

# Rate Design Alternatives for Customers

MADRI Working Group Meeting

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# Valuation of Solar and Net Energy Metering

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- Hot button issue
  - Discussion seems to be everywhere
  - Non-PJM states:
    - ✦ Larger solar market states: CA, Colorado, Arizona, Texas (Austin), Minnesota, Hawaii
    - ✦ Small solar market states: Kansas, Louisiana, Utah, Washington State
  - PJM states
    - ✦ New Jersey is one of the largest solar market states
    - ✦ Smaller, but growing solar markets in other states, like MD

# Maryland NEM Law

## PUA Sec. 7-306

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- NEM Law
  - Original public policy objectives (1997)
    - ✦ Encourage private investment in renewable energy resources
    - ✦ Stimulate in-State economic growth
    - ✦ Enhance diversification of State energy resource mix
    - ✦ Reduce costs of interconnection and administration
  - Modified in 2010 to add current excess generation requirement
- Recent Legislative proposals (did not pass)
  - Community Energy Pilot Program
  - Poultry Litter Energy Generating Cooperative Program

# Maryland NEM Law and Status

## PUA Sec. 7-306

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- Current law
  - Eligibility cap: 1500 MW Statewide – 10% of peak demand (15K MW)
  - Generating system cap: 2 MW
  - Eligible generation: biomass; CHP, fuel cell, solar, wind, closed conduit hydro
  - Customer size:  $\leq 200\%$  of annual baseline kWh usage
  - Distribution cost contributions
    - ✦ All NEM customers pay fixed customer charge
    - ✦ Additional charges prohibited: demand, standby, customer and minimum monthly charges
    - ✦ Volumetric distribution and other charges X usage
  - Excess generation payments
    - ✦ Generation or commodity portion of rate X excess generation
  - Aggregate net metering: program: agricultural, municipal and non-profit customers

# MD NEM

## Current Status

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- PSC Report to the General Assembly (Sept. 2013)
  - Installed capacity: 100 MW (as pf 6/13) – 6% of current cap
    - ✦ Solar: 100,000 kW
    - ✦ Wind: 1,310 kW
    - ✦ Biomass: 320 kW
      - Solar installations have been primary focus of discussion
  - NEM Compensation (2012)
    - ✦ Excess generation payouts
      - Residential: \$90,00
      - Commercial: \$139,000
      - Choptank Electric Coop had most payouts in absolute and proportionate terms

# The Cost-Benefit Debate

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How do we address public policy objectives of distributed generation and net metering programs and fairness, transparency and affordability issues within the regulated sphere?

Not just a utility versus solar industry debate  
There are customers on both sides

# Critical Consumer Issues Forum (CCIF)

## DER and Net Metering Issues

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- Participants: EEI, NARUC and NASUCA members
- Activities
  - Report: Policy Considerations Related to Distributed Energy Resources (July 2013)
  - Summit: Distributed Generation: A Balanced Path Forward (Spring 2014)
- **Rate-Related Principles** (non-binding on associations and their members)
  - DER costs imposed on utilities (and thus ratepayers) should be borne by those who cause the costs
  - **Allocation of costs** to others should be rational, **transparent**, based on benefits received, and not unduly burdensome
  - **Any incentives** should be
    - ✦ Based on **clear policy objectives** and periodically **re-evaluated** based on market conditions
    - ✦ Fair, transparent, and appropriate
  - In developing DER policies, particular attention should be given to the **cost impacts** on all utility customers, including those not participating and those least able to afford such costs

# Princeton Distributed Energy Valuation Roundtable

April 26, 2013

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- **Participants**
  - Federal: FERC Chairman and DOE representatives
  - State Regulators and Energy Office representatives
  - Utilities and
  - Distributed Energy Providers
  - “Industry Experts”
  - Academics (Princeton and Columbia Universities)
- **Valuing Distributed Energy: Economic and Regulatory Challenges (April 2013)**
  - Working Paper
  - Event Summary and Conclusions (non-attributed)



NARUC Resolution  
November 2013

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- Encouraging State Commissions & Policymakers to Continue to Engage in Collaborative Dialogue Regarding Distributed Generation Policies & Regulations
  - ✦ Evaluate the **system-wide benefits and costs** of DG
  - ✦ Ensure that all necessary consumer protections are maintained and assist consumers as they consider or invest in DG technologies and services
  - ✦ Facilitate the continue provision of .... energy services at **fair and affordable electric rates** as new and innovative technologies are added to the energy mix
  - ✦ Engage at the State and federal levels on DG-related policy considerations

# We need a process to evaluate costs and benefits

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- Initial evaluation of costs and benefits needs to be done *before* we go ahead and start changing rate design structures
  - Current NEM structures reflect policies to support or “jumpstart” distributed energy
  - Need a structured, transparent evaluation process in place before there is a real problem
  - Stakeholders: Not just the utilities and solar market advocates
- Evaluation – Develop a valuation framework
  - Costs of the existing system
  - Additional costs of DE (interconnections and administration)
  - Benefits
    - ✦ Avoided line losses and congestion
    - ✦ Avoided transmission and distribution
    - ✦ Other (e.g. VAR Voltage support)
    - ✦ Capacity and energy
  - Possible Societal Benefits – This can be the most controversial part – what should go in the pot?
    - ✦ Carbon
    - ✦ Environmental (air and water)
    - ✦ Economic development and jobs
    - ✦ Reliability and resiliency impacts
  - Societal Impacts
    - ✦ Maintenance of a grid infrastructure
    - ✦ Affordability impacts for non-participants
- Costs and benefits can change over time and with different penetration levels

# The Time to Start is Now

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- We still have time in PJM
  - But we should establish an evaluation process and framework sooner, not later
    - ✦ Process needs to be comprehensive, transparent, inclusive of stakeholders
    - ✦ Results should be subject to “testing”
    - ✦ Rate design structures should be modified only after this process is completed
    - ✦ Rate design changes should be addressed within the utility regulatory sphere

# Rate Design Alternatives – Which One?

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- Fixed cost recovery
- Cost of Service Model
- Dual Rate Alternative (“value of solar”)
- Other?

Still thinking about it.....

The “value of solar” option looks interesting

Fixed cost recovery for residential customers...

Not so much

Cost of service model...

Looks way too complicated

But let's get going on the valuation process first