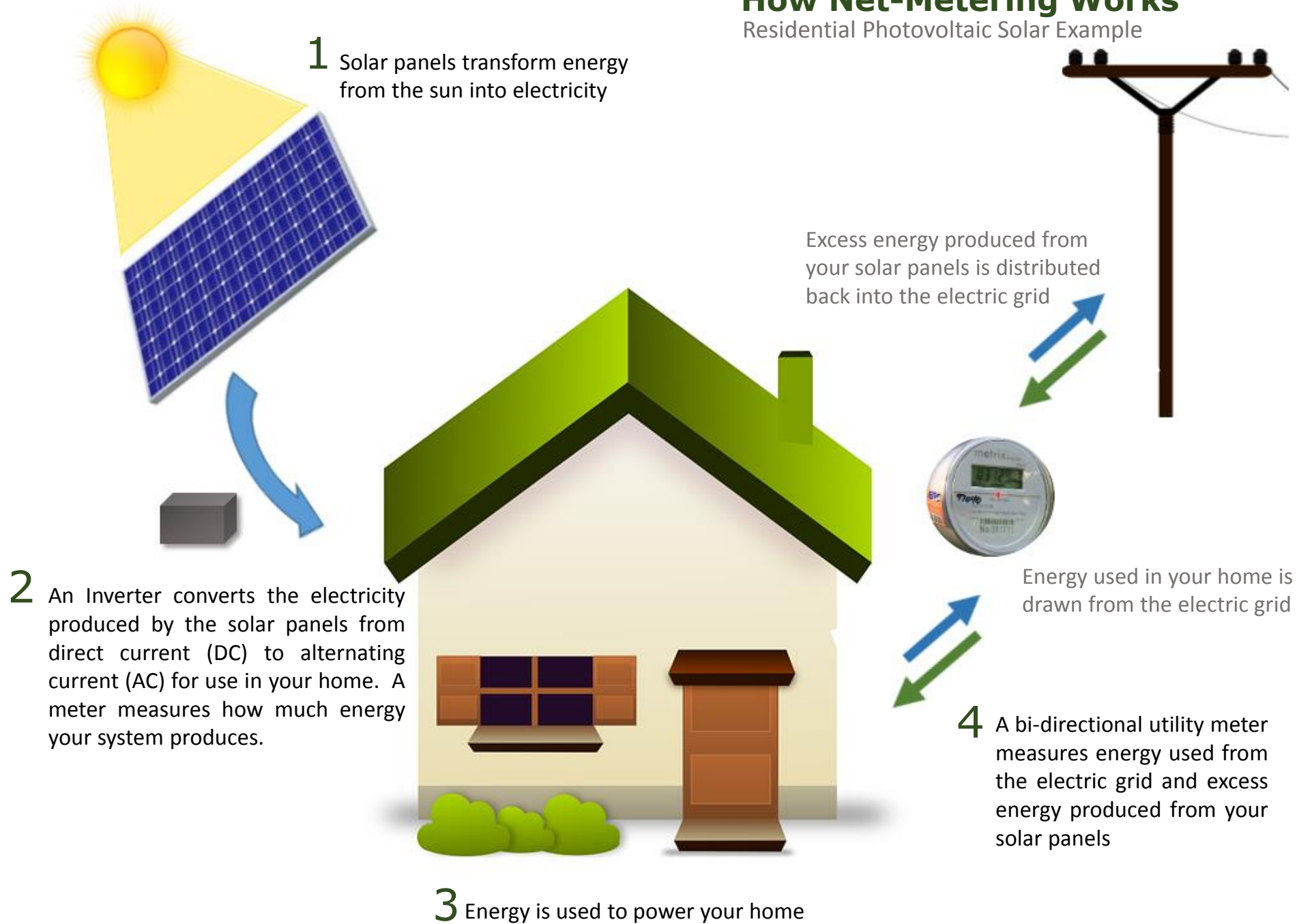


Vermont Public Service Board
Rule 5.100 – Net-Metering

How Net-Metering Works

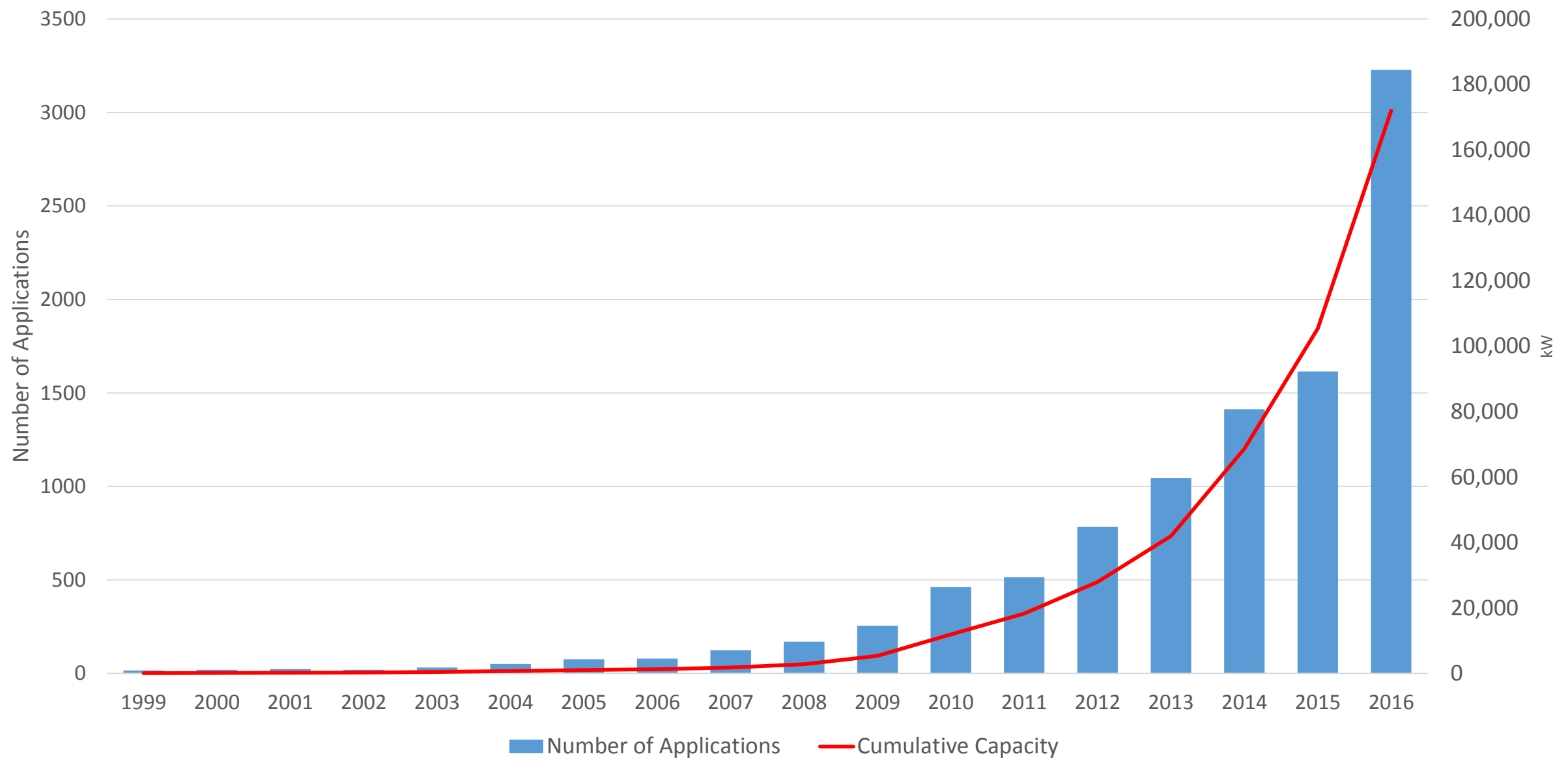
Residential Photovoltaic Solar Example



Net-Metering 1.0

- Program started in 1997
- Began with small systems and limited program size
- Over time, the law allowed larger systems and increased the program's capacity
- In 2011, customers using solar were offered an incentive payment of ~5 cents per kilowatt-hour (kWh)
 - Monetization of credits began
 - Group systems became common
- In 2014 Act 99 directed Board to start developing "Net-Metering 2.0"
- In 2015 the program filled the statutory 15% capacity cap

Number of CPG Applications and Cumulative Program Capacity by Year



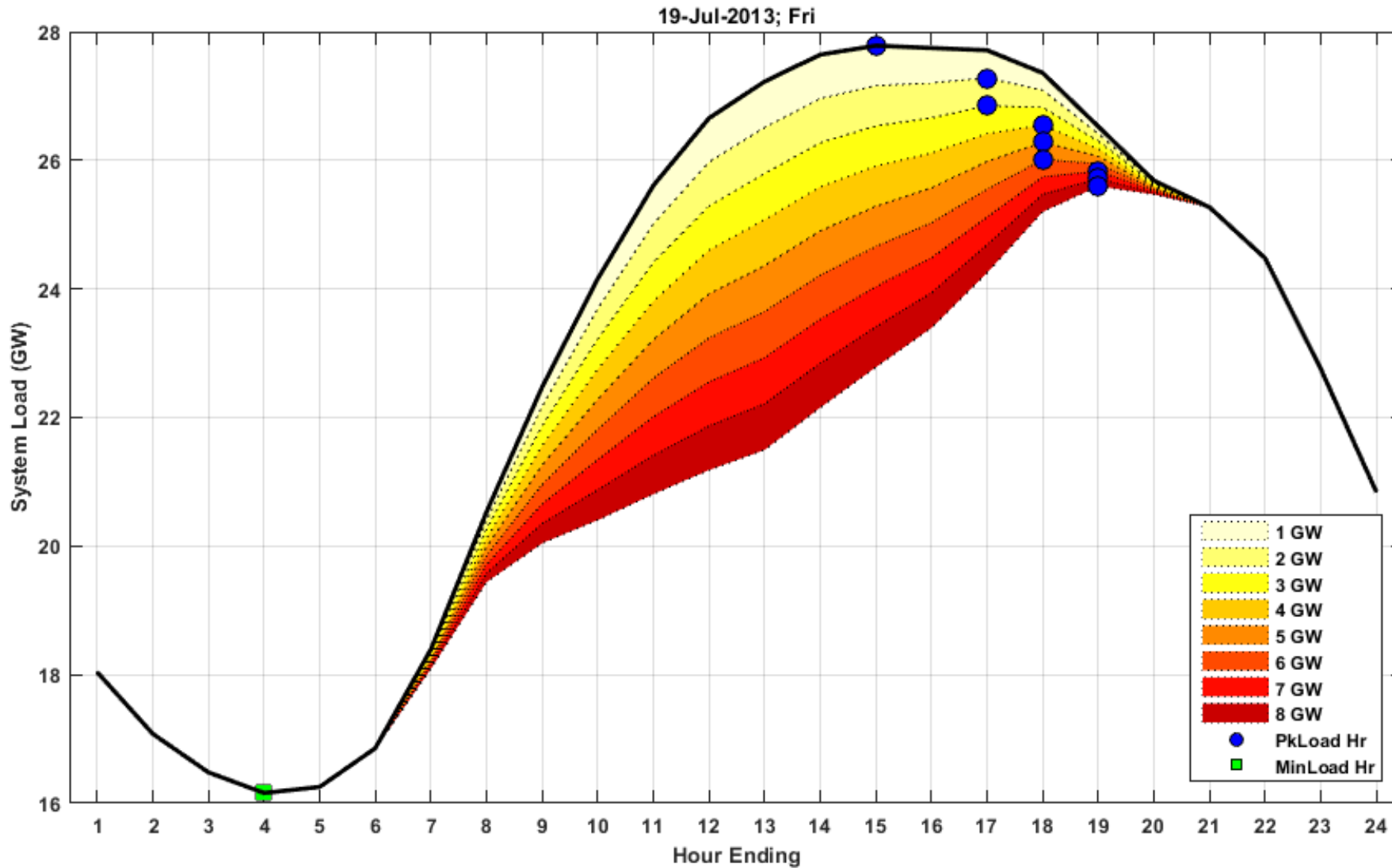
Recent Developments

- Significant decreases in installation cost of solar
- Development of competitive renewable energy markets in Vermont:

Resource	Price per kWh	Notes
Section 219a Net-Metering	~22 cents	Utility does not receive Renewable Energy Certificate (“REC”)
Large Scale Wind	8.8-11 cents	Includes REC
Energy Efficiency	4.4 cents	Not electricity, no RECs
Standard-Offer Solar 2.2	10-13 cents	Utility receives REC
Other Tier II Solar Resources	~12 cents	Utility receives REC

- Robust build-out of solar in Vermont and New England has changed the value of the benefits offered by building more solar

Increased solar deployment will push the time of the peak load to later in the day



Structure of the Rule

- Five Parts
 - I. General Provisions
 - II. Application Procedures
 - III. Public Participation
 - IV. Program Requirements (rates, billing, groups)
 - V. Compliance Procedures

Summary of Significant Changes

- Incentive structure
 - Incentives for better siting decisions
 - Incentives to support Vermont's Renewable Energy Standard and reduce greenhouse gas emissions
 - Designed to reflect economies of scale and future changes in the cost of technology
- Rate structure
 - Reduce the cost shift between net-metering customers and customers who don't net-meter
 - Periodic review of incentives to reflect changes in technology and markets
- Application Procedures
 - Designed to encourage better siting decisions
 - Designed to facilitate public participation in Board proceedings

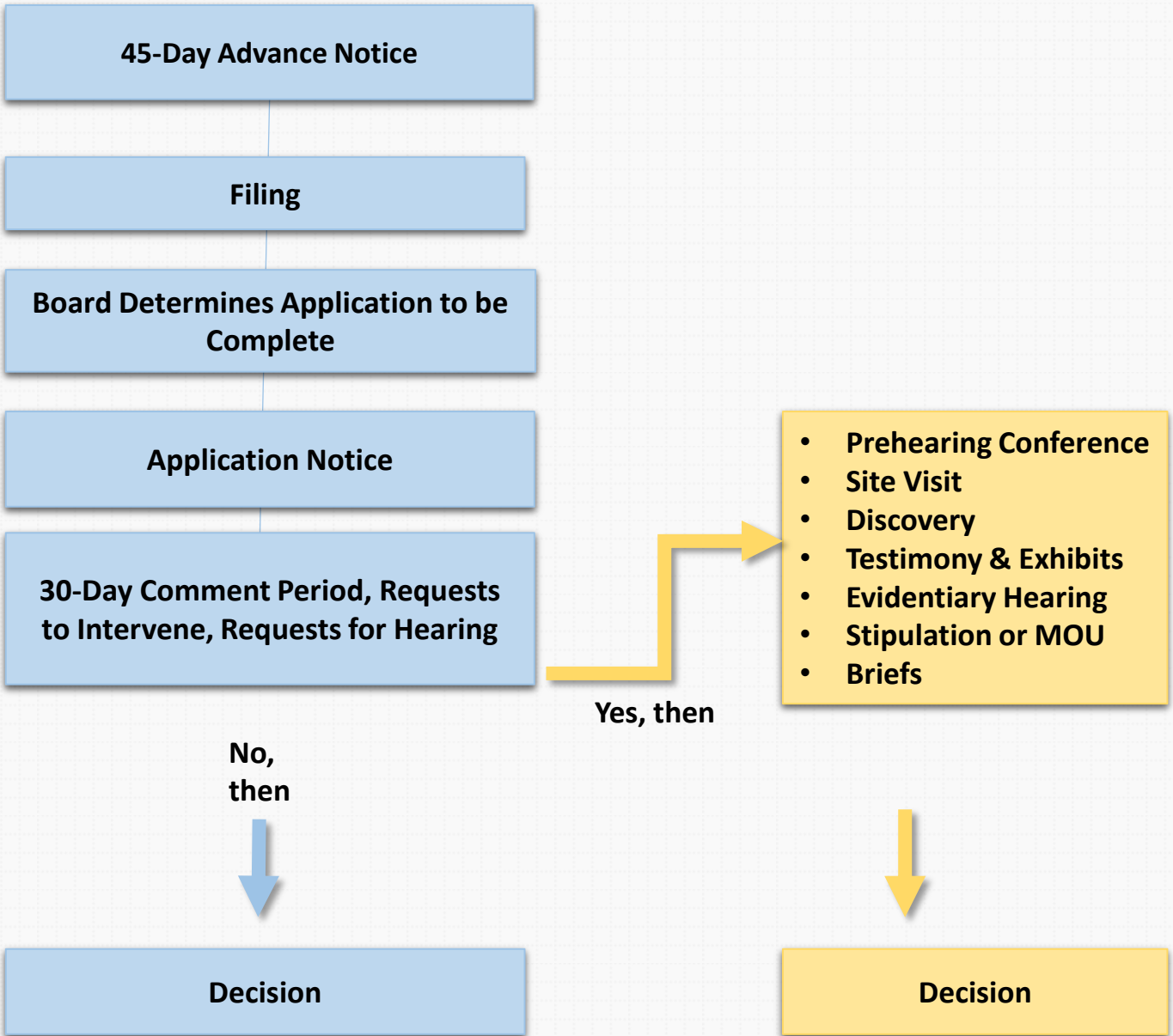
Preferred Sites (Section 5.103)

- Roofs
- Parking lot canopies
- Previously developed sites
- Brownfields
- Landfills
- Gravel pits
- Municipally designated site
- Superfund sites
- “Next to load”

Application Procedures

- Registrations (Section 5.105)
 - Ground mounted solar up to 15 kW
 - Roof mounted solar up to 500 kW
 - Hydro up to 500 kW
- “Application Form” (Section 5.106)
 - Any ground mounted system (solar, wind, biomass, CHP) over 15 kw and up to 50 kW
 - No hydro
- “Petitions” (Section 5.107)
 - Everything over 50 kW, except hydro

Application and Petition Procedures



Part III – Public Participation

- Part III is intended to provide guidance to the public about how to participate in the review of net-metering CPG applications

Pre-Existing Systems

- Pre-existing systems are exempt from certain provisions of the rule:
 - Pre-existing systems continue to receive the rates provided by Section 219a for 10 years
 - Pre-existing systems are not subject to non-bypassable charges for 10 years
 - Pre-existing systems are not subject to REC or siting adjustors
- Pre-existing systems will receive the blended residential rate for excess generation after 10 years

Rate Structure

- New rate structure can be described as “retail plus” or “retail minus” depending on the system
- To calculate the value of a net-metering credit, start with the “Blended Residential Rate”
 - Company’s general residential service rate,
 - Blend of company’s residential block rates, or
 - Statewide average rate (14.9 cents)

Siting and REC Adjustors

Siting Adjustor	
Type of Project	Adjustor Value
< 15 kW	1 cent per kWh
15 – 150 kW “well sited”	1 cent per kWh
15-150 kW “greenfield”	(-3) cent per kWh
150 – 500 kW “well sited”	(-1) cents per kWh
Hydroelectric facilities	0 cents per kWh

REC Adjustor	
Transfer REC to utility	+3 cents per kWh
Customer retains REC	-3 cents per kWh

Examples of rates available to net-metering systems

All values in cents per kWh.

Type of Net-Metering System	Blended residential rate	Siting adjustor	Positive or negative REC adjustors	Total with either positive or negative REC adjustor
< 15 kW	14.9	1	3 or (-3)	18.9 or 12.9
15 – 150 kW “well sited”	14.9	1	3 or (-3)	18.9 or 12.9
15-150 kW “greenfield”	14.9	(-3)	3 or (-3)	14.9 or 8.9
150 – 500 kW “well sited”	14.9	(-1)	3 or (-3)	16.9 or 10.9

Non-Bypassable Charges

Bill Details

Highlighted items are non-bypassable

E01 Residential Net Metering

Customer Charge: 32 Days @ \$0.433	\$13.86
741 Total KWH Consumed	
106 Total KWH Generated	
635 Total KWH Net Billed @ \$0.1484	\$94.23
0 Total KWH Excess Credit @ \$-0.1484	
Energy Efficiency Charge 635 x \$0.01281	\$8.13
Power Adjustment	\$0.89
Electric Assistance Program Fee	\$1.00
Generation	
192 Total KWH Generation	
192 Solar Incentive KWH @ \$-0.053	-\$10.18
New Charges/Adjustments due by 12/26/16	\$107.93

Total non-bypassable charges for this bill are \$22.99

Part IV – Compliance Procedures

- Section 5.134 establishes procedures for enforcement of CPG conditions