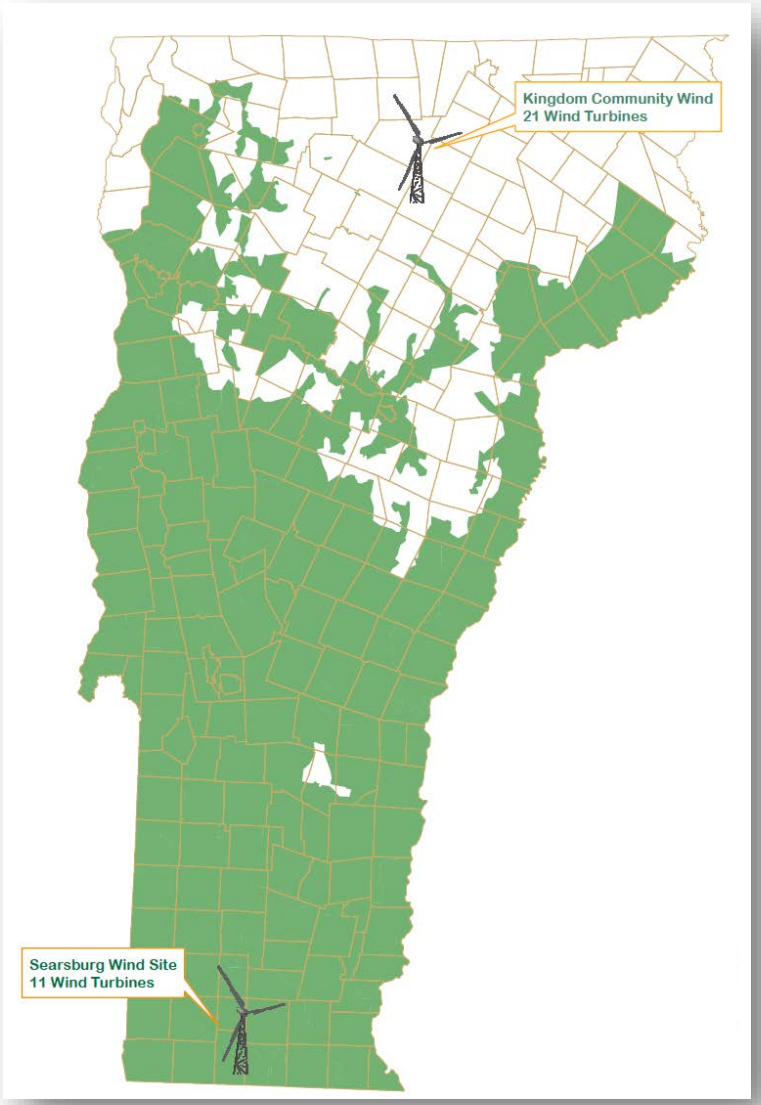
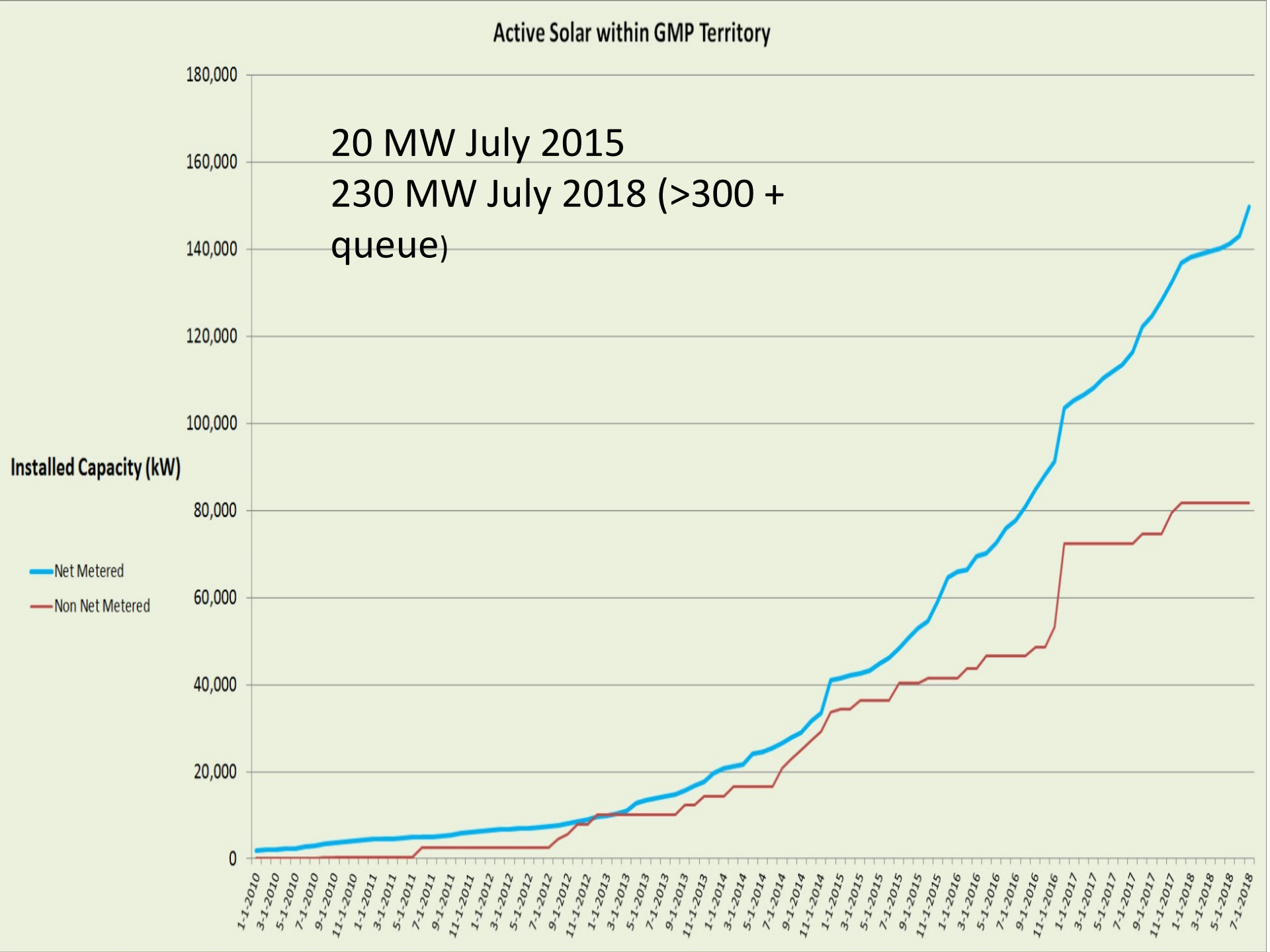
Green Mountain Power – A vertically integrated Utility

- ✓ We serve 263,080 customers in 202 towns in 7,500 square miles of service territory
- ✓ Portfolio is 60% renewable 90% carbon-free
- ✓ We operate:
  - o 48 hydro plants
  - o 6 peaking plants
  - o 12 solar projects
  - o 2 wind farms
  - o 3 100-KW wind turbines
  - o 1 joint-owned biomass plant (McNeil)

- ✓ We maintain:
- 976 miles of transmission lines
- 11,273 miles of distribution lines
- 185 substations




Active Solar within GMP Territory
20 MW July 2015
230 MW July 2018 (>300 + queue)
Installed Capacity (kW)
180,000
160,000
140,000
120,000
100,000
80,000
60,000
40,000
20,000
0
Net Metered
Non Net Metered
1-1-2010
3-1-2010
5-1-2010
7-1-2010
9-1-2010
11-1-2010
1-1-2011
3-1-2011
5-1-2011
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5-1-2017
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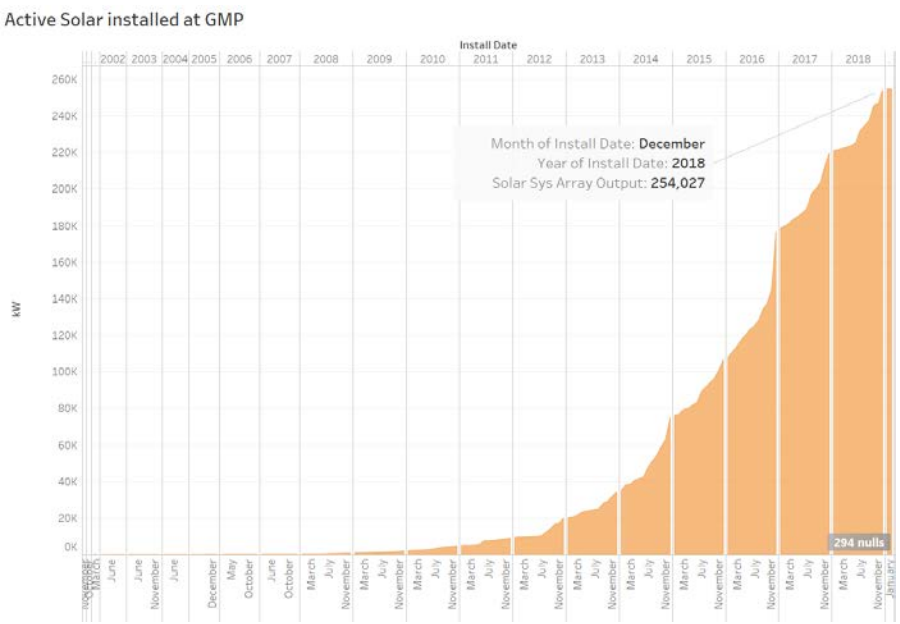
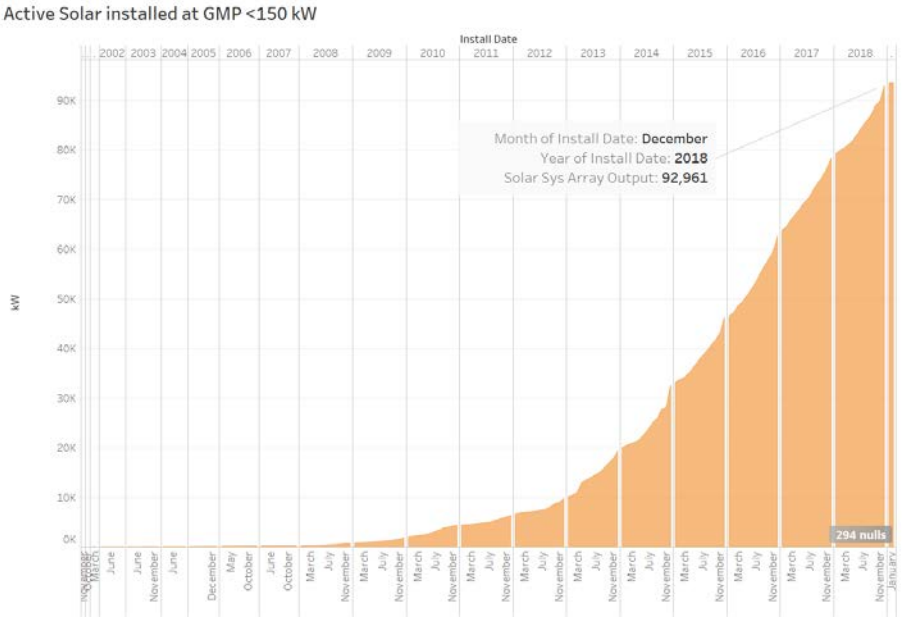
11-1-2017
1-1-2018
3-1-2018
5-1-2018
7-1-2018

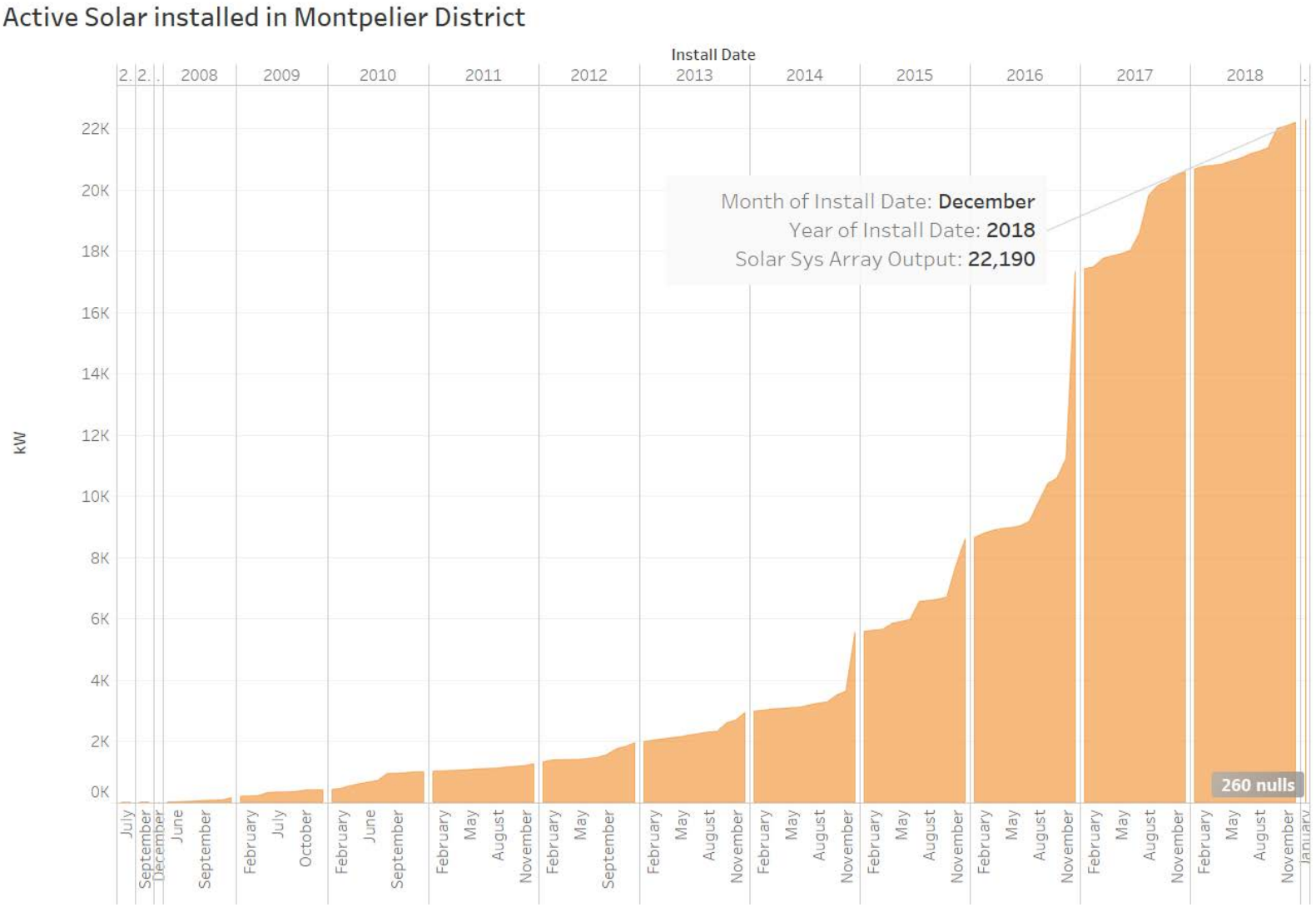
ALL ACTIVE SOLAR



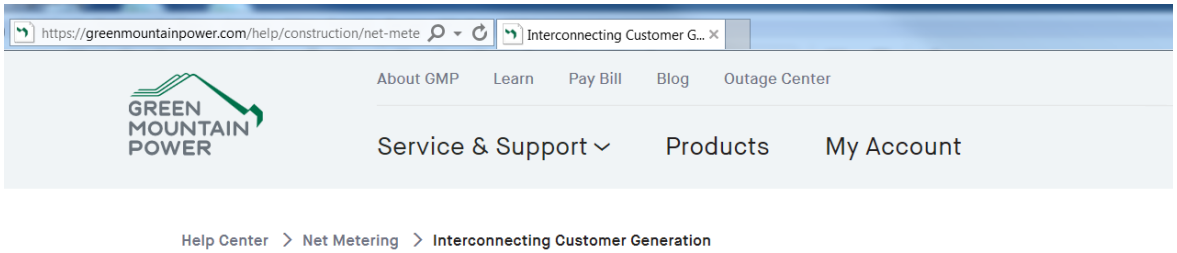
SOLAR <150 KW



ACTIVE SOLAR IN MONTPELIER DISTRICT



INTERCONNECTION PROCESS



Help Center > Net Metering > **Interconnecting Customer Generation**

Interconnecting Customer Generation

If you're a Green Mountain Power customer looking for information about interconnecting your own generation to the grid, you've come to the right place. After reviewing the resources outlined below, please contact our team directly at DR@greenmountainpower.com or call 802.770.3399 if you need further assistance.

There are several choices when considering interconnecting your generation source. The easiest way to separate them is by size as well as how you'll be compensated for the power you produce.

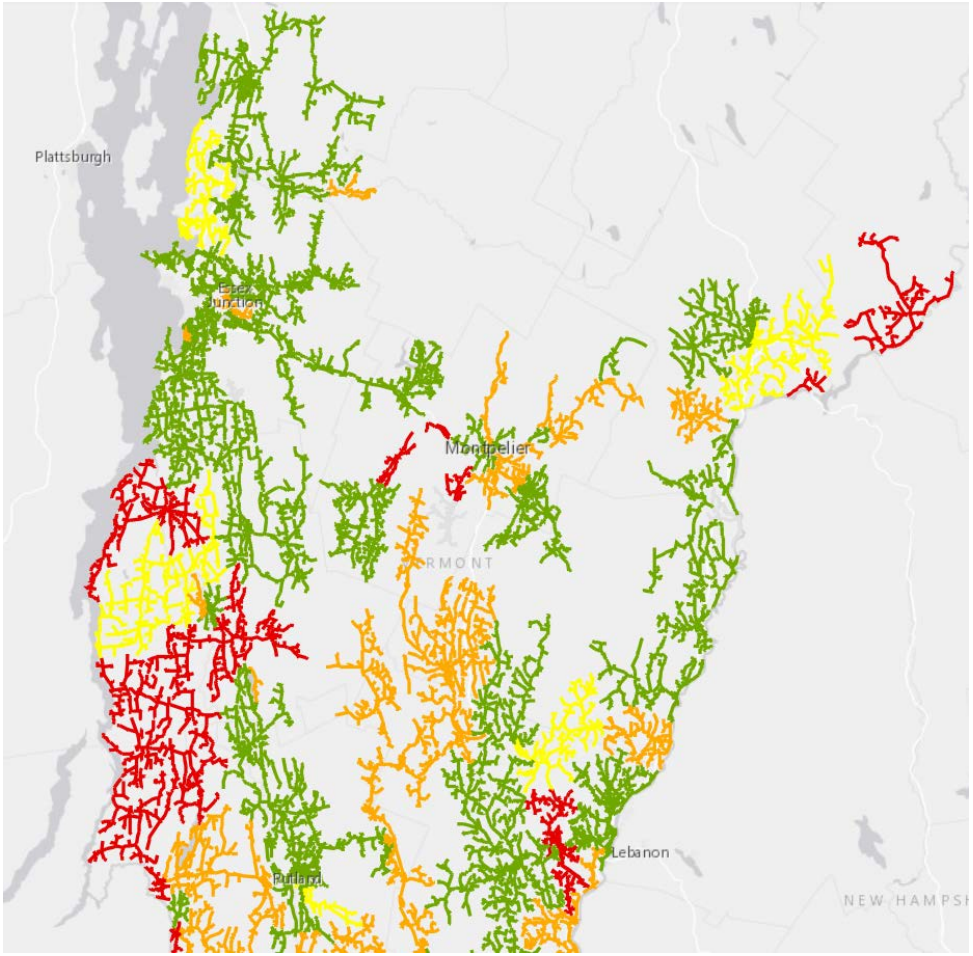
Resources

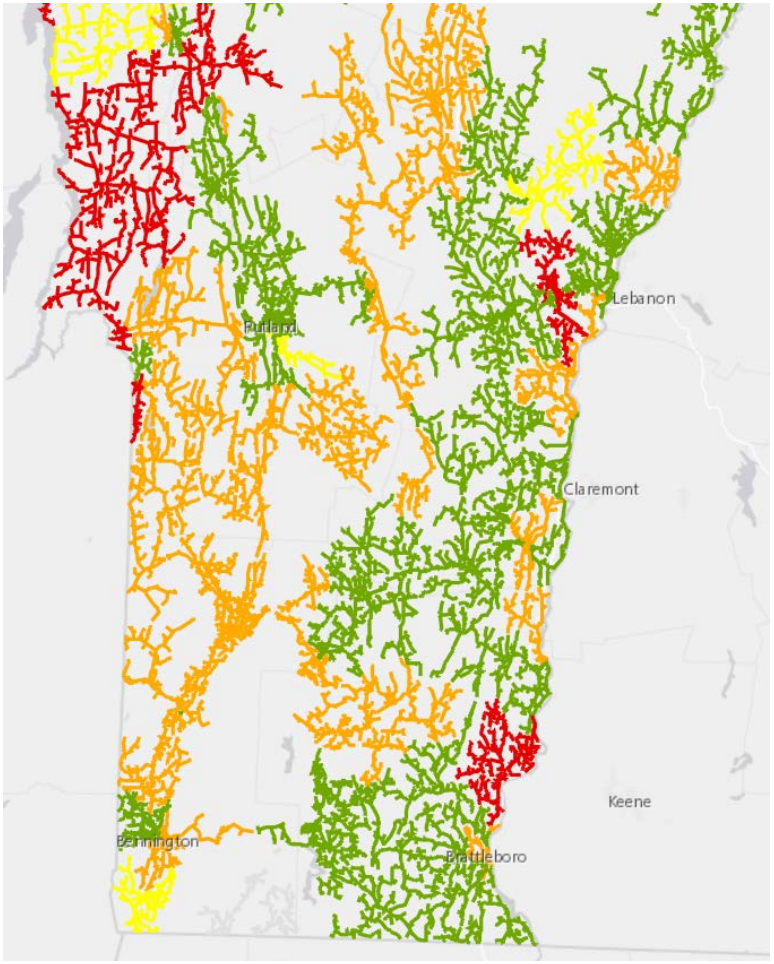
The following codes and standards are required for all interconnection applications or registrations received after November 2, 2018:

- IEEE 1547-2018
- IEEE 1547.1a-2015
- UL1741 SA

Read GMP's advisory letter.

GMP SOLAR MAP



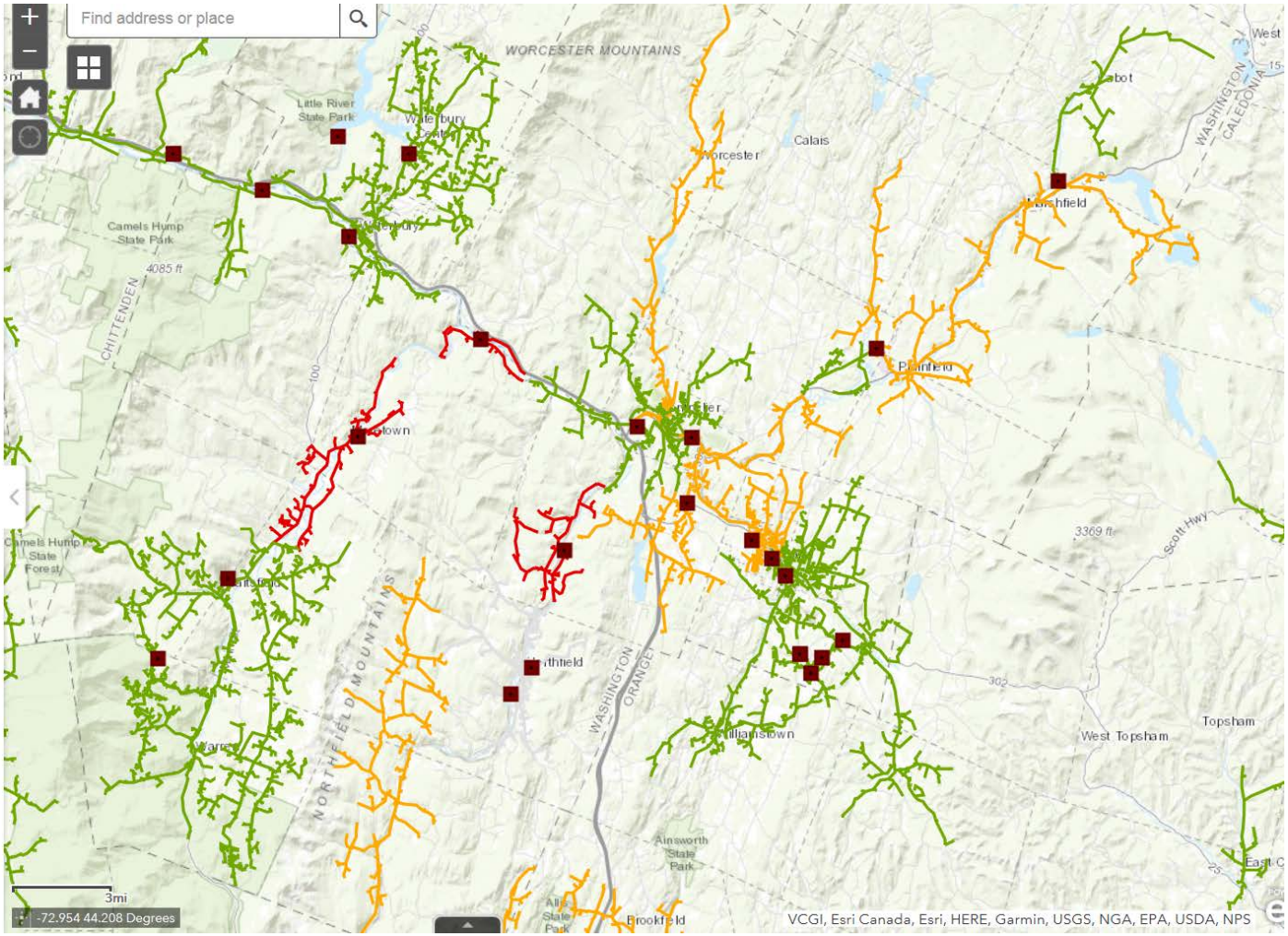


GMP SOLAR MAP (MONTPELIER)

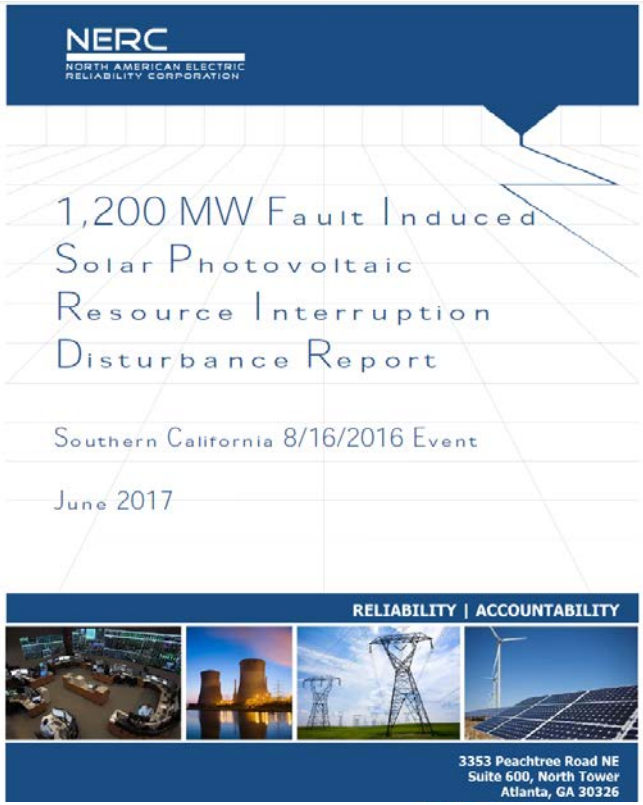
Substations

DG Circuit Capacity Per Substation Nameplate Rating

- Unrated
- Substation transformer with at least 20% capacity remaining
- Substation transformer with less than 20% capacity remaining
- Substation transformer with less than 10% capacity remaining
- Due to system limitations, interconnections on this circuit may experience higher costs and delayed interconnections



BLUE CUT FIRE



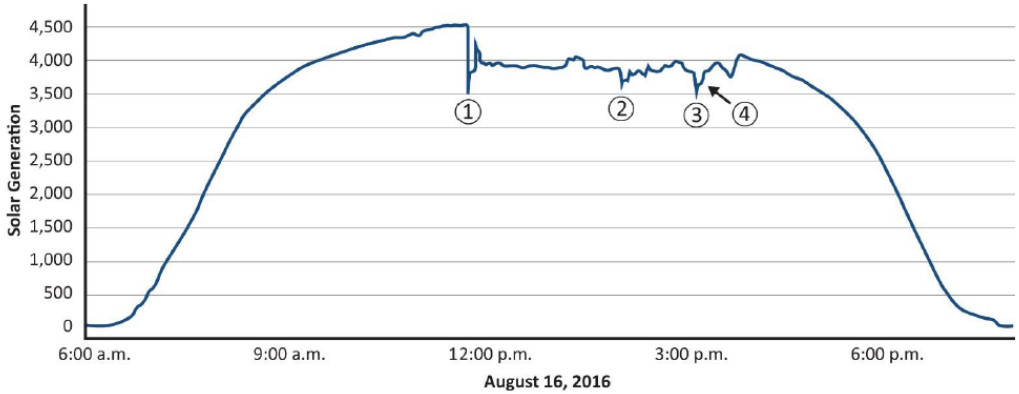


Figure 1.3: Utility-Scale Solar PV Output in SCE Footprint on August 16, 2016

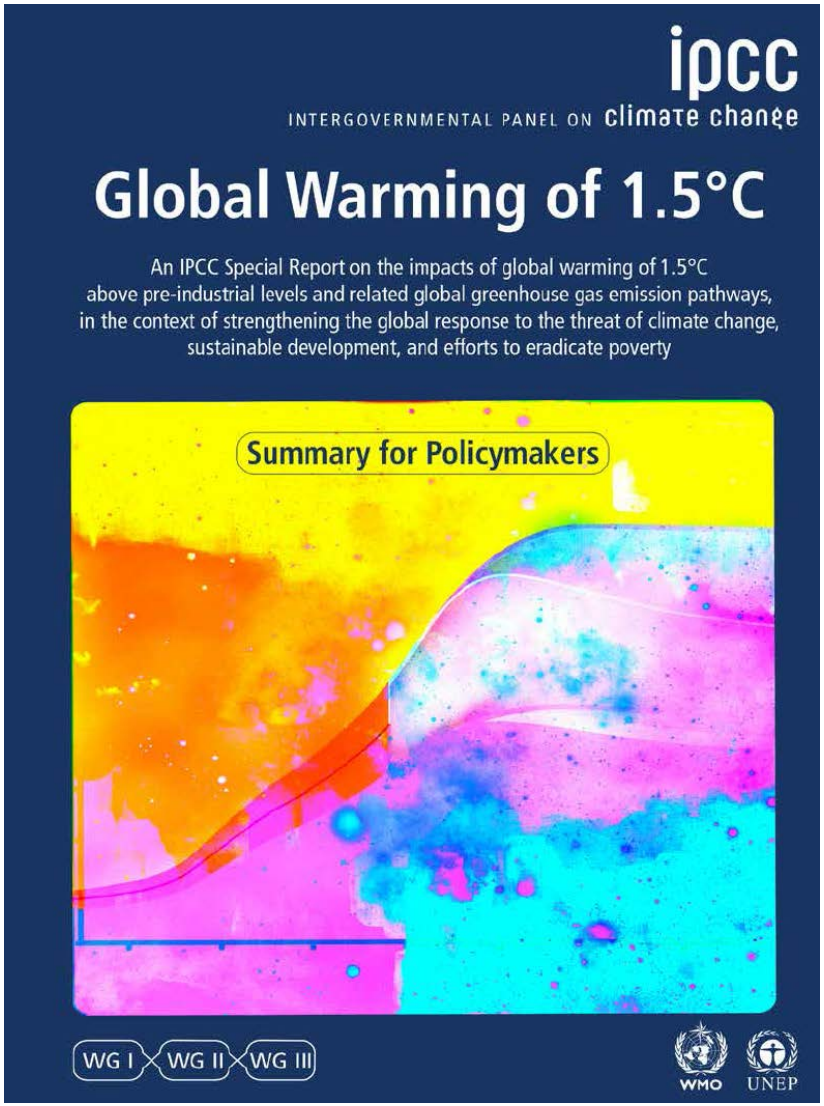
By the end of the day, the SCE transmission system experienced thirteen 500 kV line faults and the LADWP system experienced two 287 kV faults as a result of the fire. Four of these fault events resulted in the loss of a significant amount of solar PV generation.

The most significant event, which occurred at 11:45 a.m. Pacific, resulted in the loss of nearly 1,200 MW of solar PV generation. This value was determined by SCE's supervisory control and data acquisition (SCADA) system,

INDUSTRY RESPONSE

- UL 1741 SA (2016) Tests and certifies Grid Support functions – an intermediate step
- IEEE 1547 (2018) Requires new Grid Support functions
- IEEE 1547.1 (under ballot) describes the tests used to certify the new abilities from 1547 (2018) and is intended to replace UL 1741
- ISO NE (2018) issues the Source Requirements Document for inverters (SRD) which utilize the new Grid Support functions following a national tend. See California (Rule 21) and Hawaii (Rule 14)

GLOBAL CHALLENGES



World governments party to the Paris Agreement requested a comprehensive report on the impacts of 1.5*C of global warming, and how best to limit warming

The report assessed more than 6,000 scientific papers, with input from 91 authors and editors from 40 countries

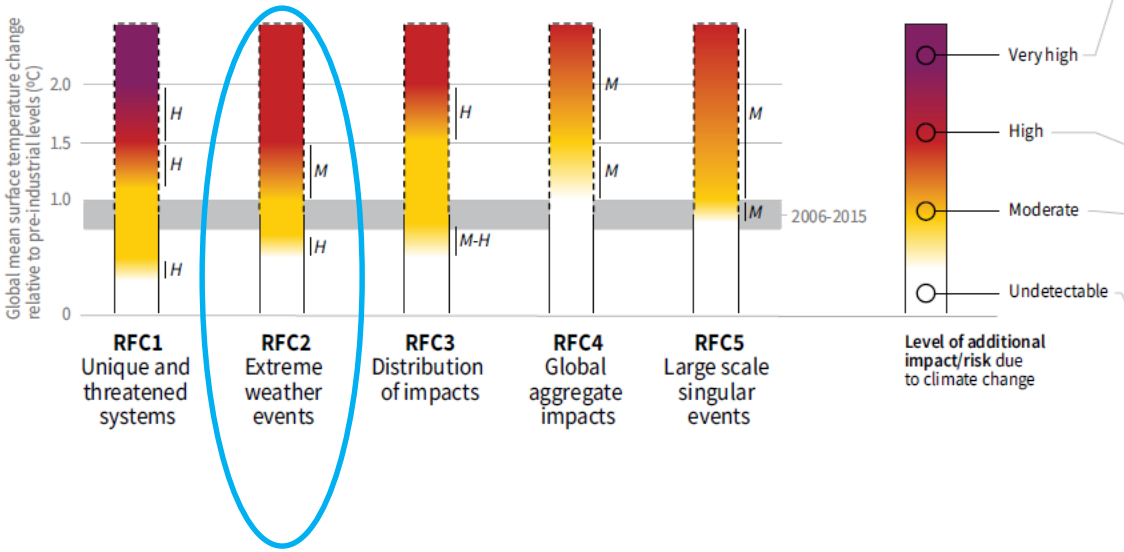
Utilities need to think differently about electric delivery in the future

EXTREME WEATHER EVENTS

How the level of global warming affects impacts and/or risks associated with the Reasons for Concern (RFCs) and selected natural, managed and human systems

Five Reasons For Concern (RFCs) illustrate the impacts and risks of different levels of global warming for people, economies and ecosystems across sectors and regions.

Impacts and risks associated with the Reasons for Concern (RFCs)



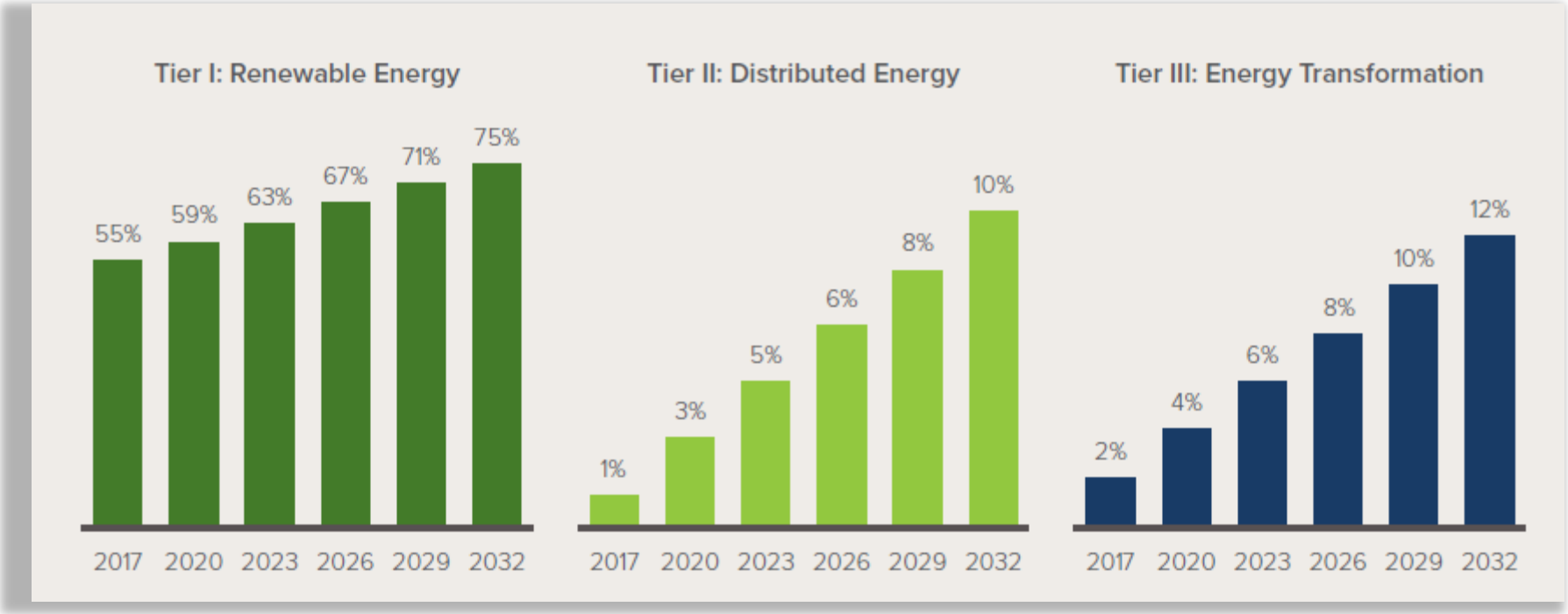
Purple indicates very high risks of severe impacts/risks and the presence of significant irreversibility or the persistence of climate-related hazards, combined with limited ability to adapt due to the nature of the hazard or impacts/risks.
Red indicates severe and widespread impacts/risks.
Yellow indicates that impacts/risks are detectable and attributable to climate change with at least medium confidence.
White indicates that no impacts are detectable and attributable to climate change.

MORE SEVERE STORMS

… exacerbated by climate change

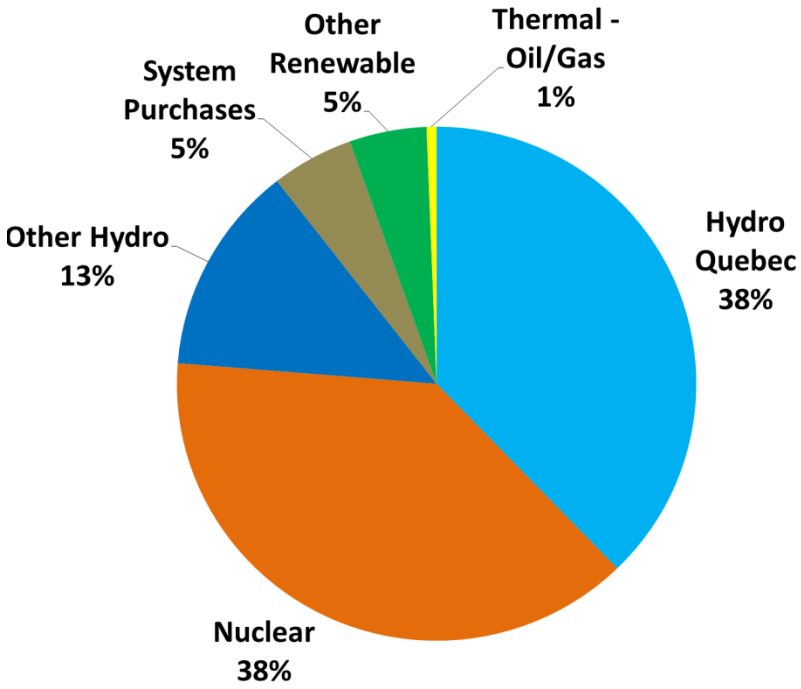
May 2018 (shoulder month) windstorm,
3 day event, 995 events, 58,214 lost power

RENEWABLE ENERGY STANDARD (RES)

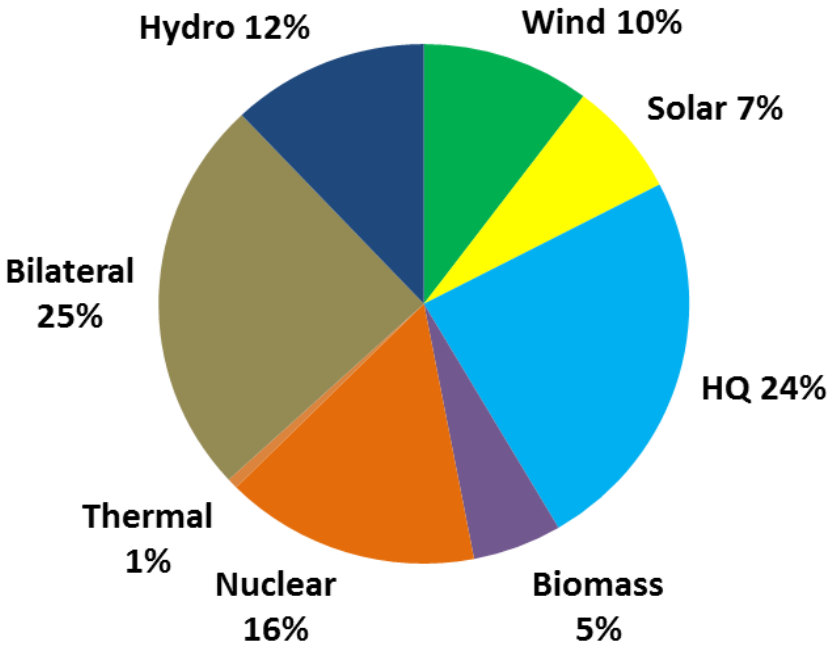


GMP ENERGY PROFILE: 60% RENEWABLE, 90% CARBON FREE

GMP Energy Sources - 2011



GMP Energy Sources – 2018*



* Pre REC sales

ENERGY TRANSFORMATION (TIER 3)

- Vermont's RES requires fossil fuel reduction in transportation, thermal, business processing
- Utilities can offer incentives to support projects and equipment replacement
- GMP collaborates with EVT to maximize the cost-effectiveness and efficiency of customer initiatives

Residential Opportunity

- Heat Pumps
- Heat Pump Hot Water Heaters
- Smart Thermostats
- Battery Storage
- Electric Vehicles

Commercial and Industrial Opportunities

- Line Extensions to offset FF Generation
- Manufacturing Processes
- Refrigeration
- Transportation
- Space and water heating

What is GMP Doing?

Energy Storage

Tesla Powerwall 2.0
Contact Us

Electric Vehicle Programs

Get an In-Home Level 2 EV Charger

Products
$5,500 discount plus 0% APR on 2018 Nissan LEAF.

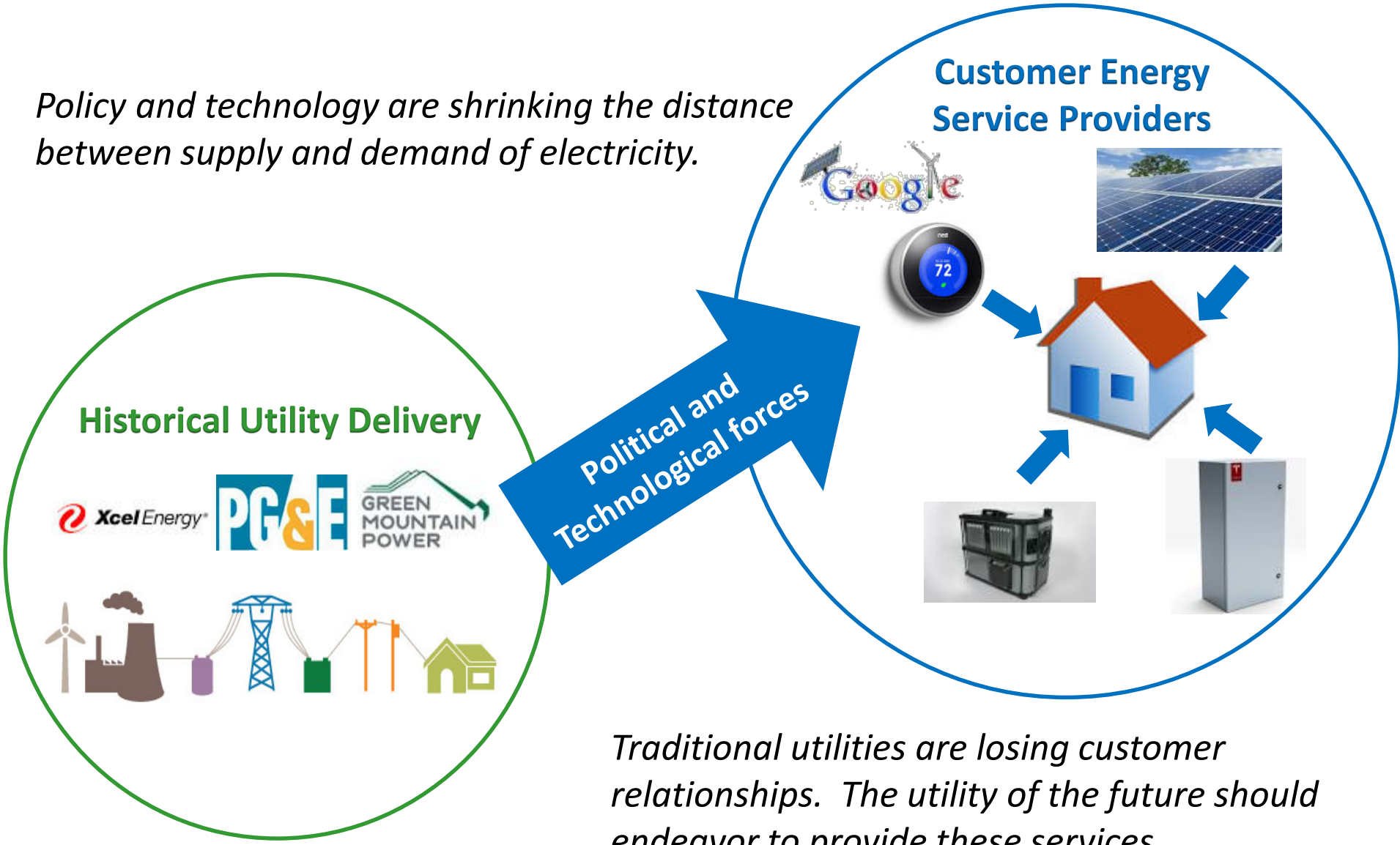
Controllable Loads & Heat Pumps

eWater
FREE Aquanta

Ductless Heat Pump
Financing Options

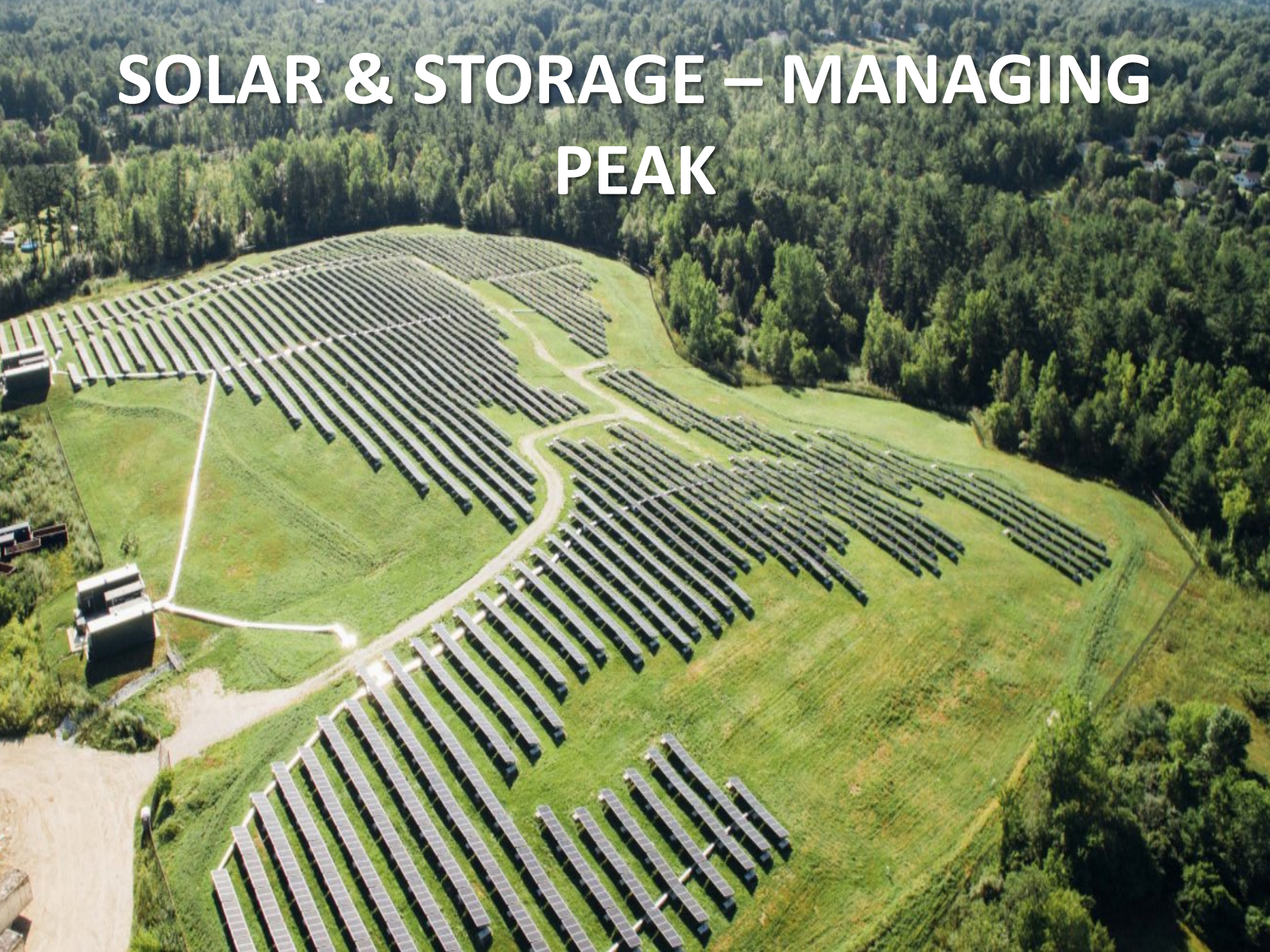
Electricity and Delivery Model is Changing

Policy and technology are shrinking the distance between supply and demand of electricity.



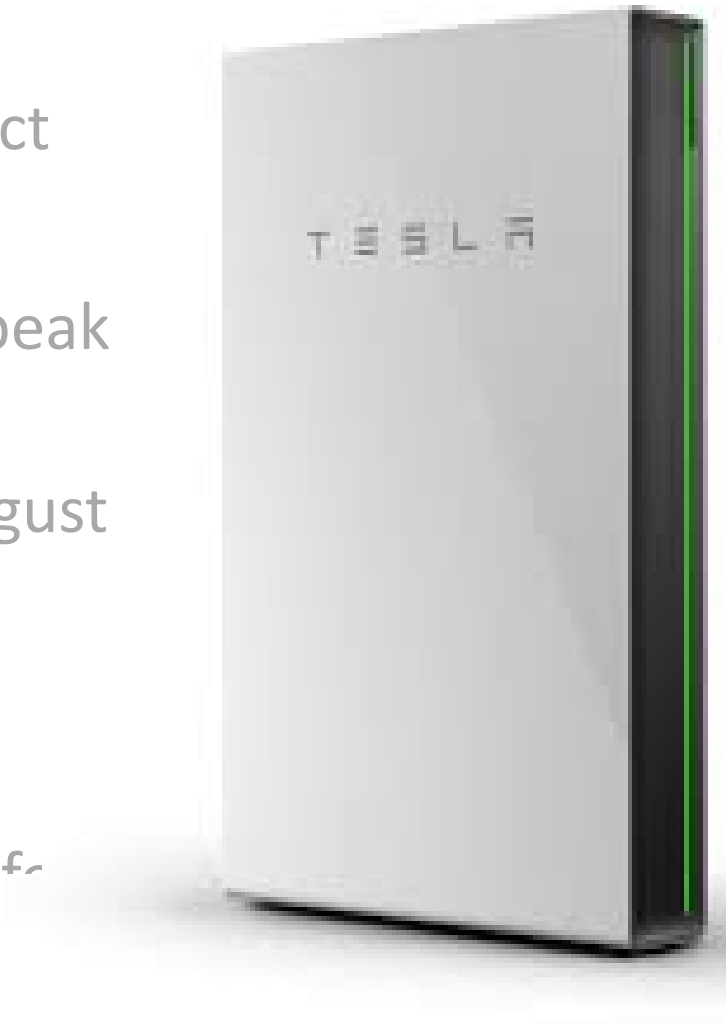
Traditional utilities are losing customer relationships. The utility of the future should endeavor to provide these services.

SOLAR & STORAGE – MANAGING PEAK



GRID TRANSFORMATION – POWERWALL 2.0

- As of November 6, 2018
  - 1856 Powerwalls under contract
  - 912 Batteries installed
  - Now 4.3 MW of dispatchable peak value
  - 2018 ISO Peak occurred on August 29th
  - Powerwalls deployed 3.0MWs during the peak hour
  - Worth $370,000 in peak value f[illegible] that one hour



GREEN MOUNTAIN POWER

Generating Possibilities Together

QUESTIONS ?