

# Demand Response and Distributed Solar: Lessons from the Community Solar Value Project

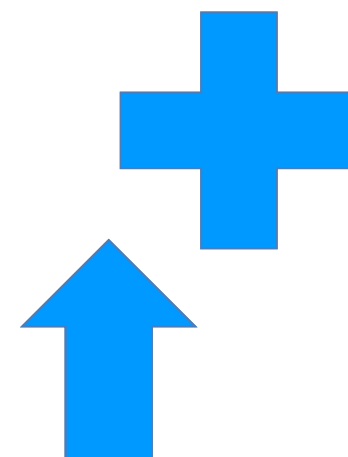
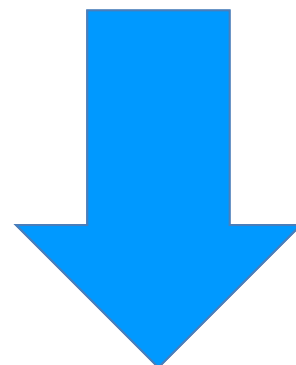
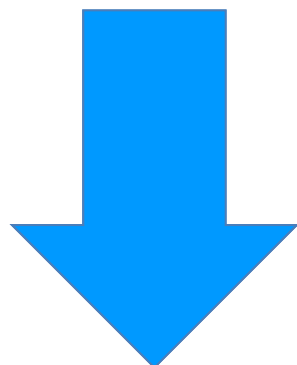
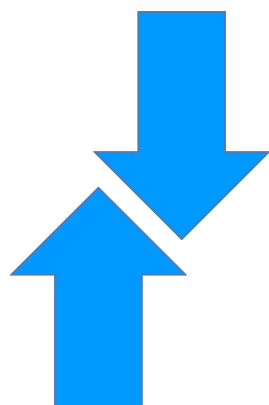
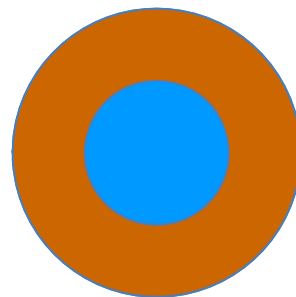
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# CSVP Design Guide

- Module: Incorporating Demand Response into Community Solar Programs
- Remember the Audience: Utility Community Solar Program Managers
- If This Seems Too Easy....
- ....GOOD!



## CSVP Driving Net Solar Cost Reduction



Strategic solar  
design/specific  
ations

Best-practice  
project  
financing/  
procurement

Utility-driven  
target market  
development  
& a more  
customized  
offer

DR and  
storage  
companion  
measures  
increase net  
solar value

## Scoring Analysis: Goals

*Demonstrate how the CSVP methodology can be **applied** to identify a handful of DR measures as a starting point for inclusion in community solar programs*

The approach is:

- Application-focused
- Context-specific
- Part of a larger process



## Process Overview

**1. Characterize Utility Integration Needs**

**2. Identify Existing Utility DR Measures**

**3. Review Scoring Matrix For DR Measures  
That Address Integration Needs**

**4. Evaluate High-scoring DR Measures For  
Inclusion in Community Solar Program**

## Step 1: Characterize Utility Needs

- Identify priority integration and overall grid concerns faced by the utility
  - Peak load, fast ramps, duck curve, shoulder seasons....
- What are long-term needs?
- What are short-term needs?



## Step 2: Characterize Existing DR Measures

- Review utility DR portfolio
  - Rates, technologies, incentives, & other DSM measures

Existing programs do not exhaust the range of possibilities....

.....yet they are a starting point!



## Step 3: Review Scoring Matrix For DR Measures That Address Integration Needs

Ability of DR Options to Address Integration						
Integration Issue		"Duck Curve" Issues	Intra Hour Fast Ramps	X>2-Hour Forecast Error	X>24-Hour Forecast Error	Peak Load Reduction
DR Measure						
1	Direct Load Control	●	◐	◐	◐	●
2	Day-ahead Curtailable Load	◐	○	○	◐	●
3	Time-of-use-Rates	◐	◐	◐	◐	◐

●=High ◐=Medium/High ◑=Medium ◒=Low ○=None



## Step 4: Evaluate High-scoring DR Measures For Inclusion in Community Solar Program

Ability of DR Options to Address Integration

Integration Issue		"Duck Curve" Issues	Intra Hour Fast Ramps	X>2-Hour Forecast Error	X>24-Hour Forecast Error	Peak Load Reduction
DR Measure						
1	Direct Load Control	●	◐	◐	◐	●
2	Day-ahead Curtailable Load	◐	○	○	◐	●
3	Time-of-use-Rates	◑	◑	◑	◑	◑
4	Residential Load Curtailment	◑	○	◑	◑	◑



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**Thank You**

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