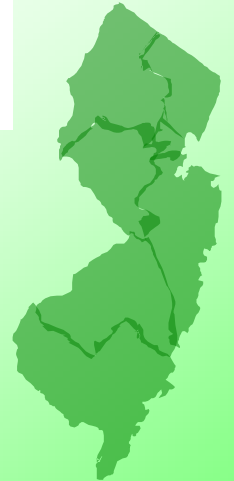


*Electricity Transmission  
and Distribution 101*



***YOUR POWER TO SAVE***

**NASEO 2004 Annual Meeting - Chicago Sept.27-30, 2004 NJBPU - OCE**

# **New Jersey's Integrated Approach**

- **Societal Benefit Charges**
  - Incentives and Financing
- **Net Metering and Interconnection Standards**
- **Renewable Portfolio Standards**
- **Renewable Energy Certificates**



# **New Jersey's Integrated Approach Goals and Objectives**

- EE (including CHP) and RE will provide energy growth by 2012**
- 20% annual increase in electric and natural gas energy efficiency saving**
- 300 MW of Class I RE facilities (includes 90 MW PV) by 2008**



# **New Jersey's Societal Benefits Charge**

**Non-By-passable charge on all electric use**

**Average Funding Level - \$ 124 Million per year - 4<sup>th</sup> year  
75% for EE and 25% for RE  
\$ 14/HH/yr**

**Rebate for Capital Cost  
< 10kW system up to 70 % rebate**

**Grants and long term financing for EE/RE projects  
Grants and long term financing for RE Power Plants**

**NASEO 2004 Annual Meeting - Chicago Sept.27-30, 2004 NJBPU - OCE**



# **NJ Clean Energy Program Results**

## **Energy Efficiency**

- **285,576 MWh (3,739,164 MWh)**
- **410,517 d therms (7,739,709 dt)**
- **263 MW**

## **Renewable Energy**

- **7,239 MWh (180,975 MWh) (1.7 MW)**
- **22 MW of committed PV projects**
- **45 MW of committed Class I RE**

# **New Jersey's Net Metering and Interconnections Standards**

- **Up to 2 MW – 125% of Annual Use**
- **Small Commercial Business  
Up to 10 MW peak**
- **$\leq$  10 kW Inverter-based - No fee**
- **Reduce barriers**
- **Limit timeframe for review**



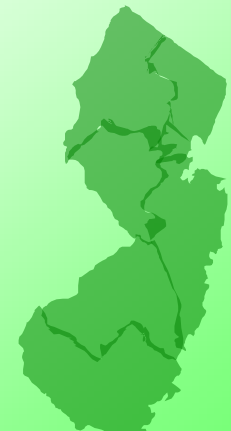
# **New Jersey's RPS**

- **Doubled the Current RPS from 2% Class 1 in 2008 to 4% in 2008**
- **Established a Solar Set Aside of the Class 1 at 120,000 MWh (90 MW)**
- **Class 2 remains at 2.5%**
- **Established a 20% by 2020 Class 1 target**



# New Jersey's RPS Pricing and Liquidity

- Class I REC  
Proxy \$15/MWh - ACP \$50/MWh
- Solar REC  
Proxy \$150/MWh – SACP \$300/MWh
- Lifetime  
1 year - June 1 – May 31  
3 month true up period



# New Jersey's RPS Value of RECs



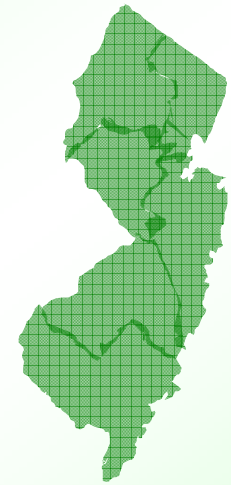
<b>Year</b>	<b>Class 1 – Class 2 and Solar RECs</b>	<b>Solar RECS</b>
<b>2004</b>	<b>\$ 14,009,400</b>	<b>\$ 1,448,000</b>
<b>2008</b>	<b>\$ 48,746,600</b>	<b>\$ 15,080,000</b>
<b>2020</b>	<b>\$ 131,275,800</b>	<b>\$ 35,000,000</b>

GHG Credits

\$25 - \$10

\$250 - \$100

# RPS Bill Cost to the NJ Customers



<b>Year</b>	<b>Household</b>	<b>Commercial</b>	<b>Industrial</b>	<b>Rate</b>
	<b>\$ per year</b>			<b>\$/kWh</b>
<b>2004</b>	<b>\$ 1</b>	<b>\$ 10</b>	<b>\$ 125</b>	<b>\$ 0.00019</b>
<b>2008</b>	<b>\$ 5</b>	<b>\$ 50</b>	<b>\$ 550</b>	<b>\$ 0.00065</b>
<b>2020</b>	<b>\$ 10</b>	<b>\$ 120</b>	<b>\$ 1400</b>	<b>\$ 0.00155</b>

# Changing Conditions

- **NJDEP is requiring a 300 MW coal unit to shut down because it can not meet new clean air standards**
- **A 400 MW nuclear unit is up for FERC relicensing and the Governor has come out against extension of the permit.**
- **PJM is or will be in the process of planning for a solution**



# Revising Criteria Under Assessment

- **Apply EE and RE Rebates and Incentives in Congested Areas**
- **Congested areas are defined by higher Locational Marginal Pricing**
- **Develop a pilot that will buy DER in congested areas**



# **An ISO/RTO Predictable Response**

- **The ISO/RTO while evaluating all options including load management, distributive generation, load management and energy efficiency unless reliable their predictable response is :**

- **More Generation**
- **More Transmission**

**That is what they get paid to do**



# Options

- **DER must be regulated by the ISO/RTO just like other all other T/G.**
- **DER must be regulated by PUC just like other EDC**
- **Develop the Regulatory structures that promote aggregation and micro-grids.**
- **Today's PV installer in tomorrow's EDC**



# STAC PA-NJ DER Project

- **Baseline DER in PA/NJ Current Policy/Tech**
- **Interconnection Issue (State – ISO)**
- **Value of DER on the Retail and Wholesale**
- **Rate restructuring – Incentives**
- **Costs and Financing (long-term contracts)**
- **Policy options to support/rely on DER.**

**Mid-Atlantic Distributive Resources Initiative  
MADRI - STAC Project is expandable**



# **New Jersey's Integrated Approach**

**Information on New Jersey's Clean Energy  
Program: [www.njcleanenergy.com](http://www.njcleanenergy.com)**

**Evaluation Reports Rutgers' Center for Energy,  
Economics and Environmental Policy (CEEPP)**

**[http://policy.rutgers.edu/ceepp/images  
/NJ\\_REMA\\_Final\\_8-04.pdf](http://policy.rutgers.edu/ceepp/images/NJ_REMA_Final_8-04.pdf)**

