CURRENT STATUS

- Residential: Installed Capacity: 295 MW
- Number of Customers: 44,703

- Commercial: Installed Capacity: 53 MW
- Number of Customers: 1,239
IS THE CURRENT COMPENSATION STRUCTURE SUSTAINABLE?

• When a customer installs a rooftop PV system on a fully volumetric rate a revenue shift occurs

• Revenue shifts are not inherently bad if equitable, modest, and justified.
  – Can a large majority of customers participate?
  – Are dollar amounts and bill impacts reasonable?
  – Does the long-term value of the program outweigh the revenue shift?
PROJECTED COSTS

Total Company Impact of Solar

- Total Company - Lost Revenue $ (KWH Power & Delivery Charges) less Avoided Power Costs
- Total Company - Avoided Power Supply Market Costs $
• 7.2 kW - $1,755 in bill savings
  - $423 in avoided energy costs
  - $127 Capacity
  - $249 Environmental

$955 in value gap
LONG-TERM AVOIDED COSTS

- 7.2 kW - $1,755 in bill savings
- $423 in avoided energy costs
- $127 Capacity
- $249 Environmental
- $264 Distribution

$691 in value gap
PUBLIC BENEFIT PROGRAMS

Included in the gap between compensation and system value are the costs of public benefit programs

1. Renewable Power
2. Low income programs
3. Regional Greenhouse Gas Initiative
4. Efficiency & Renewables Program
5. Storm Restoration

Amounts to $42/year or $3.50 per month for a 7.2 kW system
1. Net billing
2. Non-volumetric charges
3. Time-of-use rates
4. Buy-all, sell-all
• **Cost causation**: Rates should reflect cost causation, including embedded costs as well as long-run marginal and future costs. Fixed charges should only be used to recover costs that do not vary with demand or energy usage.

• **Encourage outcomes**: Rates should encourage desired market and policy outcomes including energy efficiency and peak load reduction, improved grid resilience and flexibility, and reduced environmental impacts in a technology neutral manner.

• **Policy transparency**: Incentives should be explicit and transparent, and should support state policy goals.

• **Decision-making**: Rates should encourage economically efficient and market-enabled decision-making, for both operations and new investments, in a technology neutral manner.

• **Fair value**: Customers should pay the utility fair value for services provided by grid connection, and the utility should pay customers fair value for services provided by the customer.

• **Customer-orientation**: The customer experience should be practical, understandable, and promote customer choice.

• **Stability**: Customer bills should be relatively stable even if underlying rates include dynamic and sophisticated price signals.

• **Access**: Customers with low- and moderate-incomes or who may be vulnerable to losing service for other reasons should have access to energy efficiency and other mechanisms that ensure they have electricity at an affordable cost.

• **Gradualism**: Changes to rate design formulas and rate design calibrations should not cause large abrupt increases in customer bills or delivery rate impacts.

• **Economic sustainability**: Rate design should reflect a long-term approach to price signals and the ability to build markets independent of any particular technology or investment cycle.
IMPORTANT CONSIDERATIONS

• **Technology applicability** – Which technologies are spurred or hindered by different price signals within the rate?

• **State Goals** – How is cost causation and economic sustainability balanced with gradualism and customer orientation (i.e., that the customer experience be practical, understandable, and promote customer choice)?

• **Data** – Is there adequate data availability for residential and small commercial customers?
## CASE STUDIES

<table>
<thead>
<tr>
<th>Interim Rate</th>
<th>Jurisdiction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Volumetric TOU rate with consideration for public benefit funds</td>
<td>California</td>
</tr>
<tr>
<td>2. $/kW DC monthly fee to close the value gap (some public benefit fund capture)</td>
<td>Arizona</td>
</tr>
<tr>
<td>3. Volumetric TOU rate and grid supply option</td>
<td>Hawaii</td>
</tr>
</tbody>
</table>
# Evaluation Framework

<table>
<thead>
<tr>
<th>Title</th>
<th>Applicability</th>
<th>Economic Sustainability</th>
<th>Speed to Implement</th>
<th>Gradualism</th>
<th>Simplicity</th>
<th>Ability to save</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>High</strong></td>
<td>Applies to all technology groups</td>
<td>Accurate price signals that avoid long run cost shifts while maintaining necessary grid investment</td>
<td>Less than 6-12 months</td>
<td>Strong similarity to pricing today</td>
<td>Limited efforts required</td>
<td>Reduce, shift, stagger</td>
</tr>
<tr>
<td><strong>Medium</strong></td>
<td>Applies to some demand and volumetric technologies</td>
<td>Subdued price signals that mitigate long run cost shifts but still lead to grid under recovery</td>
<td>Between 12-18 months</td>
<td>Medium similarity to pricing today</td>
<td>Moderate efforts required</td>
<td>Reduce and shift</td>
</tr>
<tr>
<td><strong>Low</strong></td>
<td>Only applies to demand or volumetric technologies</td>
<td>Masked price signals that propagate long run cost shifts and grid under recovery</td>
<td>Greater than 24 months</td>
<td>Weak similarity to pricing today</td>
<td>Significant efforts required</td>
<td>Reduce</td>
</tr>
</tbody>
</table>
1. Standard rates with public benefit fund recovery
   – Start to reduce the value gap and fairly recover public benefit costs

2. Volumetric TOU Rate
   – Start the transition to more accurate price signals

3. Value Stack
Thank You
Update on Value of DER
REFORMING THE ENERGY VISION
TIMELINE

April 2014  New York REV is launched
May 2016   Track Two order outlines utility business model modernization
August 2016 PSC adopts Clean Energy Standard
March 2017  PSC issues VDER Phase 1
December 2017 LIPA adopts VDER Phase 1
June 2018   Energy Storage Roadmap
April 2019  PSC issues Value Stack Compensation Updates
July 2019   LIPA to make Value Stack Compensation Updates
OUR PROCESS
New York’s Reforming the Energy Vision Proceedings

Topics identified by DPS or stakeholders
Stakeholder technical working groups
DPS staff issues whitepaper
Stakeholders comment
PSC issues order with statewide policy
LIPA implements statewide policy

LIPA oversees Service Provider participation

Update on the Value of Distributed Energy Resources
VALUE OF DISTRIBUTED ENERGY RESOURCES

New York’s path to the grid of the future

TODAY:
- Value stack
- Non-wires alternatives
- Phase 1 Net Metering
- Rate design pilots

TOMORROW:
- Value stack improvements
- Continue statewide rate design working groups

FUTURE:
- Distributed System Platform
- Dual participation with wholesale markets
- Bridge & mass market tariffs

Update on the Value of Distributed Energy Resources
RECENT PSC CHANGES TO VALUE STACK

- **Increase certainty and predictability** of distribution value compensation
  - Lock in the Demand Reduction Value compensation rate for ten years and set pre-defined peak hours
  - Move to call system for Location Specific Relief Value
- **Encourage anchor tenant participation** in Community Distributed Generation projects with added Community Credit
- **Standardize capacity payment approach** across utilities
- **Extend to Phase One Net Metering** availability to small (under 750 kW) onsite projects for demand-metered commercial customers
- **Expand eligibility** to additional clean energy technologies, storage, and electric vehicle-to-grid
QUESTIONS?