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Helping Utilities Make Smart Solar Decisions

Driving Distributed Energy Transactions

RPS Collaborative Summit
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Julia Hamm

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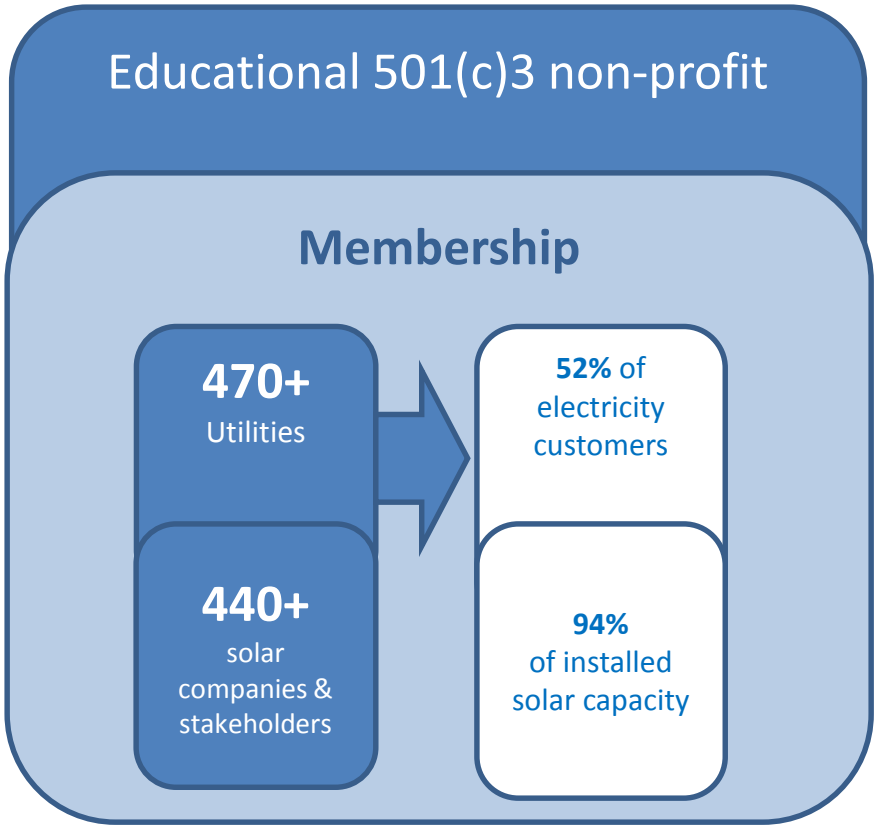
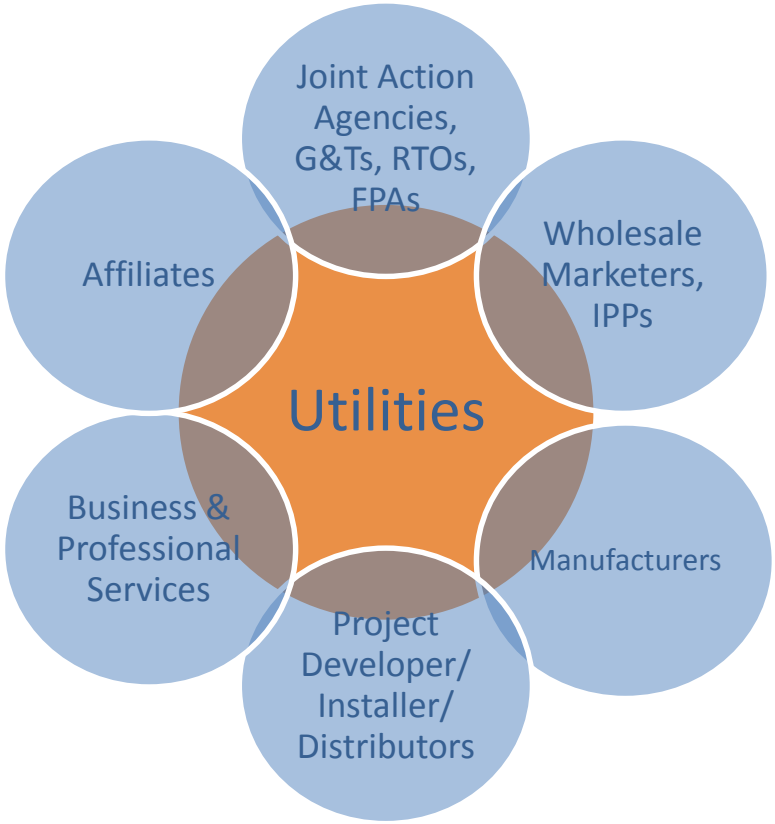
About SEPA





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WHAT'S THE ISSUE?

Ratemaking and NEM

Types of Utility Charges	Allocation of Costs	
	Typical Residential	Typical Non-Residential
Fixed Charges ($/month)	• Metering • Billing	• Metering • Billing
Demand Charges ($/kW)	• N/A	• Generation, Transmission, and Distribution capital investments
Volumetric Energy Charges ($/kWh)	• Generation, Transmission, and Distribution capital investments • Fuel costs • Variable O&M expenses	• Fuel costs • Variable O&M expenses
Adjustor Clauses ($/kWh)	• Fuel adjustment clauses • Renewable program costs	• Fuel adjustment clauses • Renewable program costs

Not Typically Impacted by Solar DG

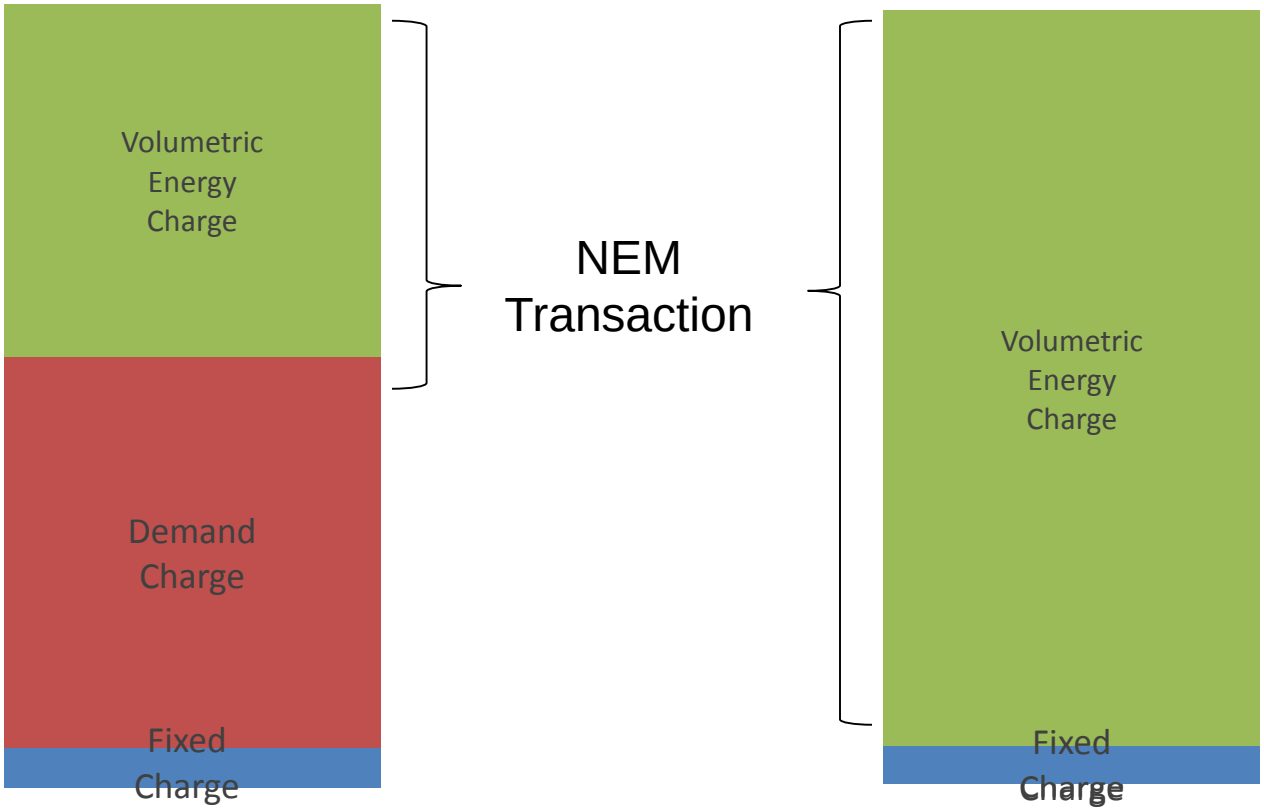
Typically Sheltered by NEM

For more information, *see* SEPA's "Ratemaking, Solar Value and Solar Net Energy Metering – a Primer" (July 2013)

DG – The Cost Perspective

Demand-based Rate Design
(Typical Non-Residential)

Volumetric Rate Design
(Typical Residential)



WHAT ALTERNATIVES ARE EMERGING?

Addressing Solar DG Transactions

	CAMP 1	CAMP 2				
	Continue NEM	**Reforming the Solar Customer Transaction (NEM reform)**				
RATE CONSTRUCT	**Single Transaction (Rate) Approach**				**Two or More Transactions (Rates)**	
	Apply NEM	Reform Existing Rates (all customers or solar only)			Solar Rate	Reform All Rates
MODEL	Current Rates	Increased Fixed Charge and/or Minimum Bill	Demand Charge	Stand-by or Solar Charge	Independent Energy Sale and Solar Purchase Rates	Value of Services
ATTRIBUTES	• Currently applicable rates result in an acceptable transaction • Solar penetration does not warrant action	• Add or increase basic service charge ($/month) • Raise min bill requirements ($/month)	• Add or increase customer fee for demand ($/kW/month)	• Charge for stand-by capacity, based on DG system size ($/kW/month or ($/kW/yr)	• Retain existing rates for services provided from utility to cust. • Establish second rate to purchase from customer	• Design rates to reflect itemized services from utility to cust. and from cust. to utility

HOW ABOUT "VALUE OF SOLAR"?

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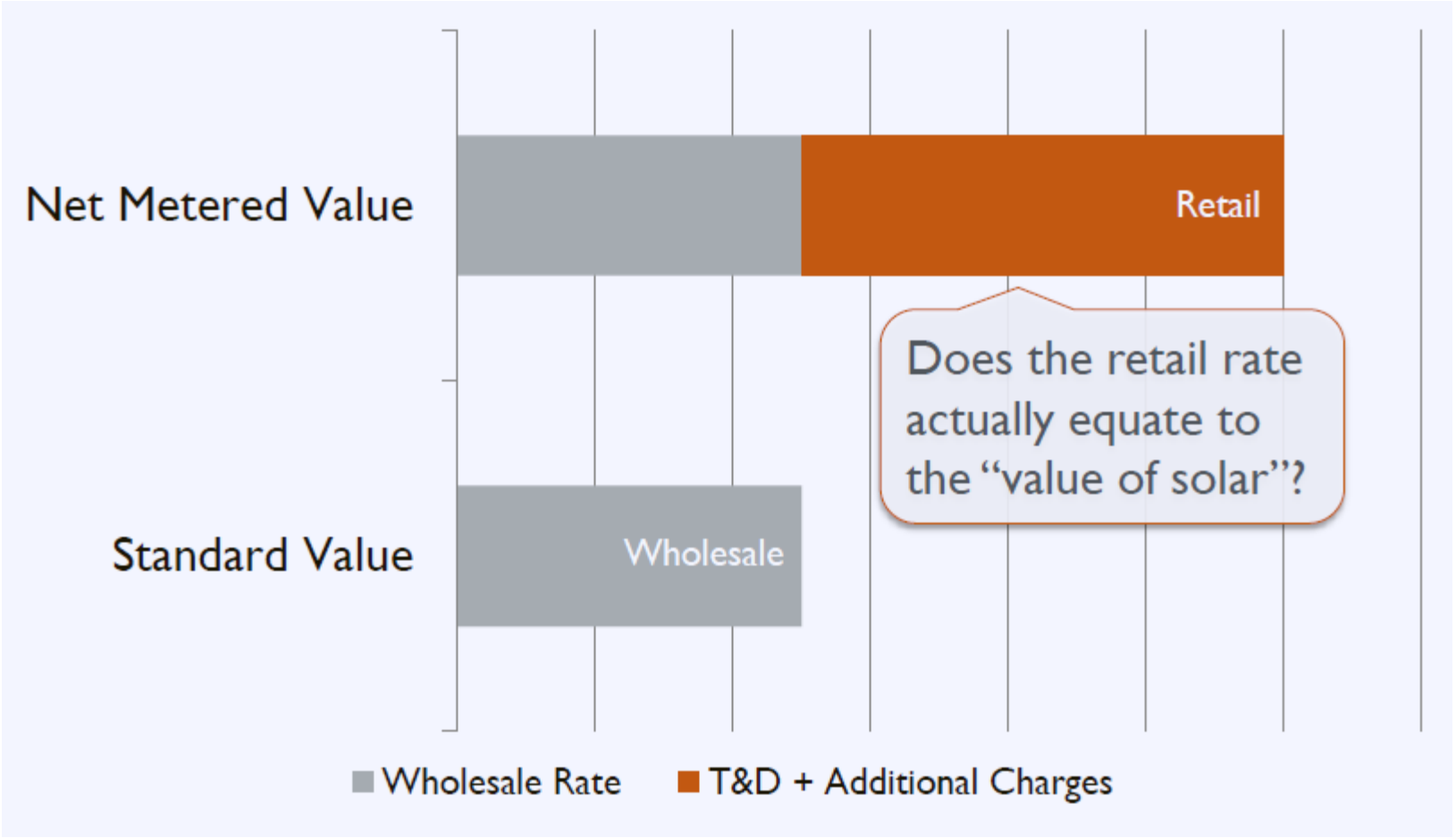
Let's Talk "Value"



Valuing Distributed Energy

Capacity

- Capacity Value
- Avoided Generation Capacity
- System Orientation

Security & Reliability

- Grid Security
- Grid/Service Reliability

Grid Support Services

- Ancillary Services
- System Integration Costs

Environmental

- Water Consumption
- Environmental Compliance
- Health Effects
- Non-Compliance Environmental Effects

Social

- Economic Development & Jobs
- Civic Engagement / Conservation Awareness
- Ratepayer / Consumer Interest
- Ratepayer Cross-Subsidization
- Technology Synergies
- Energy Subsidies (incentives, rebates, tax credits, etc.)

Avoided Costs / Financial Risk

- Capital
- Fuel/Purchased Power & Fuel Hedging
- Line Losses
- T&D System Investment
- RPS Compliance
- Utility Administration
- Market Price Mitigation
- Fixed & Variable O&M
- Power Plant Decommissioning

Value categories are wide-ranging…
some are not typically monetized and/or included in rates

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Get the Number "Right"

Value of Solar ≠ (does not need to equal) **Growing Solar Market**

Layer Program on Top

Value of Solar + Incentive Program = Growing Solar Market

Steps for Success

1. Set clear policy objectives
2. Decide what gets monetized through:
   - Rates
   - Incentive Program
3. Engage stakeholders to agree on valuation methodology
4. Determine VOS rate
5. Design transparent program to drive market & meet policy objectives

Don't Try This

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But Do Try This

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