STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

CASE 15-E-0751 – In the Matter of the Value of Distributed Energy Resources.

MATTER 17-01277 – In the Matter of the Value of Distributed Energy Resources Working Group Regarding Rate Design.

NOTICE OF AGENDA FOR WORKING GROUP MEETING

(Issued May 31, 2019)

PLEASE TAKE NOTICE that the agenda for the Value of Distributed Resources (VDER) Rate Design Working Group meeting, which is scheduled for **May 31, 2019** from 1:00 PM to 4:00 PM, at the Department of Public Service, 90 Church Street, 4th Floor Boardroom in New York City,[1] will include the following agenda.

Meeting Agenda

1:00 PM – 1:15 PM	Welcome and Project Overview
1:15 PM – 2:00 PM	Customer Benefit Contribution Formulation and Implementation
2:00 PM – 3:00 PM	Bridge Rate Options
3:00 PM – 3:30 PM	Modifications to the Evaluation Framework
3:30 PM – 4:00 PM	Discussion and Next Steps

Attached is a presentation by Navigant Consulting, Inc. entitled "Mass Market DER Tariffs – Part 2." Teleconferencing is available at 1-866-394-2346 (conference code #338-1500-356).

[1] Case 15-E-0751, Notice of Rescheduled Working Group Meeting, Issued April 30, 2019.

Due to the complexity and importance of the topics to be discussed, in-person attendance is strongly recommended.

For questions, please contact John Garvey at 212-417-2200 or John.Garvey@dps.ny.gov.

(SIGNED) KATHLEEN H. BURGESS
Secretary

MASS-MARKET DER TARIFFS

OPTIONS FOR NEW YORK

MAY 2019

NEW YORK STATE OF OPPORTUNITY. Department of Public Service

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PROJECT OVERVIEW

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TASK OVERVIEW

Goal Identify the key considerations to be used in analyzing and comparing the various rate design proposals, and narrow the range of rate design options to a smaller, representative sample to investigate further.

Project Tasks

- **Task 1 – Research, conceptualize, and document**
  - Review docket activity and analytics to date
  - Boil down all the information presented in the rate design working group
- **Task 2 – Evaluate rate designs and program structures**
  - Consider metering, market understanding, and data issues
- **Task 3 – Obtain direct stakeholder feedback**
  - Present initial findings to Working Group
- **Task 4 – Develop next steps**
  - Identify near and mid-terms action items

CUSTOMER BENEFIT CONTRIBUTION (CBC) FORMULATION AND IMPLEMENTATION

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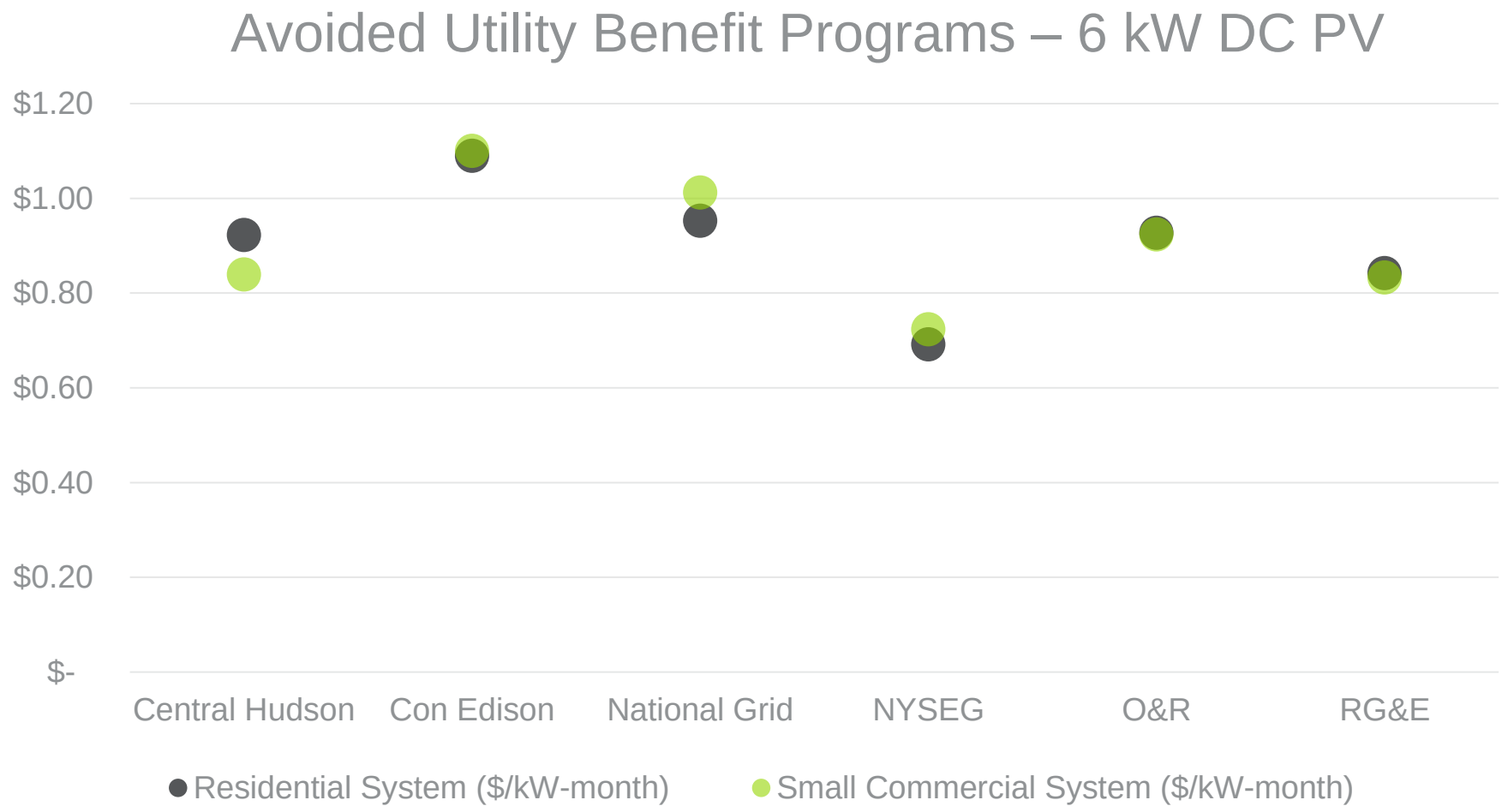
RECAP



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CUSTOMER BENEFIT CONTRIBUTION MAKEUP

1. Utility Low Income Programs
2. Utility Energy Efficiency Programs
3. Clean Energy Fund
4. NY-Sun
5. New York Green Bank

- Does **not** include RECs and ZECs under the Clean Energy Standard (CES)

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STATEWIDE INSTALLATIONS BY UTILITY

	Central Hudson	ConEd	National Grid	NYSEG	O&R	RGE
kW % of NY IOU solar market	13%	35%	26%	11%	12%	2%
CBC Charge ($/kW-month)	$0.92	$1.09	$0.95	$0.69	$0.93	$0.84

Weighted Average = $0.96/kW-month State-wide

APPROXIMATION OF ECONOMICS IN 2020

Assumptions:
- 26% ITC
- NY Sun informed costs
- O&M included
- Degrade included

		Payback	IRR
Central Hudson	Residential	7.7	8.0%
Con Edison	Residential	6.5	10.2%
Niagara Mohawk	Residential	10.2	5.0%
NYSEG	Residential	12.4	3.1%
Orange & Rockland	Residential	6.4	10.3%
RGE	Residential	10.5	4.7%
Central Hudson	Commercial	13.1	6.1%
Con Edison	Commercial	6.7	15.0%
Niagara Mohawk	Commercial	11.5	7.6%
NYSEG	Commercial	15.9	4.1%
Orange & Rockland	Commercial	9.1	10.6%
RGE	Commercial	13.1	6.2%

For directional purposes only

E3 Residential

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APPROXIMATION OF ECONOMICS IN 2020 WITH STATEWIDE CBC

		Payback	IRR	Payback Impact (% Δ)	IRR Impact (Δ)
Central Hudson	Residential	8.16	7.5%	5.6%	0.57%
Con Edison	Residential	6.7	9.8%	3.6%	0.40%
Niagara Mohawk	Residential	11.2	4.2%	8.3%	0.76%
NYSEG	Residential	13.8	2.2%	9.7%	0.85%
Orange & Rockland	Residential	6.7	9.7%	4.9%	0.55%
RGE	Residential	11.5	3.9%	9.1%	0.84%
Central Hudson	Commercial	14.0	5.5%	6.4%	0.67%
Con Edison	Commercial	6.9	14.6%	3.3%	0.48%
Niagara Mohawk	Commercial	12.4	6.8%	7.4%	0.82%
NYSEG	Commercial	17.3	3.3%	8.2%	0.83%
Orange & Rockland	Commercial	9.6	9.9%	5.7%	0.70%
RGE	Commercial	14.4	5.2%	9.2%	0.98%

E3 Residential

APPROXIMATION OF ECONOMICS IN 2020 WITH UTILITY SPECIFIC CBC

		Payback	IRR	Payback Impact (% Δ)	IRR Impact (Δ)
Central Hudson	Residential	8.16	7.5%	5.2%	0.52%
Con Edison	Residential	6.7	9.8%	3.9%	0.43%
Niagara Mohawk	Residential	11.2	4.2%	7.8%	0.72%
NYSEG	Residential	13.8	2.2%	6.7%	0.58%
Orange & Rockland	Residential	6.7	9.7%	4.5%	0.51%
RGE	Residential	11.5	3.9%	7.7%	0.70%
Central Hudson	Commercial	14.0	5.5%	5.9%	0.62%
Con Edison	Commercial	6.9	14.6%	3.6%	0.52%
Niagara Mohawk	Commercial	12.4	6.8%	5.1%	0.56%
NYSEG	Commercial	17.3	3.3%	5.7%	0.57%
Orange & Rockland	Commercial	9.6	9.9%	5.3%	0.66%
RGE	Commercial	14.4	5.2%	7.7%	0.82%

E3 Residential

IMPLEMENTATION

- The CBC can increase or decrease over time as program costs change
- The CBC can include justifiable increases above current cost levels as approved within a rate case
- CBC may be terminated or reduced if a new rate feature is added to standard rates

- What should the scope of included costs in the CBC be?

BRIDGE RATE OPTIONS

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BRIDGE OPTIONS – ALL OF THE ABOVE

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

4. Standby rate

DESIGNING TIME-OF-USE RATES

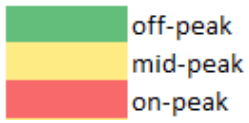
Approach

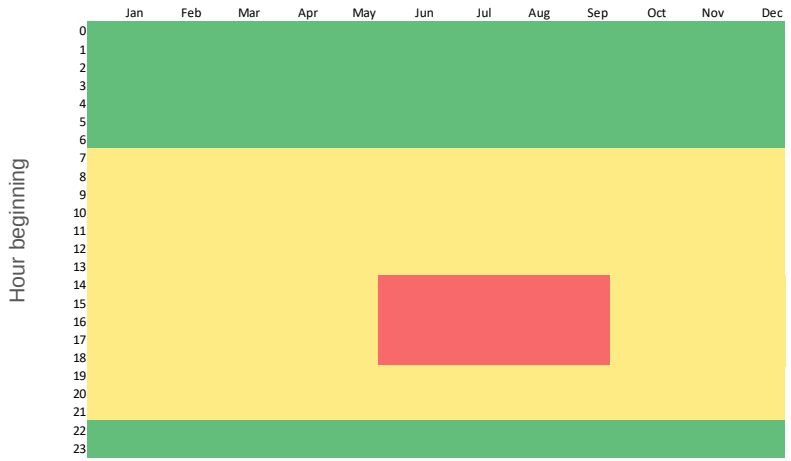
- Tested three utilities
  - National Grid
  - Con Edison
  - Orange & Rockland
- Constructed a model using:
  - Residential SC1 load profile
  - Solar generation profile
  - Current SC1 flat rates
  - Value stack parameters (DRV, ICAP, Environmental, LBMP)
- Developed TOU rates
  - Revenue neutral with current flat rates for the average residential load profile
  - Customer charge unchanged from current level
  - TOU periods based on
    - Simplified value stack DRV and ICAP periods
    - Wholesale energy prices
  - On-peak rates aligned with value stack value
  - Average LBMP differential drives differential between mid-peak and off-peak rates
- Calculated resulting offset value from 1 kW DC solar PV system

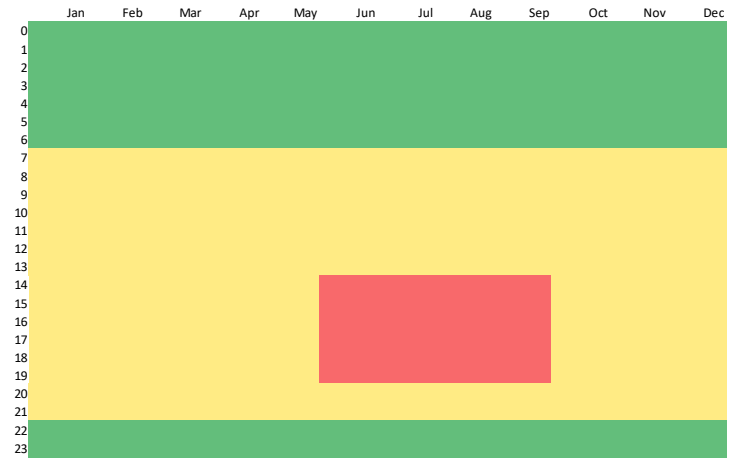
TOU TIME PERIODS

	Rationale	National Grid, Orange & Rockland		Con Edison (DRV area C)	
		Summer (Jun – Sep)	**Non-summer** (Oct – May)	**Summer** (Jun – Sep)	**Non-summer** (Oct – May)
Off-peak	Lower overnight wholesale energy prices	10pm – 7am	10pm – 7am	10pm – 7am	10pm – 7am
Mid-peak	Remaining time	7am – 2pm, 7pm – 10pm	7am – 10pm	7am – 2pm, 8pm – 10pm	7am – 10pm
On-peak*	Aligned with DRV and ICAP periods from the value stack	2pm – 7pm	n/a	2pm – 8pm	n/a

* Non-holiday weekdays only







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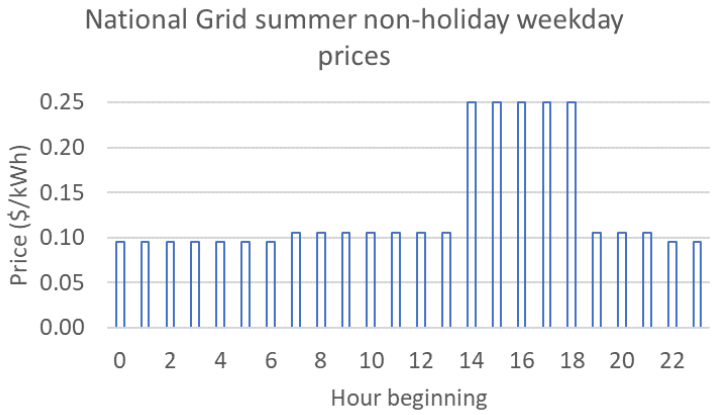
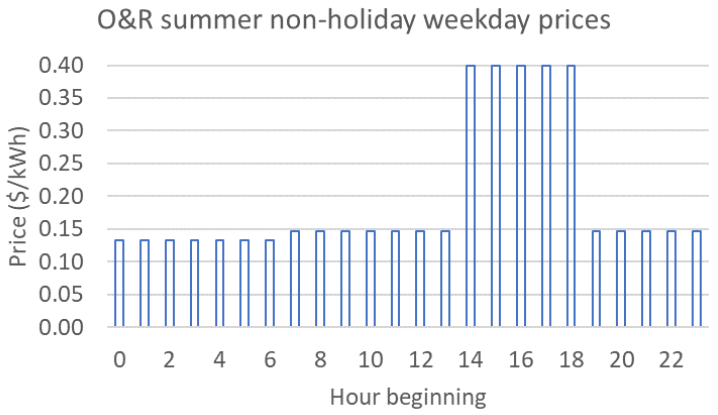
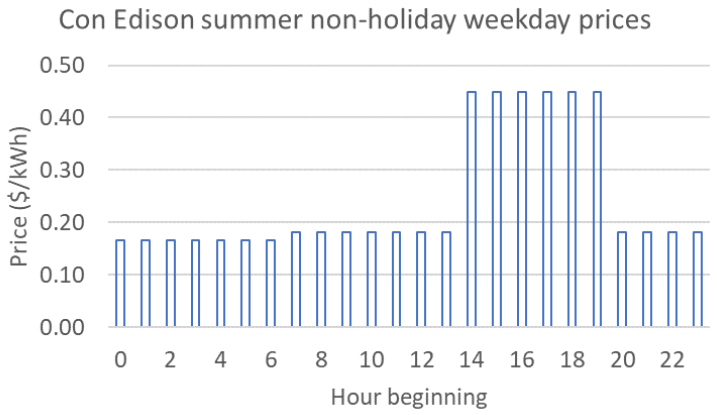
TOU RATES ($/KWH)

	Rationale	National Grid	Orange & Rockland	Con Edison (DRV area C)
Off-peak	Off-peak to mid-peak differential aligned with wholesale energy price differential during these periods	0.0957	0.1333	0.1662
Mid-peak		0.1050	0.1460	0.1810
On-peak	Aligned with value stack value during on-peak periods	0.2500	0.400	0.4500







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TOU RATES ALIGNED WITH SYSTEM NEED DO NOT MEANINGFULLY REDUCE COST SHIFT

Indicative solar compensation per kW DC solar PV system size per year

	National Grid	Orange & Rockland	Con Edison (DRV area C)
Current rates	$129	$222	$267
TOU rates	$136	$219	$267
Monthly CBC ($/kW per month) required to achieve equivalence with current rates	$0.55	-	-

PARTY COMMENTS ON BRIDGE OPTIONS

- **Joint Utilities**
  - Phased in demand charges with demand averaging
  - Add customer costs and cyber security costs to CBC
  - Standard rates should be coupled with the value stack
  - Decouple rate design of state goals

- **Clean Energy Parties**
  - All the above options
  - Opposed to demand charges
  - Supports CBC
  - Supports TOU

DISCUSSION OF PARTY COMMENTS

1. Daily demand charges?
2. Is a fully volumetric TOU rate a value-add given the standby rate availability?
3. Should a select set of customer costs be included in the CBC?
   – Rough approximation of local grid costs:

Rough estimates

	Central Hudson	ConEd	National Grid	NYSEG	O&R	RGE
Customer Costs (Cents / kWh)	1.1	3.8	1.1	0.3	1.7	0.4
$/kW DC	0.56	1.98	0.54	0.13	0.90	0.17

BRIDGE OPTION DETAILS

1. Standard rates with public benefit fund recovery

- Start to reduce the value gap and fairly recover public benefit costs
- Rate linked to standard customer rates

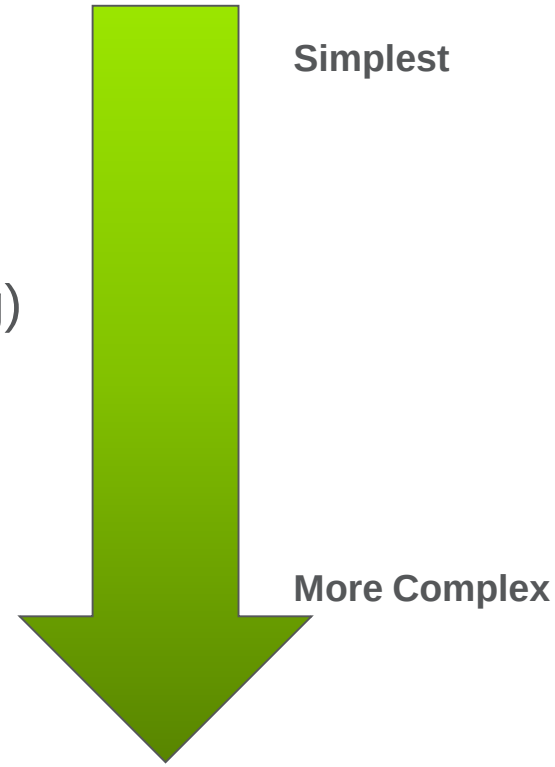
2. Volumetric TOU Rate

- Start the transition to more accurate price signals (with monetary crediting)
- Rate could transition if standard customer rate becomes time varying

3. Value Stack on Exports

- Injections not averaged in order to accurately compensate exports
- Customer can select any underlying rate design

4. Standby rate



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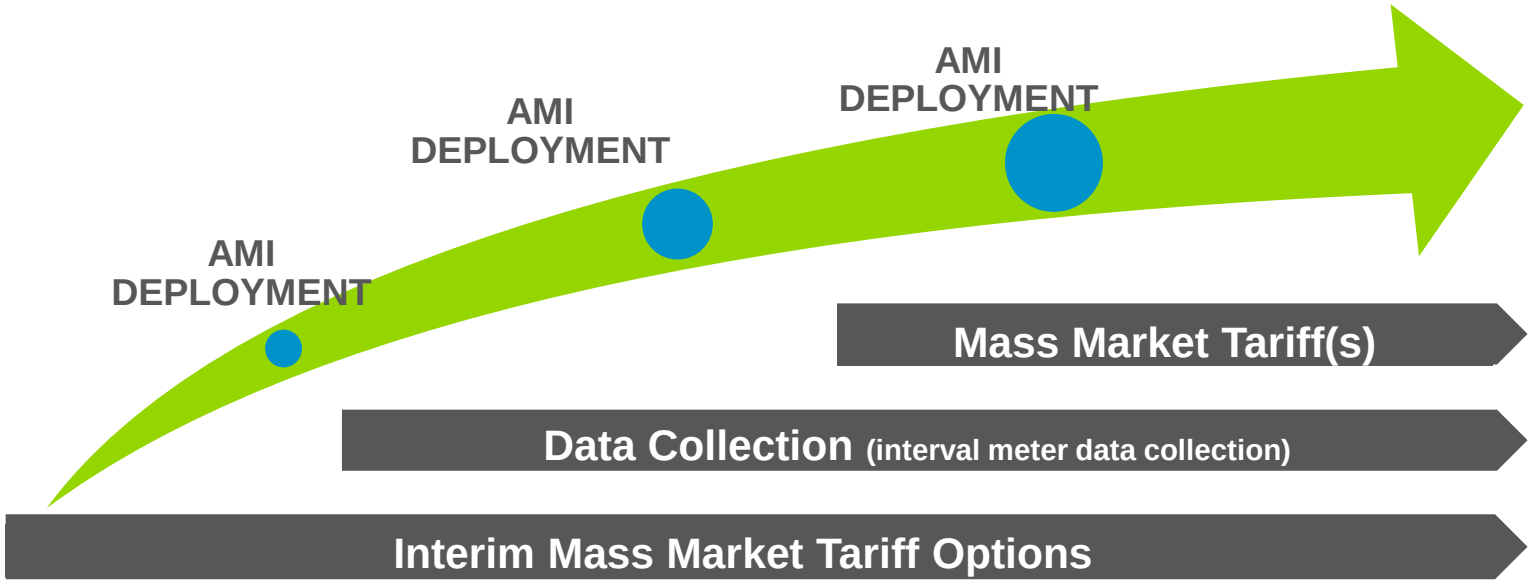
BRIDGE OPTION DETAILS TO WORK OUT

The length of time bridge rates themselves should be made available before transitioning to a future, to-be-determined rate design

- Two or three years?



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MODIFICATIONS TO THE EVALUATION FRAMEWORK

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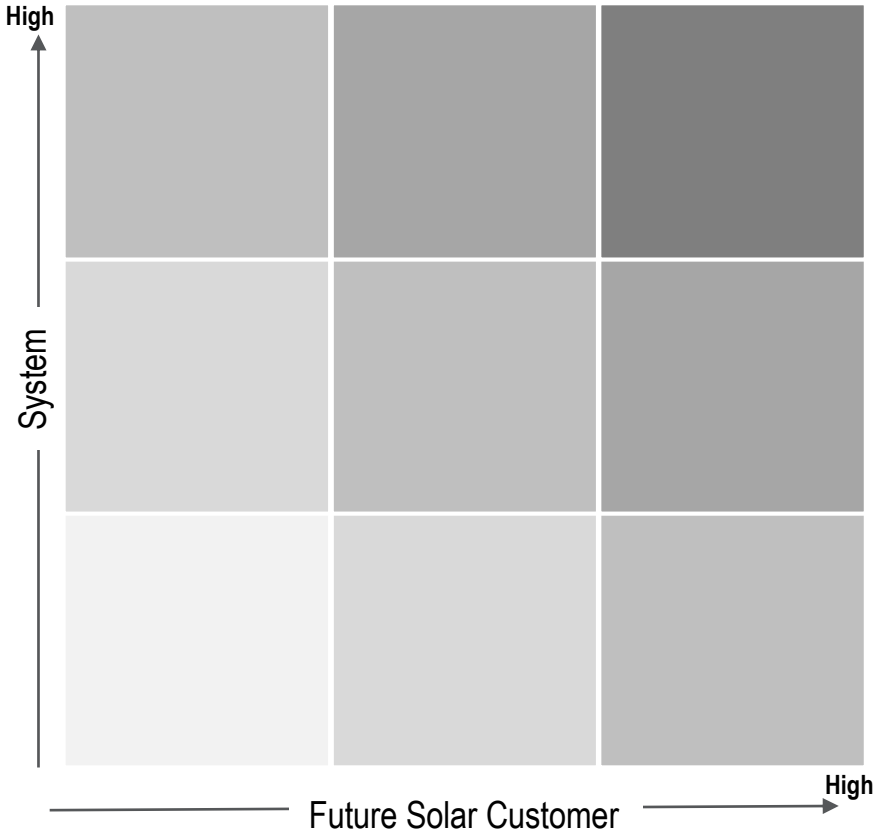
PRIORITIZATION FRAMEWORK

- ***Applicability***
- ***Economic sustainability***
- ***Speed to implement***



- ***Gradualism***
- ***Simplicity***
- ***Ability to save***

Additional Criteria Screens

(Policy)

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EVALUATION FRAMEWORK OVERVIEW

High - 3
Med - 2
Low – 1
(Rounded to nearest integer)

	System Alignment			Future Participant Customer		
Title	**Applicability**	**Economic Sustainability**	**Speed to Implement**	**Gradualism**	**Simplicity**	**Ability to save**
Descrip.	*Applicability to future technology*	*Level of linkage between system costs (marginal & embedded) and pricing*	*Estimated time frame to design, plan, and launch*	*Degree of value and structure change for rooftop solar from current rates*	*Level of effort and education needed by the customer*	*Number of ways to save on the bill*
High	Applies to all technology groups	Accurate price signals that avoid long run cost shifts while maintaining necessary grid investment	Less than 6-12 months	Strong similarity to pricing today	Limited efforts required	Reduce, shift, stagger
Medium	Applies to some demand and volumetric technologies	Subdued price signals that mitigate long run cost shifts but still lead to grid under recovery	Between 12-18 months	Medium similarity to pricing today	Moderate efforts required	Reduce and shift
Low	Only applies to demand or volumetric technologies	Masked price signals that propagate long run cost shifts and grid under recovery	Greater than 24 months	Weak similarity to pricing today	Significant efforts required	Reduce

POLICY SCREEN

Rate	GHG Savings/$	Technology Enablement	Equitable Funding	Efficient use of System	More Clean DG
Rate 1	●	◔	◑	◕	○
Rate 2	◑	●	○	●	◔
Rate 3	◕	◔	○	◑	●

DEFINING THE POLICY SCREENS

1. **GHG Savings/$ -** Relative effectiveness of cost to emission reduction
2. **Technology Enablement** – Relative success at promoting different types of DERs
3. **Equitable Funding** – Relative parity level of state funding directed to different utility jurisdictions
4. **Efficient use of System** – Relative ability to reduce peak demand and minimize overgeneration conditions
5. **More Clean DG** – Relative success level of driving more clean DG deployment

EXAMPLE OUTCOME

1	Rate XY	85%
2	Rate D	83%
3	Rate 3	71%
4	Rate B	67%
5	Rate 1	59%
6	Rate CC	48%

NEXT STEPS

1. Comments welcome by June 21st, 2019
2. Staff Whitepaper on Rate Design for Mass Market Net Metering Successor Tariff released
3. Work continues to refine TOU rates as well as beyond bridge rate successor tariffs

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Thank You

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