
Arizona Energy Futures Conference

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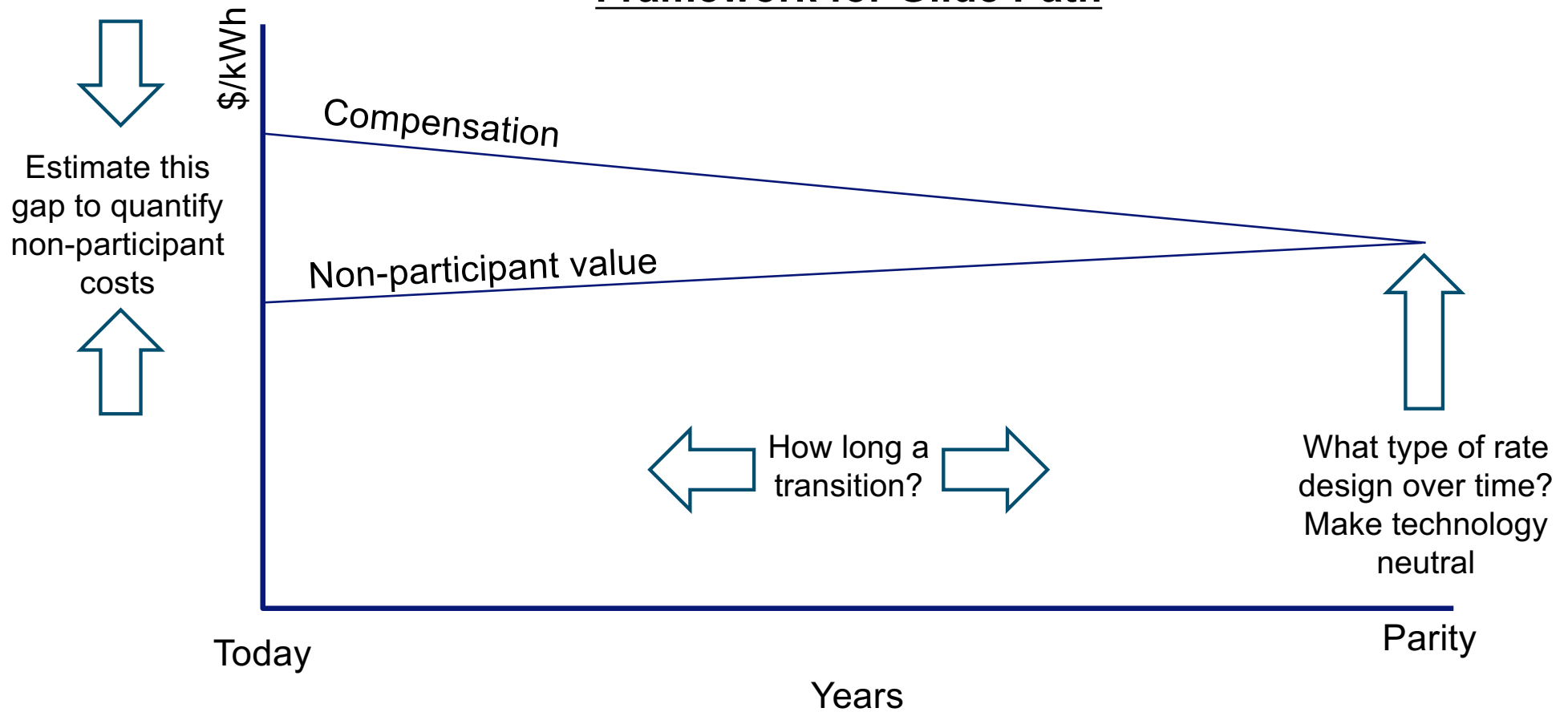
Energy+Environmental Economics



Perspective on Arizona Customer-sited Solar Future

Primary recommendation: develop a 'glide path'

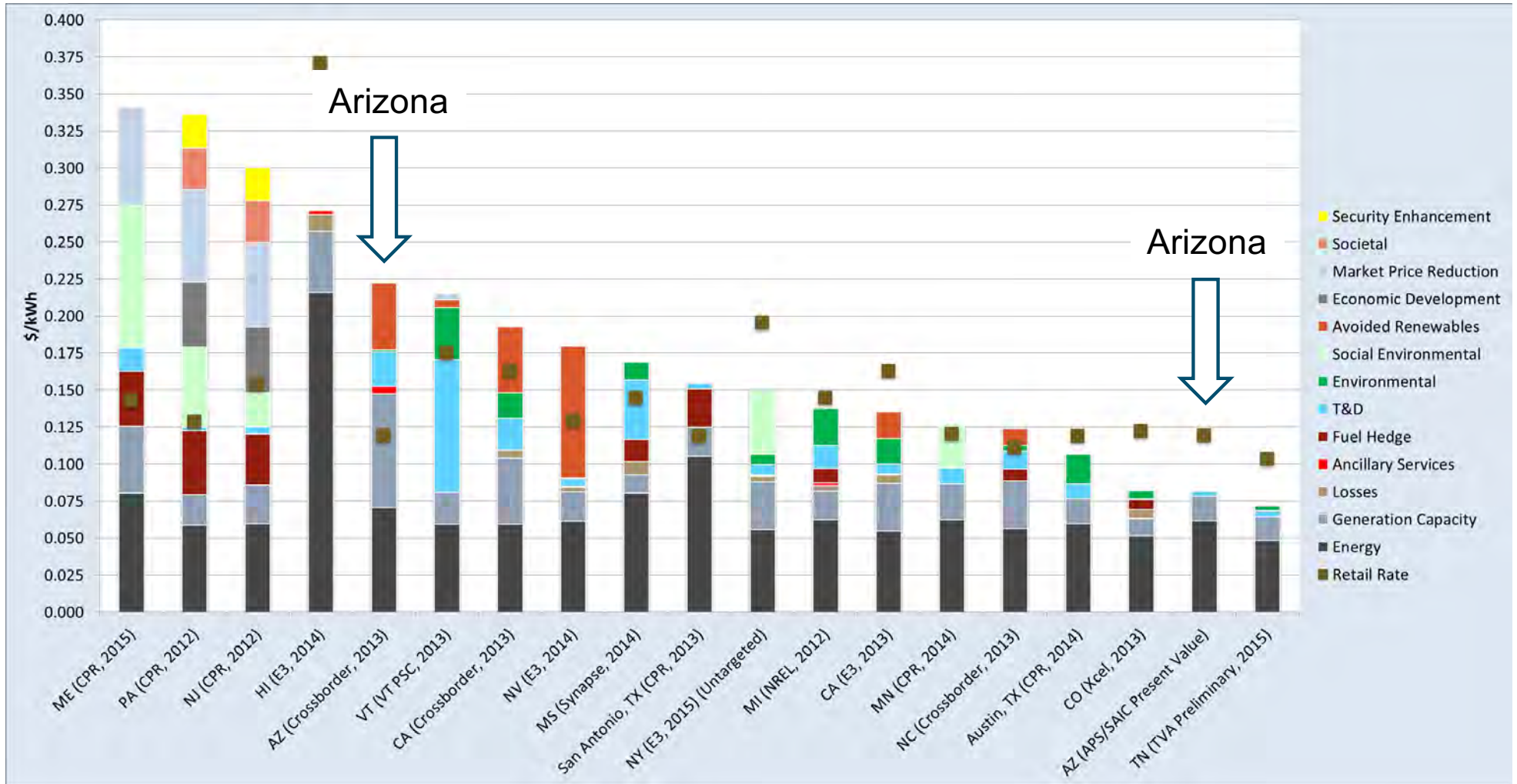
Framework for Glide Path





E3 Survey Shows High Variation in the Value of Solar

Levelized Value of Solar and Retail Rate Level for 19 Studies \$/kWh (2012 to 2015)



Different components and methods result in highly divergent results for the value of Solar, Arizona example shows the broad range.



Straw Proposal for NY Full Value Tariff (FVT) to Enable DER Business

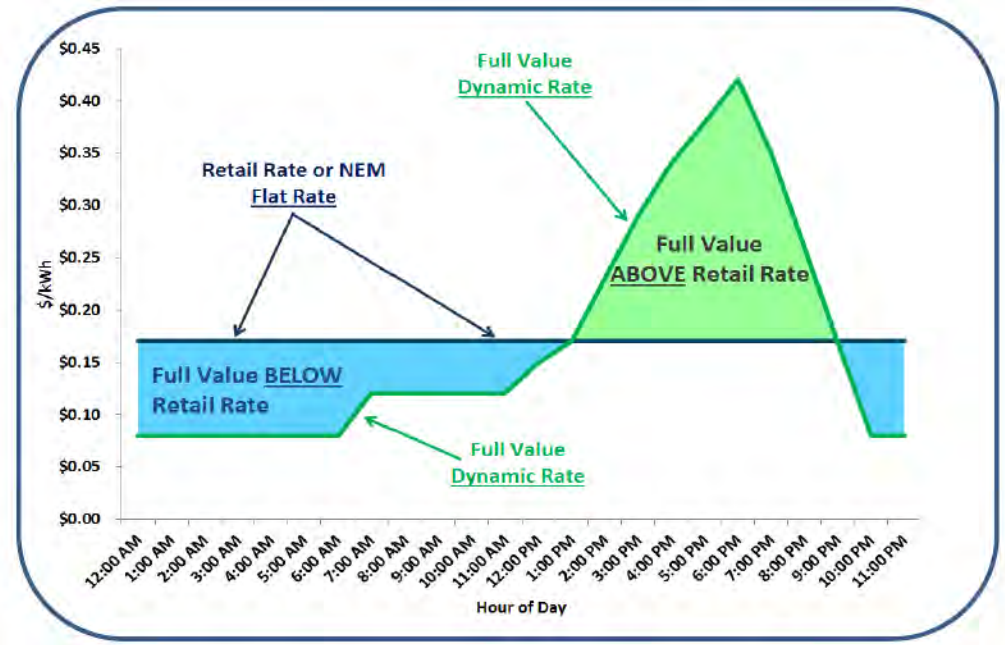
- Three-part rate compensates DER at the dynamic rate level

Three part rate

Part 1: Customer Charge
\$/customer-month

Part 2: Network Access Charge
\$/kW-month proxy

Part 3: Dynamic Charge
\$/kWh by hour



- Network access charge based on customer 'size', not a demand charge, allocates sunk costs for residential as max monthly net consumption
- Energy charge is ultimately hourly varying price, can transition over time, and can explicitly accommodate externality value for reduced emissions
- Provides numerous 'levers' to transition over time to remove any abrupt impacts on customers

Complete Report Available on [NY REV Document Site](#)



ADDITIONAL SLIDES



More Information on the Components Included and Variation

EXAMPLES OF RECENT NEM VALUE STUDIES FROM STATES, UTILITIES, CONSULTANCIES, AND STAKEHOLDERS		BENEFITS ANALYZED											COSTS ANALYZED				BENEFIT/COST TESTS								
STATE	STUDY	Avoided Energy (incl. O&M, fuel costs)	Avoided Fuel Hedge	Avoided Capacity (generation and reserve)	Avoided Losses	Avoided or Deferred T&D Investment	Avoided Ancillary Services	Market Price Reduction	Avoided Renewables Procurement	Monetized Environmental	Social Environmental	Security Enhancement/Risk	Societal (incl. economic/jobs)	PV Integration	Program Administration	Bill Savings (Utility Revenue Loss)	Utility/DER Incentives	Total Resource Cost Test (TRC)	Program Administrator/Utility Cost Test (PACT/UJCT)	Cost of Service (COS) Analysis	Ratepayer Impact Measure (RIM)	Participant Cost Test (PCT)	Societal Cost Test (SCT)	Revenue Requirement Savings: Cost Ratio	Net Cost Comparison of NEM, FIT, Other
Benefits and Standard Practice Cost Tests Implemented																									
ARIZONA	Crossborder Energy (2013)	•		•	•	•		•	•			•	•	•		•	•				•				
ARIZONA	APS/SAIC (2013)	•		•	•	•																			
CALIFORNIA	E3 (2013)	•		•	•	•			•	•				•	•	•				•	•				
CALIFORNIA	Crossborder Energy (2013)	•		•	•	•			•	•				•	•	•					•				
COLORADO	Xcel (2013)	•	•	•	•	•	•			•				•											
HAWAII	E3 (2014)	•		•	•	•	•					•													•
MAINE	Clean Power Research (2015)	•	•	•	•	•	•	•			•			•											
MASSACHUSETTS	La Capra Associates (2013)	•		•	•	•		•	•	•		•	•			•	•	•			•				
MICHIGAN	NREL (2012)	•	•	•	•	•	•		•	•															
MINNESOTA	Clean Power Research (2014)	•	•	•	•	•					•														
MISSISSIPPI	Synapse Energy Economics (2014)	•	•	•	•	•				•				•	•	•		•				•			•
NORTH CAROLINA	Crossborder Energy (2013)	•	•	•	•	•	•	•	•		•	•	•	•		•	•								
NEW JERSEY	Clean Power Research (2012)	•	•	•	•	•		•	•		•	•	•	•											
NEW YORK	E3 (2015) (Based on DPS BCA)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
NEVADA	E3 (2014)	•		•	•	•	•		•	•				•	•	•	•	•	•		•	•	•		
PENNSYLVANIA	Clean Power Research (2012)	•	•	•	•	•		•	•		•	•	•	•											
TENNESSEE	TVA (2015)	•		•	•	•				•		•													
TEXAS (AUSTIN)	Clean Power Research (2014)	•	•	•	•	•			•	•															
TEXAS (SAN ANTONIO)	Clean Power Research (2013)	•	•	•	•	•				•															
VERMONT	Vermont PSC (2013)	•		•	•	•	•	•	•	•		•			•	•					•				