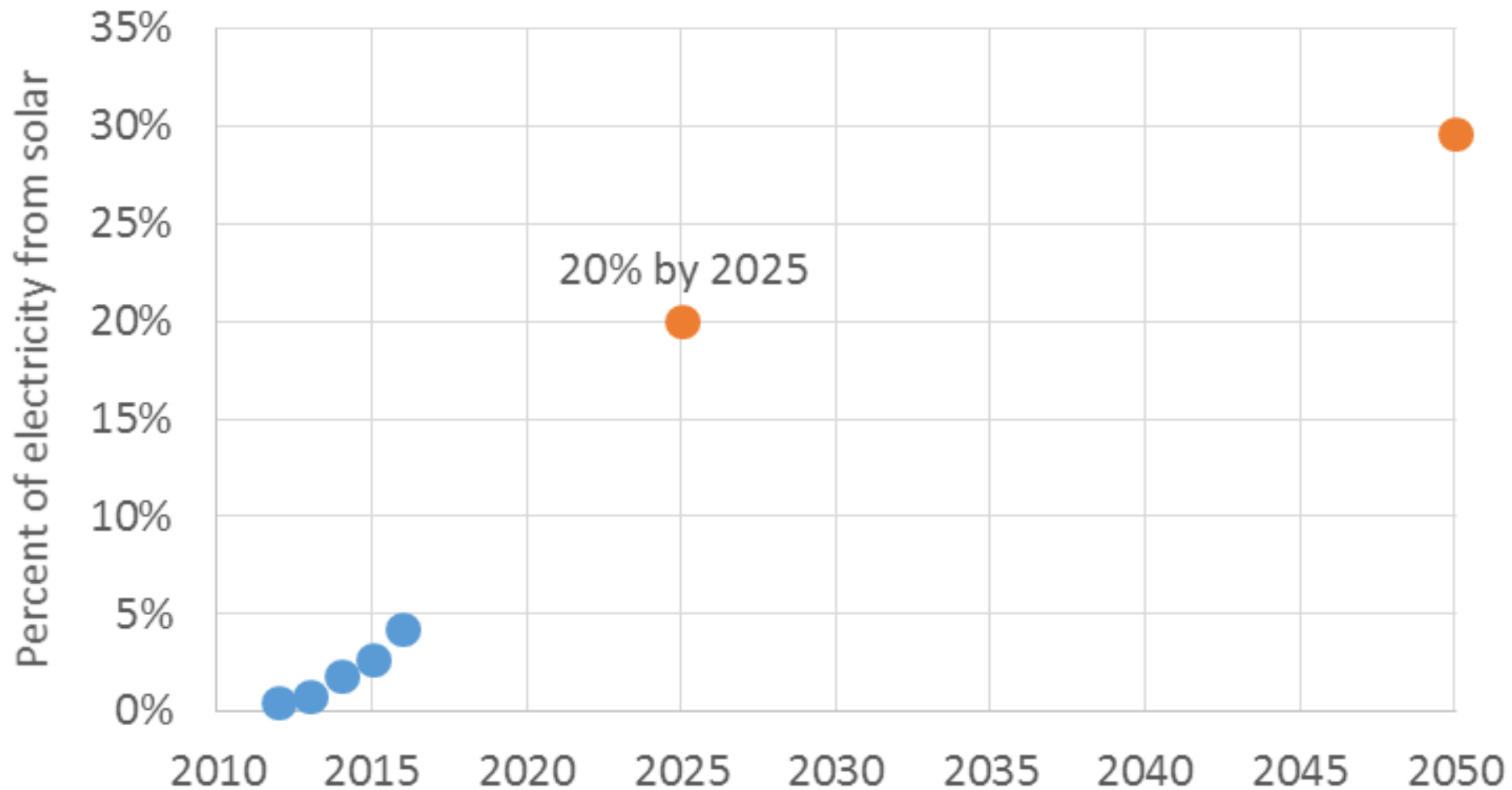


Small-scale (15-150kW) solar project capacity dropped 35%



Residential scale solar project capacity dropped 19%

232 lost full time solar jobs in VT in 2017



More than 5 times the amount of solar installed in VT at the end of 2016 is needed

“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

2017 Permitted Net Metered Solar Projects - Category II & III

Site Type	15 - 150kW # of Projects	Capacity (kW)	>150 - 500kW # of Projects	Capacity (kW)	Total Number
Rooftop	86	5387.07	7	2766.4	93
Gravel pit	2	346	6	3000	8
Town/RPC	4	524.8	2	1000	6
50% onsite	2	66.32	2	1000	4
Parking lot canopy	0	0	0	0	0
Pre-developed impervious surface	1	150	0	0	1
Brownfield	0	0	0	0	0
Landfill	1	150	0	0	1
NPL	0	0	0	0	0
				Total:	113



Net Metering 2.0

Grandfathering & Non-bypassable Charges

- ▶ The rules grandfather existing systems under their existing financial regime until they are 10 years old; after 10 years, production is credited at the blended residential rate and credits may not be applied toward non-bypassable charges.
- ▶ New customers may not use net metering credits toward non-bypassable charges:
 - ▶ Customer Charge
 - ▶ Energy Efficiency Charge
 - ▶ Energy Assistance Program Charge
 - ▶ On-bill financing

Net Metering 2.0



- ▶ 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 = -1 cent/kWh siting adjustor for lifetime
 - ▶ Category IV: 15-150 kW not on preferred sites = -3 cent/kWh siting adjustor for lifetime
 - ▶ Hydroelectric = no siting adjustor, just retail
- ▶ 150-500 kW projects allowed only on “preferred locations”
- ▶ 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
- ▶ Customer bill credit based on whichever is lower, the utility’s blended residential rate or the statewide average blended residential rate
- ▶ REC adjustors:
 - ▶ +3 cents/kWh credit for ten years if RECs go to utility, then utility permanently owns RECs for no compensation to the customer / project owner
 - ▶ Utilities cannot resell the RECs given to them by net metering customers
 - ▶ -3 cents/kWh (debit) for the life of the system if RECs are held by the customer / project owner

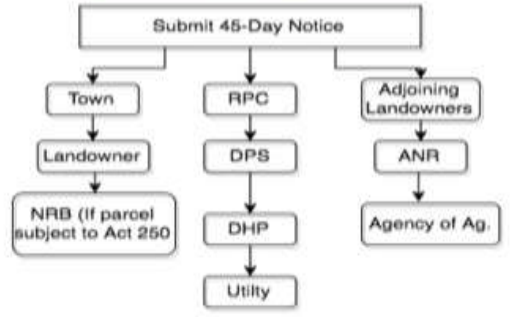
Up to 15 kW Ground/Roof (Most Residential Systems)



Up to 500kW Rooftops (Commercial or Residential)

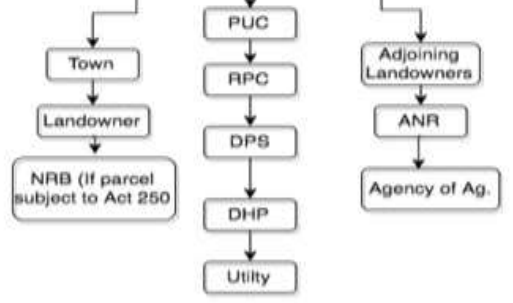


>15 kW to 50 kW Ground Mounted Systems (Mostly Small Commercial Systems)



Gather & Compile Comments Received During 45-Day (Must file full CPG app. within 180 days of date of 45-Day filing)

Submit Full CPG Application Including: (1) Full Site Plan (2) Certification of 45-Day Notice (3) Wetland delineation (4) Response to Town & Adjoining landowner recommendations from 45-Day (5) Statement of Consistency with Act 250 Permit (if applicable)

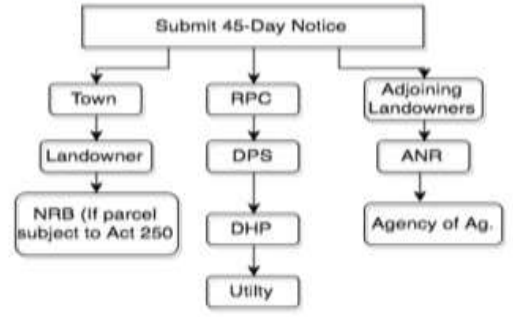


Receive and Respond to Comments

Issues Resolved

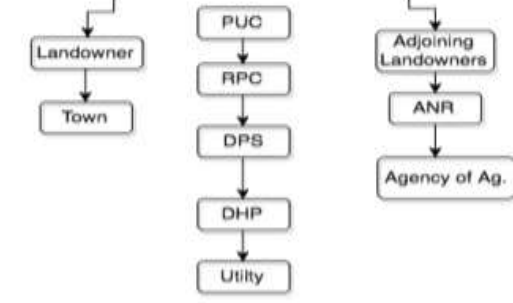
CPG Approved (Typically ~3-6 Months)

>50 kW to 500 kW Ground Mounted Systems (Mostly Large Commercial Systems or 'community' solar projects)



Gather & Compile Comments Received During 45-Day (Must file full CPG app. within 180 days of date of 45-Day filing)

Submit Full CPG Application Including: (1) Full Site Plan, with elevation (2) Testimony and Affidavits for adverse impact statements (3) Relevant sections of local/regional plans and how they're affected. (4) 5.500 Interconnection (5) Decommissioning Plan (6) Certification of 45-Day Notice (7) Wetland delineation (8) Response to Town & Adjoining landowner recommendations from 45-Day (9) Statement of Consistency with Act 250 Permit (if applicable)



Receive and Respond to Comments

Issues Resolved

CPG Approved (Typically ~6-9 Months)

Extensive, Expensive, & Onerous Permitting Process for Community Solar & Parking Canopy Projects Under Net Metering 2.0 →



Challenges Ahead



- ▶ Community Solar Economic Viability
- ▶ Ensuring Access & Participation by Low & Moderate Income Vermonters
- ▶ School, Towns, Hospitals, & Colleges Now Capped Out
- ▶ Integrating Energy Storage to Maximize Resilience & Solar Generation Value
- ▶ Grid Constraints & Modernization Needs
- ▶ Data Accuracy & Transparency (CPG applications, permits, & installations) for Tracking Progress
- ▶ Trump Administration Tariff Increasing Solar Panel Prices
- ▶ Limited # of “preferred sites” for future projects & higher permitting & construction costs on those sites
- ▶ Federal Income Tax Credit Drops in 2020
- ▶ Reduced customer confidence due to regulatory uncertainty

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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