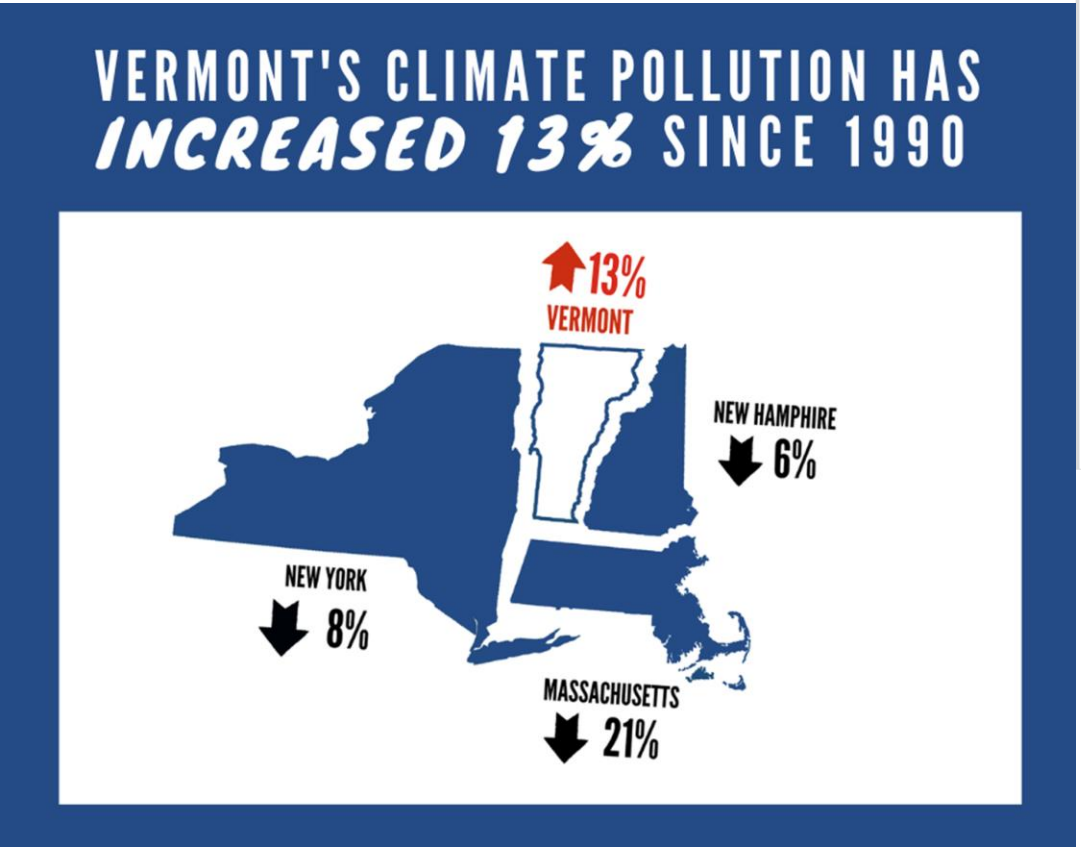
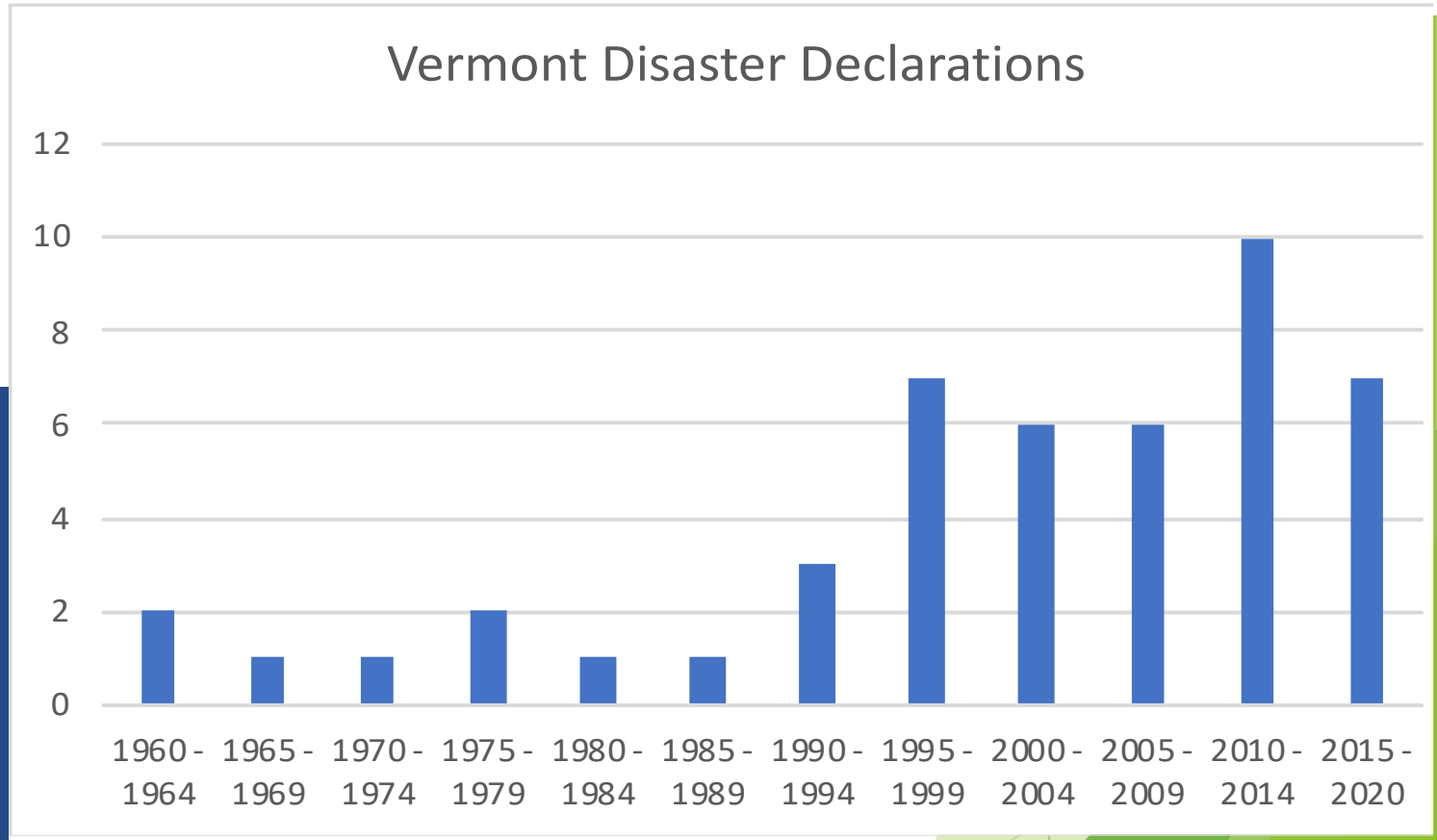
Renewable Energy Vermont

- Storm recovery & customer electricity outages cost ratepayers more than $375 million over last 5 years

= $285 annually for every GMP customer

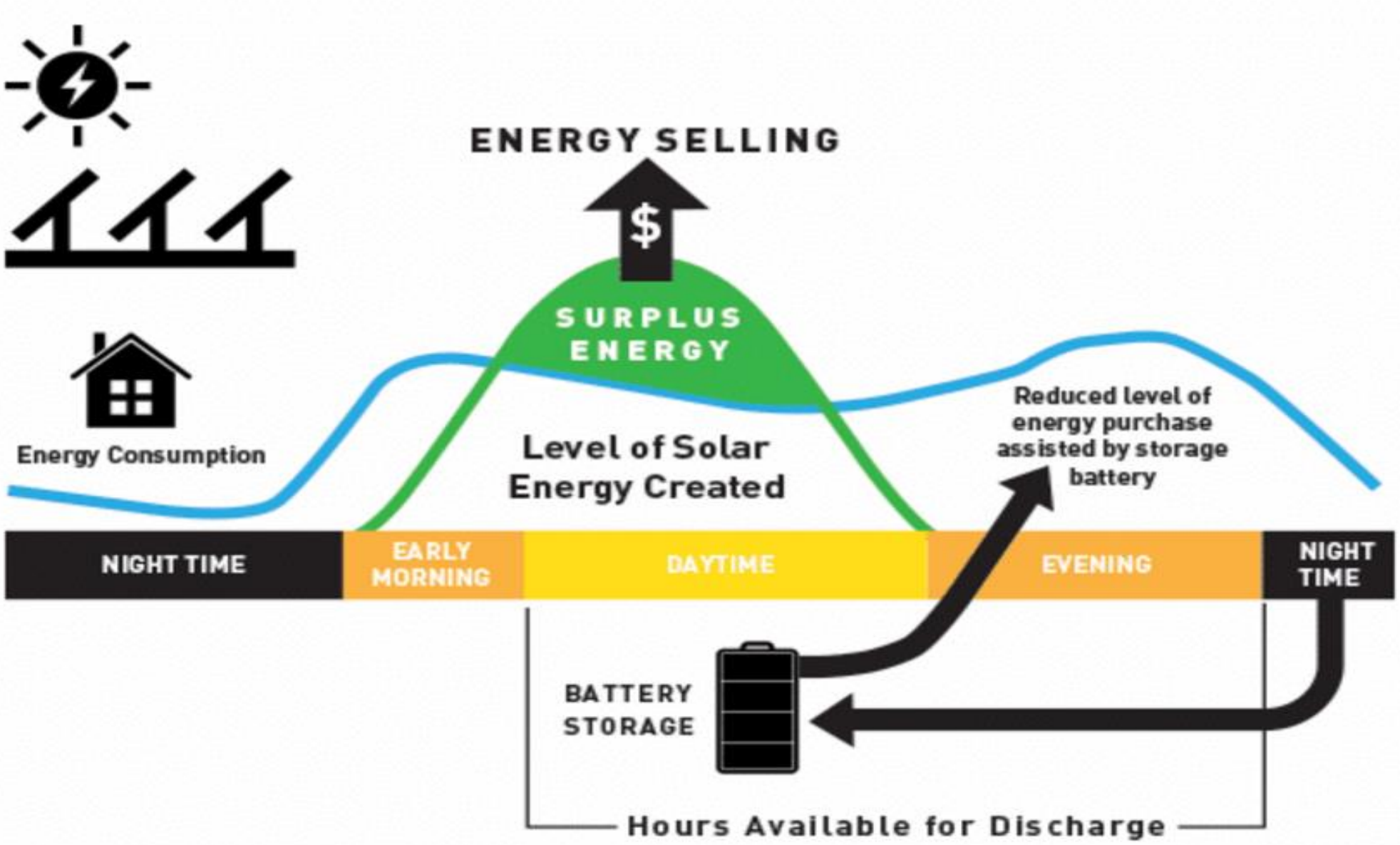




Renewable Energy Storage

- ✓ Increases grid reliability, resiliency, integrity, and stability
- ✓ Helps residents and businesses manage electricity use, lowering costs
- ✓ Lowers costs to ratepayers by reducing electricity demand during peak periods when additional supply is needed
- ✓ Helps avoid costly distribution and transmission infrastructure upgrades, reducing costs to ratepayers
- ✓ Provides backup power when the grid is offline
- ✓ Replaces fossil fuel powered backup generators
- ✓ Reduces greenhouse gases
- ✓ Maximizes use of VT produced renewable energy
- ✓ Supports economic growth

Renewable Energy Storage



HOW ENERGY STORAGE CAN BENEFIT VERMONT

1. CRITICAL BACK-UP POWER

Enable citizens, C&I facilities and critical community facilities like hospitals, first responders, and schools to power through short or extended grid outages – saving tens of millions of dollars and potentially saving lives.

2. SAVE MONEY FOR RATEPAYERS

Manage costs at every level of the grid - by creating customer bill savings from reduced demand charges, utility savings from peak shaving, and supporting local distribution capacity to reduce costs of replacing aging infrastructure and expanding transmission lines.

3. INNOVATION ECONOMY & NON-OUTSOURCABLE JOBS

Boost jobs from Vermont-based manufacturers like Dynapower, Northern Power and Northern Reliability all the way to electrical, construction and field service roles at solar+storage providers.

4. MAXIMIZE LOCAL RENEWABLE ENERGY INTEGRATION

Create a 1GWh local clean energy bank, dispatchable when needed most to reduce imported fossil fuel electricity and enable clean electrification of heating and transportation.

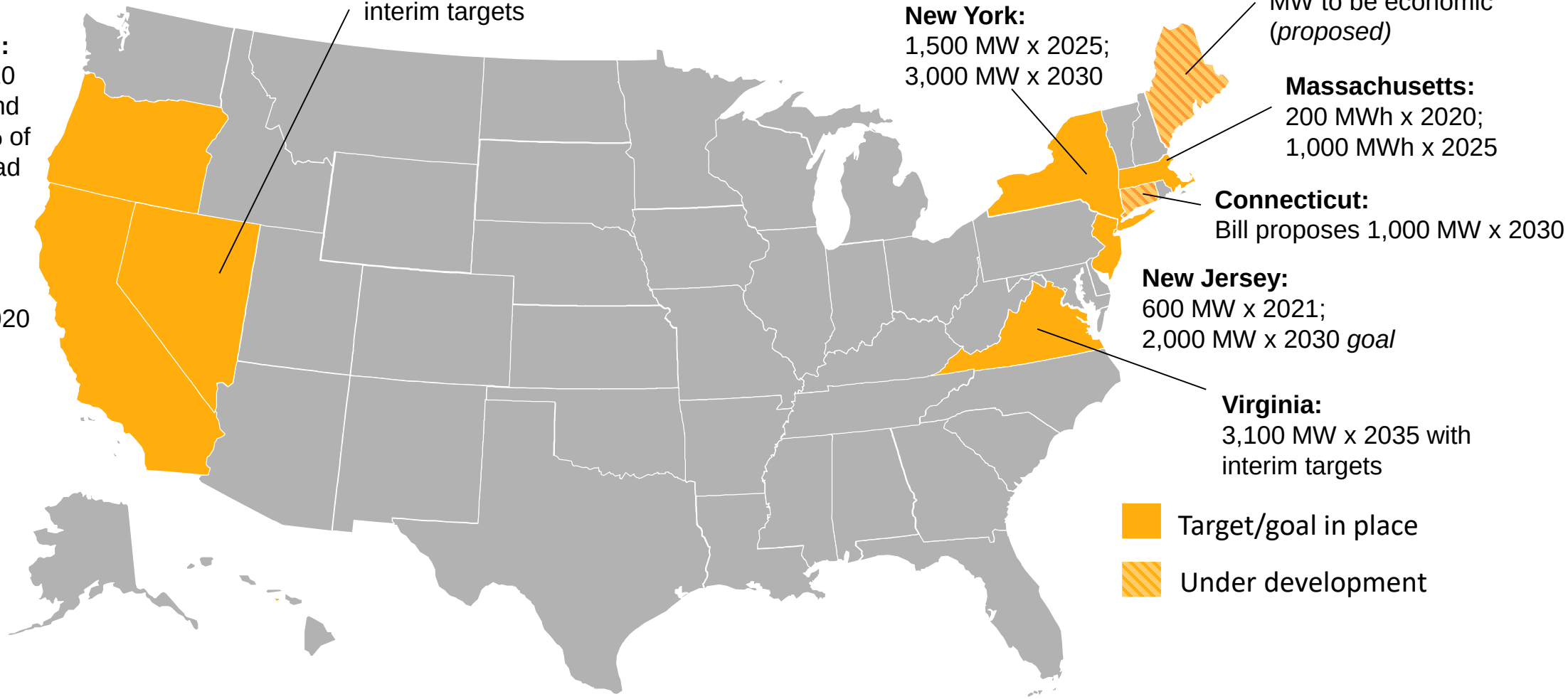
Solar + Storage =

Keeps the lights & heat on
Keeps Vermonters Working
Keeps Vulnerable Alive

OTHER STATES INCREASING RESILIENCE, JOBS, & CLIMATE ACTION with RE + STORAGE

- ✓ Massachusetts (2018), New York (2018), California (2010), Nevada, Oregon, New Jersey (2018) require energy storage procurement, legislation pending in Connecticut & Maine
- ✓ New Jersey, New York, Maryland, Hawaii, Washington and California offer incentives for energy storage
- ✓ All new California homes required to install solar starting in 2020
- ✓ Maine, Virginia, Rhode Island, New Mexico, California, D.C., Hawaii, New York, Arizona, Washington, Nevada, New Jersey, Colorado, Wisconsin plan for 100% renewable electricity or carbon free
- ✓ Connecticut, Massachusetts, New York, California, Colorado, Rhode Island offer low income solar support
- ✓ Arizona, Nevada, California, New York, Hawaii updated interconnection rules to encourage energy storage
- ✓ Energy storage qualifies for energy efficiency incentives in Massachusetts

11 GW in State Storage Target Laws



$1+ Billion in State Storage Incentives

Nevada:
$10M solar+storage program

New York:
Bridge Incentive Program ($280M) + NY-Sun program ($40M)

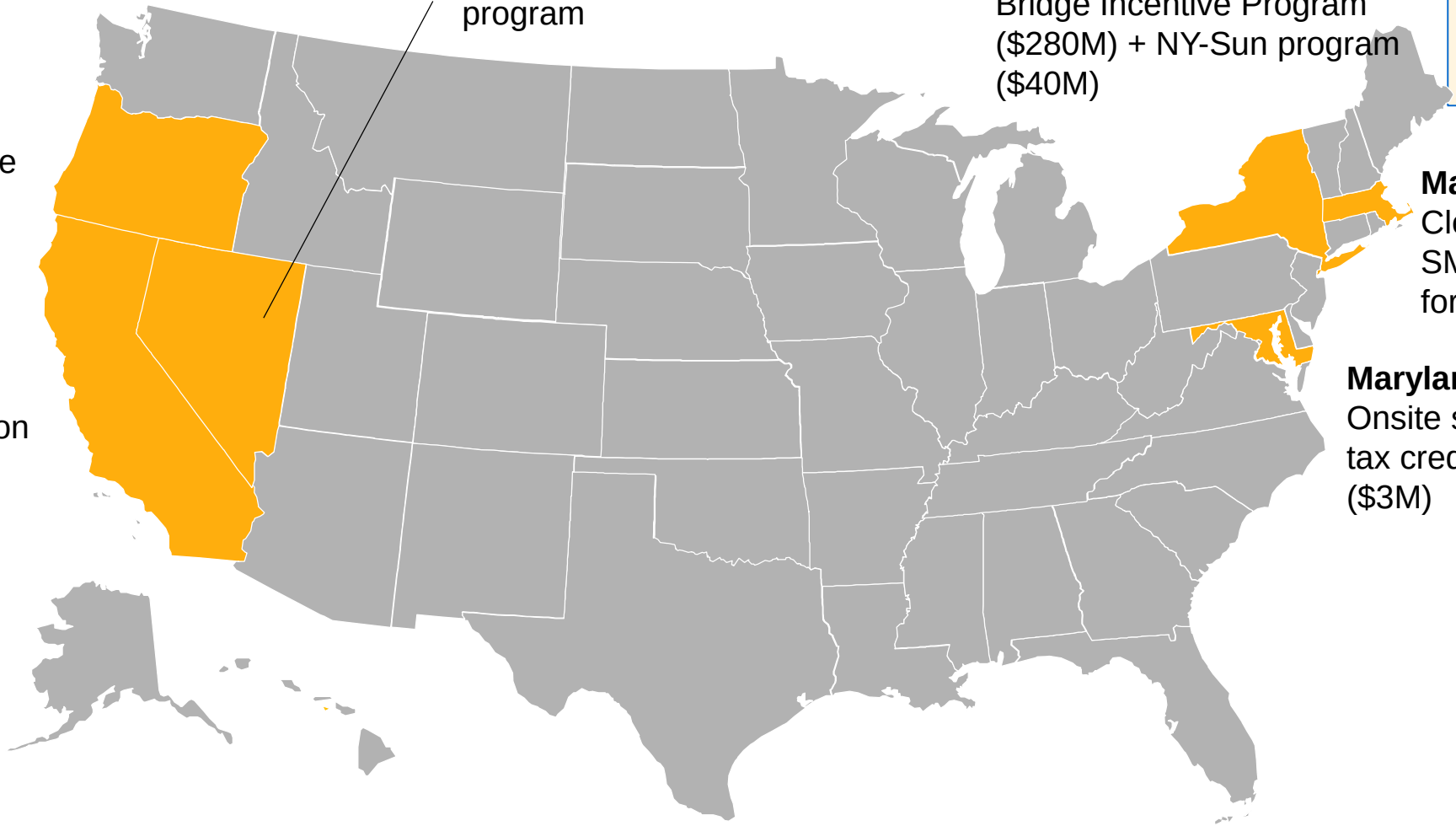
Current Federal:
Storage paired with solar eligible for 26% investment tax credit

Oregon:
$2M solar+storage program

Massachusetts:
Clean Peak Standard; SMART incentive program for solar+storage

California:
Self-Generation Incentive Program ($800M)

Maryland:
Onsite storage tax credit ($3M)



Energy Storage in Vermont

H. 431 Amendments & Issues

- Maintain certainty & reasonable permit timing - 15-30 days unless substantive issue raised (then no required timing) for small projects. Sec.9 – keep language as passed by House.
- Property tax clarity & certainty for storage and renewables (S.128)
- Update definition of “plant” consistent with smart growth siting & legislative intent of Act 174 (RPC & town energy planning)
- Clarifying regulation on energy storage aggregation
- Require PUC to establish an energy storage procurement or demand/response target

H. 431 Amendments & Issues
- Energy Storage Permitting Fairness

Residential / Small Business Battery

Small Business & Commercial Battery 120kW = 4 filing cabinets

H. 431 Amendments & Issues - Tax Clarity & Certainty

Problem: Vermont law does not address state education or state/local real property taxes for energy storage. This uncertainty is increasing the cost of resilient energy storage and discouraging deployment of this new cost saving energy efficiency technology in Vermont.

Request:

- Create consistent property tax treatment for energy storage projects
- Create tax certainty for existing and new solar and energy storage projects
- Clarify initial legislative intent that renewable energy projects not impact underlying land value assessments, as non-residential projects already pay property tax on the equipment annual per state formula
- Simplify assessment of storage and solar projects, increasing state and local revenues and saving government administrative costs and time.

H. 431 Amendments & Issues - Definition of "Plant"

- Update definition of "plant" consistent with smart growth siting & legislative intent of Act 174 (RPC & town energy planning)

30 V.S.A. § 8002

(18) "Plant" means an independent technical facility that generates electricity from renewable energy. A group of facilities, such as wind turbines, shall be considered independent technical facilities and not a single plant if

(a) each facility has separate and distinct inverters, transformers and production meters; and

(b) separate points of interconnection to the electric grid. A point of interconnection means the point at which the interconnection between the interconnecting utility's electrical system and the renewable energy generator's equipment interface. An electric distribution line owned by a utility shall not be considered a common interconnection line to the electric grid.

Renewable energy facilities in close proximity shall not be considered a single plant if each is an independent technical facility. In determining whether a group of facilities share common equipment and infrastructure, said determination will be made based upon shared inverters, production meters, other electrical equipment not including utility-owned line extensions, or access drives specific to facility operations.

New & Updated Tools & Legislative Action Needed for Cost Effective, Climate Resilient, Local Electricity

- Establish an energy storage procurement target / statewide goal and statewide BYOD residential & commercial program
- Continue Standard Offer for at least 3 more years at 20MW/year, update to allow projects less than 5MW & include an energy storage carve-out (until new community solar / tool can be implemented by PUC).
- Update Renewable Energy Standard to require at least 20% local, distributed renewables & 100% total renewable electricity by 2030
- Create low-income positive adjustor in net metering & new scaled community renewables policy.

New & Updated Tools & Legislative Action Needed for Cost Effective, Climate Resilient, Local Electricity

- Update definition of “plant” consistent with smart growth siting & legislative intent of Act 174 (RPC & town energy planning)
- Require all utility’s to provide & regularly update GIS-based interconnection maps depicting the location & capacity of existing substations & circuits, and note any significant impediments to interconnection.
- Require statewide distribution grid planning for 100% RES, climate resilience, & 20+% local renewable electricity
- Statutory right for Vermonters to generate their own renewable electricity

New & Updated Tools & Legislative Action Needed for Cost Effective, Climate Resilient, Local Electricity

- Statutory right for Vermonters to generate their own renewable electricity
- Property tax certainty for renewable generation and storage (S.128)
- Flexibility for agrivolatics on current use property w/out penalty (S.61)
- **Replenish the Clean Energy Development Fund**
- Direct ANR to allow local solar to help with clean water goals & wetlands restoration

Renewable Energy Vermont

#LocalRenewables
IT'S WHAT VERMONTERS WANT

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MOST ENERGY DOLLARS FLOW OUT OF VERMONT

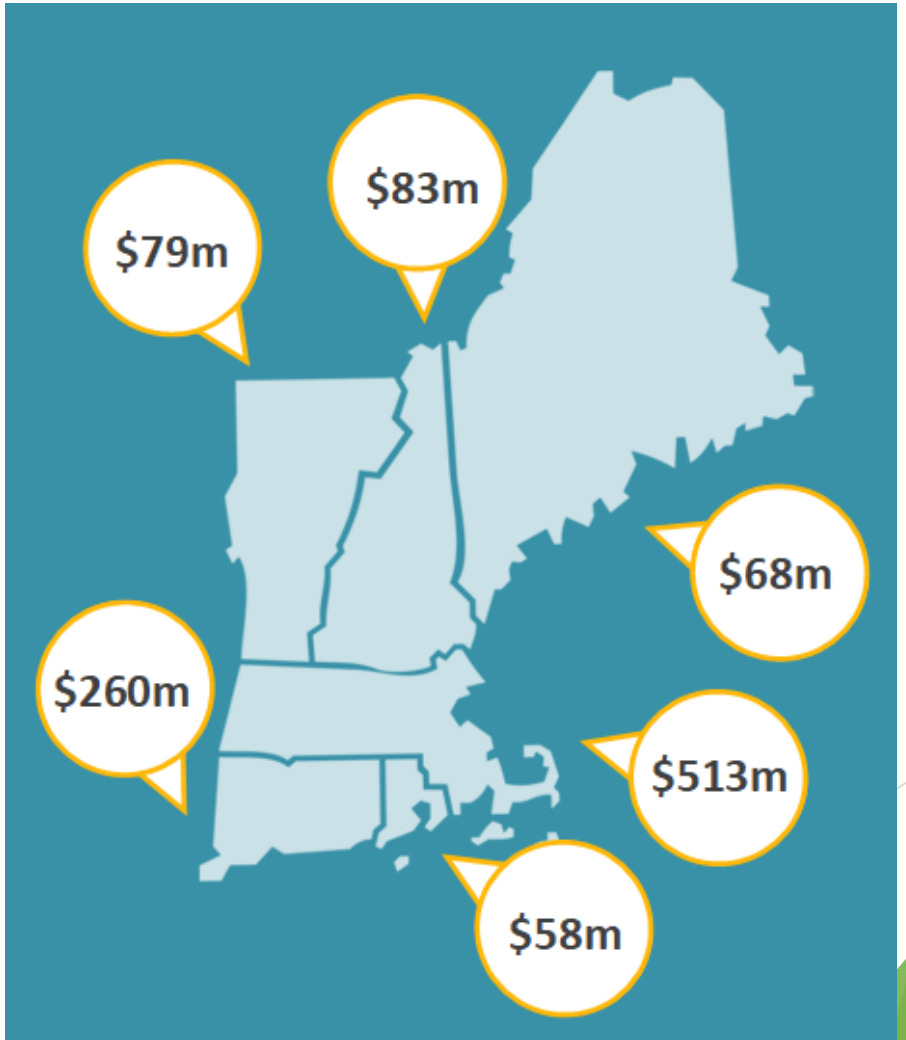
We Are Moving in the Wrong Direction!

- ***Vermont spends over $3 Billion annually on energy.***
- ***90% of Vermont's total energy is imported from out-of-state and out-of-country.***
- ***Large majority of Vermont's electricity is imported from out-of-state.***

Local Solar Benefits ALL Vermonters

- ✓ Solar provided energy benefits of $1.1 billion dollars from 2014-2019 throughout New England.
- ✓ Solar saves money for all ratepayers by avoiding electricity purchases and reducing electricity prices.
- ✓ New England solar cut 4.6 million metric tons of CO_2 pollution, equal to taking one million cars off the road.

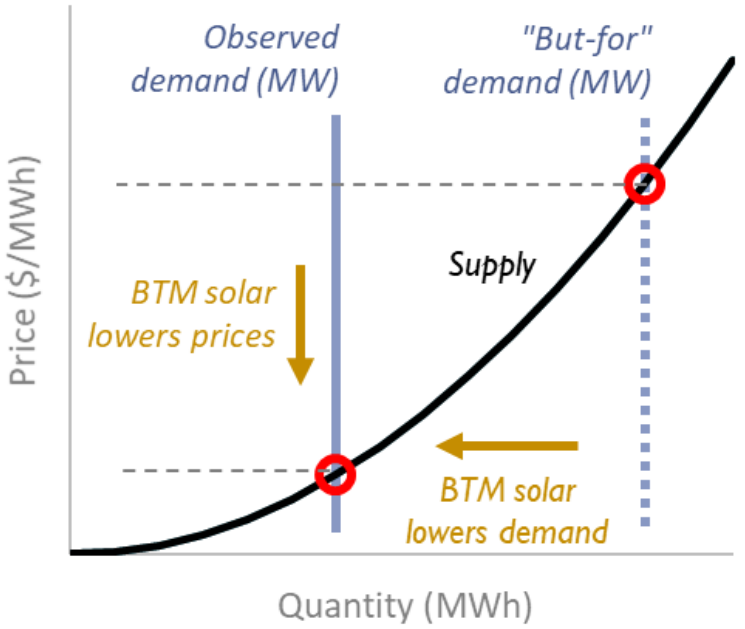
Total energy savings from BTM solar, 2014 through 2019 (million $)



How does solar provide energy benefits?

Solar provides two kinds of energy benefits:

1. **Load impacts**. When solar produces electricity, it reduces the amount of electricity that must be purchased from the electric grid.
2. **Price impacts**. When solar reduces demand for electricity, it avoids the need to run the most expensive power plant. That lowers the price that all utilities pay to purchase electricity.



#ActOnClimateVT

IT'S WHAT VERMONTERS WANT

Renewable Energy Vermont