



# RESILIENT CLEAN ENERGY INFRASTRUCTURE: IMPLEMENTATION BARRIERS TO PAIRING SOLAR AND ENERGY STORAGE

## THE FUTURE NOW – NET METERING & ENERGY STORAGE

Net metering as it applies to energy storage is a near-term issue that many utilities and PUC's are currently faced with.

- Does the addition of energy storage disqualify solar for net metering?
  - As we understand now, if utility grants permission to operate, then:
    - 1 Storage component cannot push power to grid; or
    - 2 If storage pushes power to grid, the owner will not be compensated at net metering rate



## REGULATORY BARRIERS

- Solar + storage has the ability to be dynamic and provide many benefits to the grid. **How do regulators develop policy that does not limit its capabilities?**
- What type of asset will the energy storage be classified as?
  - Depending on classification, which revenue streams will it have access to?
- Who controls the energy storage?
  - If on the customer-side of meter, can the grid controller utilize the resource during its downtime?
- How do regulators send the appropriate market signals to customers via regulations to spur solar + storage growth and development?



## FINANCING/ECONOMIC BARRIERS

- **Can solar + storage participate in demand response, ancillary services, and/or net metering markets?**
  - Frequency Regulation, Peaking Shifting, Spinning Reserve
- If resource has shared use, who has priority during a grid event? How is priority established?
- How do we accurately quantify the benefits provided to the grid?
  - How can the customer be adequately compensated?
- What ownership structures are permissible?
  - Can customers and third party-owners participate?



## POTENTIAL SOLUTIONS

- Create **FLEXIBLE POLICIES** that capture, not limit, solar + storage's dynamic capabilities. Make a clear path to interconnection.
- To optimize solar + storage's technical capabilities & economic potential, explore **MULTI-USE** options (e.g., back-up power AND peak shaving).
- Analyze granular (sub-hourly) data to better understand the benefits solar + storage can provide and how to adequately compensate those services.
- **LEVERAGING** third party/private capital with public initiatives can be an efficient mechanism to spur development.

## CASE STUDY FROM MASSACHUSETTS

As administrator of a net metering program ([www.MassACA.org](http://www.MassACA.org)) we were presented with a commercial solar + storage facility.

- Technical approval from utility went smoothly; regulatory & compensation processes are most challenging
- Net metering regulations were silent on energy storage
- **Prompted filings with Department of Public Utilities**

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