



# Climate and Renewables: What's next

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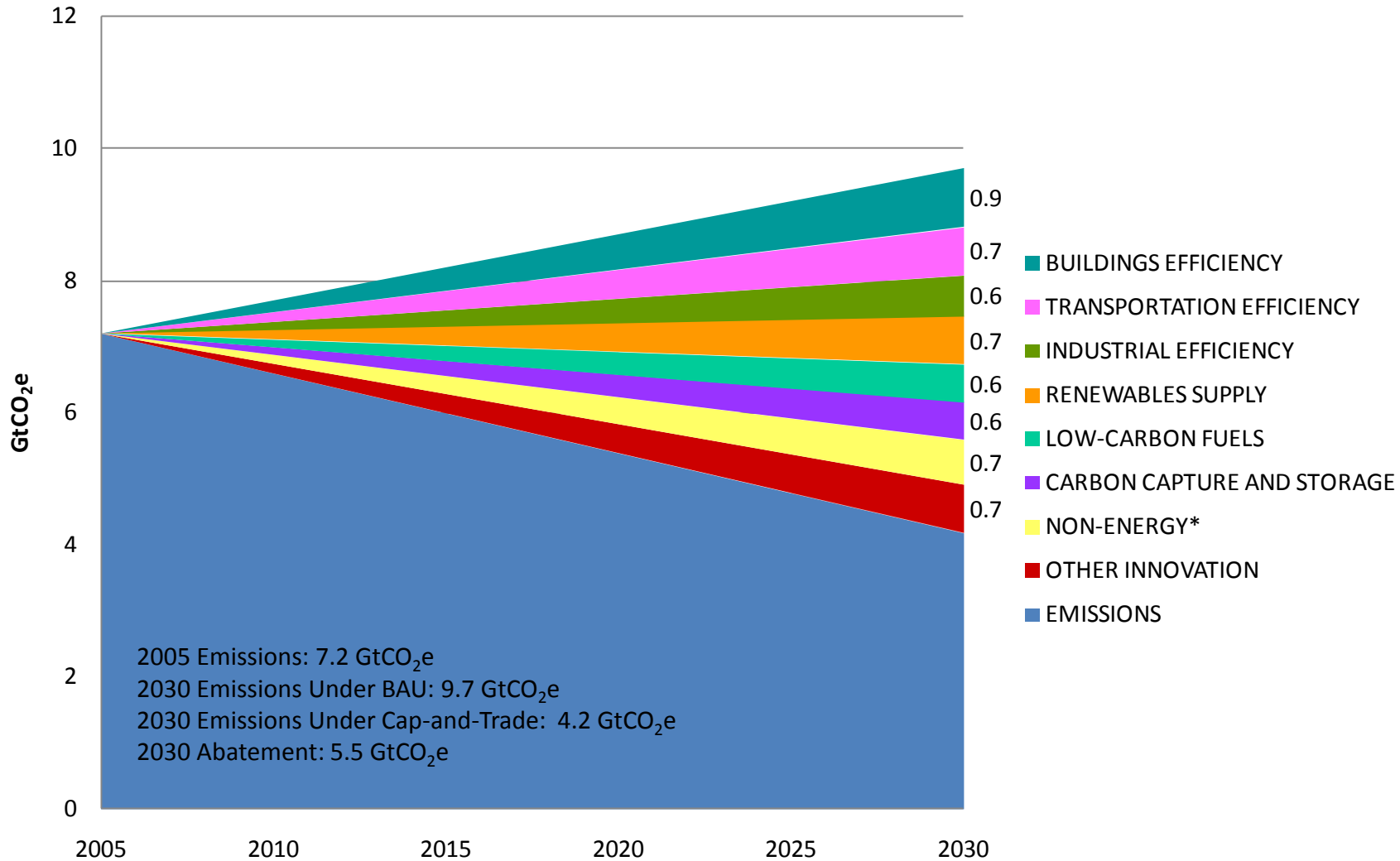
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Natural Resources Defense Council



# EE & RE are critical to meeting our emissions reduction goals, but the scale needed is immense

## ABATEMENT POTENTIAL



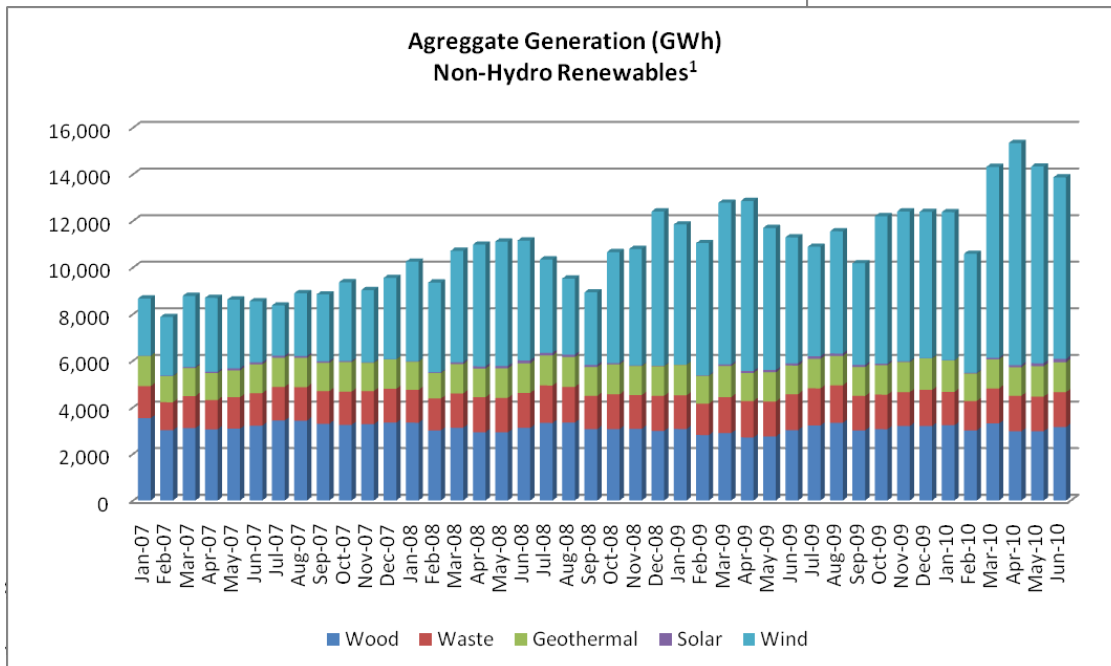
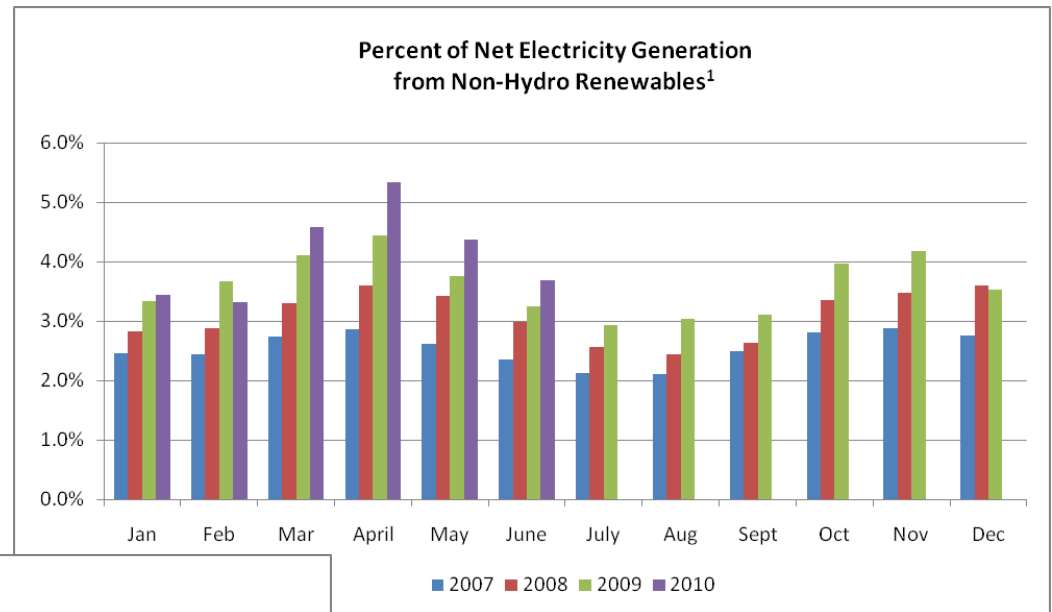
2005 Emissions: 7.2 GtCO<sub>2</sub>e  
 2030 Emissions Under BAU: 9.7 GtCO<sub>2</sub>e  
 2030 Emissions Under Cap-and-Trade: 4.2 GtCO<sub>2</sub>e  
 2030 Abatement: 5.5 GtCO<sub>2</sub>e



\* Non-fossil fuel-related measures

# Growth of clean energy has been significant over the past 5 years

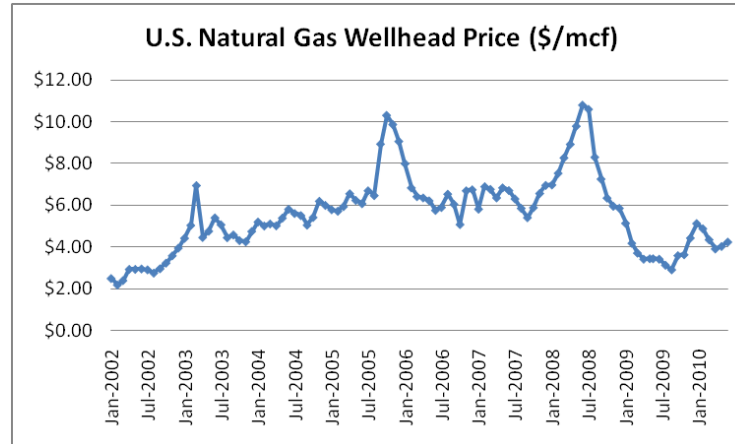
- Falling costs of clean technologies
- Elevated natural gas prices
- Private financial innovation
- Federal incentives
- State RPS mandates and financial incentives
- Popular support
- Environmental considerations



Source: EIA Monthly Power Data  
[http://www.eia.doe.gov/cneaf/electricity/epm/epm\\_sum.html](http://www.eia.doe.gov/cneaf/electricity/epm/epm_sum.html)

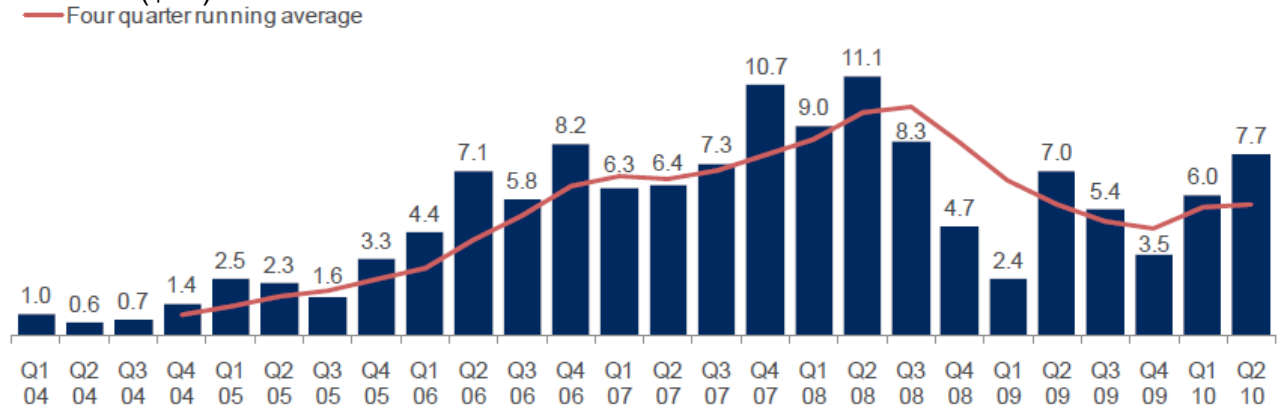
# Unfortunately, renewables are in for a rough patch—potential very rough—without policies

- Natural gas prices



- A weak economy has had several impacts, including limiting financing opportunities, and reductions in electricity demand (and thus demand for PPAs)

BNEF: New financial investment in clean energy: United States Q1 2004 –Q2 2010(\$bn)



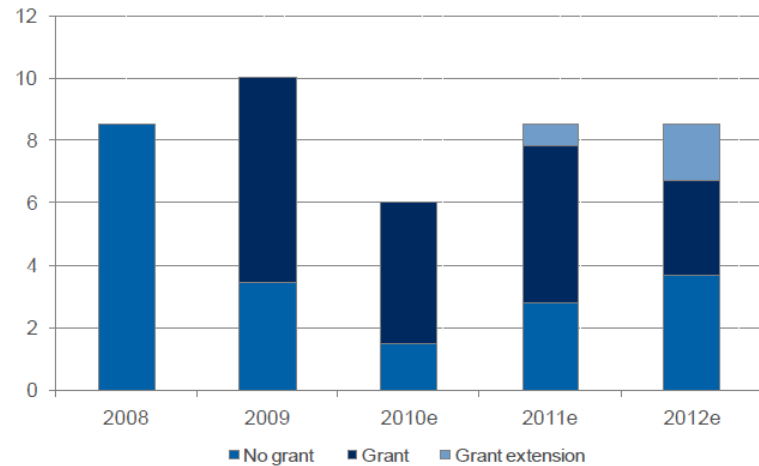
Source: Bloomberg New Energy Finance ([http://globalwarming.house.gov/files/HRG/092210Global/liebreich\\_PPT.pdf](http://globalwarming.house.gov/files/HRG/092210Global/liebreich_PPT.pdf))



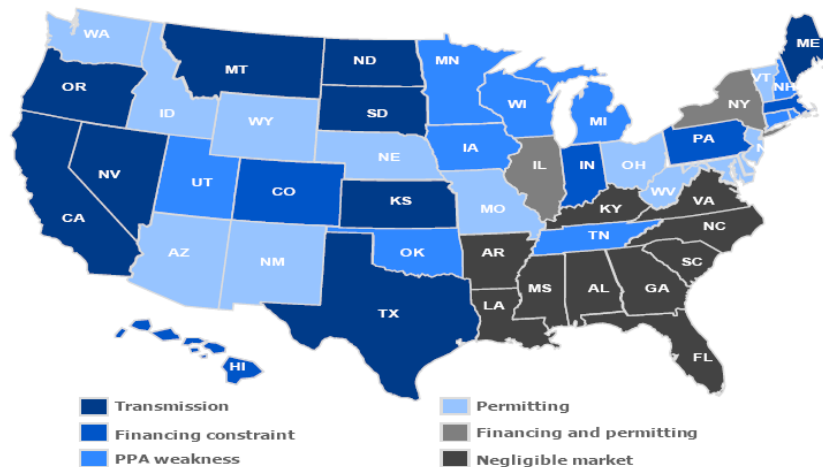
# Unfortunately, renewables are in for a rough patch—potential very rough—without policies

- Uncertainty and short-term government incentives

*Impact of grant extension on renewables builds (GW)*



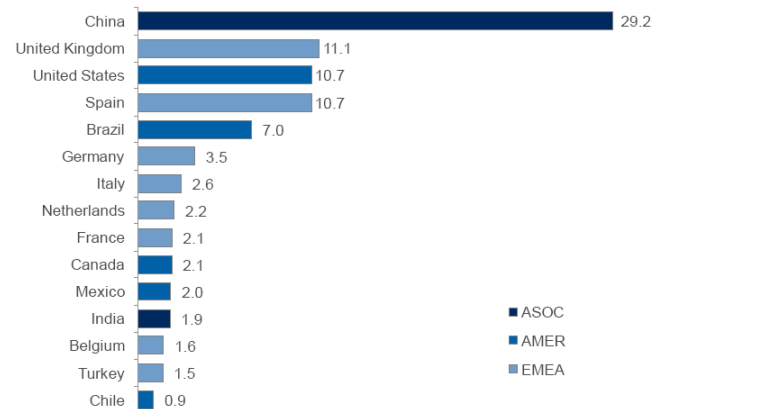
- Integration, heightened resistance to expensive PPAs, more competition for lowest impact sites



# What's next for policy? What do you have?

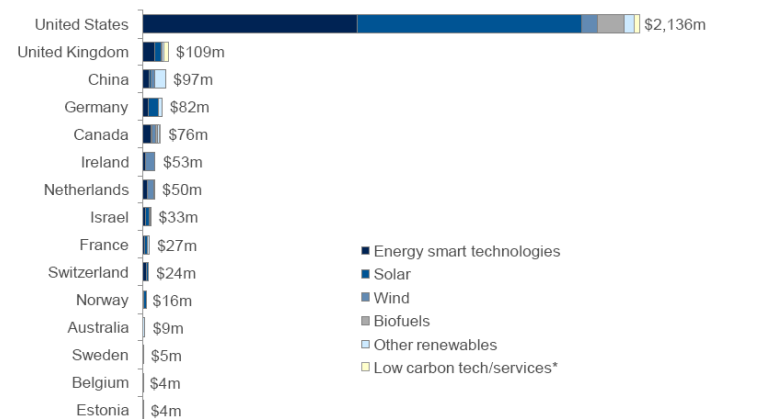
- Carbon cap and invest – all defeats are temporary
- Pace of China's investment in new builds highlights importance of multifaceted approach to support
- We need federal, state and county level support of clean energy economy
  - With carbon criteria at every level

Asset finance for new build clean energy assets - top 15 countries 2009 (\$bn)



Source: Bloomberg New Energy Finance  
Note: Total values include estimates for undisclosed deals

VC new investment in clean energy by sector – top 15 countries: 2009 (\$m)



Source: Bloomberg New Energy Finance  
Note: Total values include estimates from undisclosed deals. \*includes CCS

# Policies needed at federal level

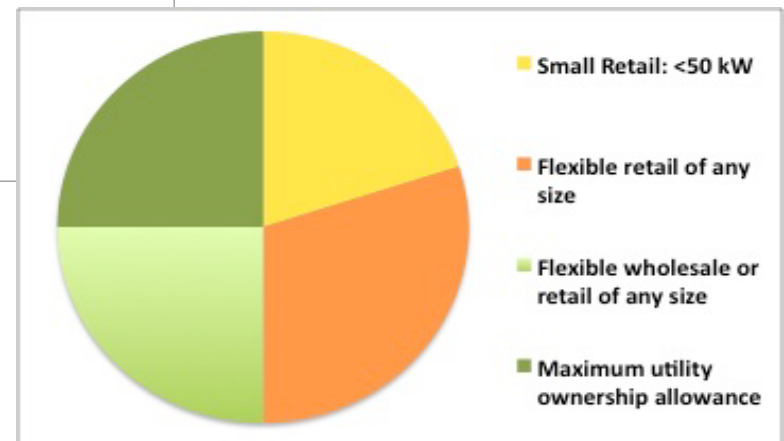
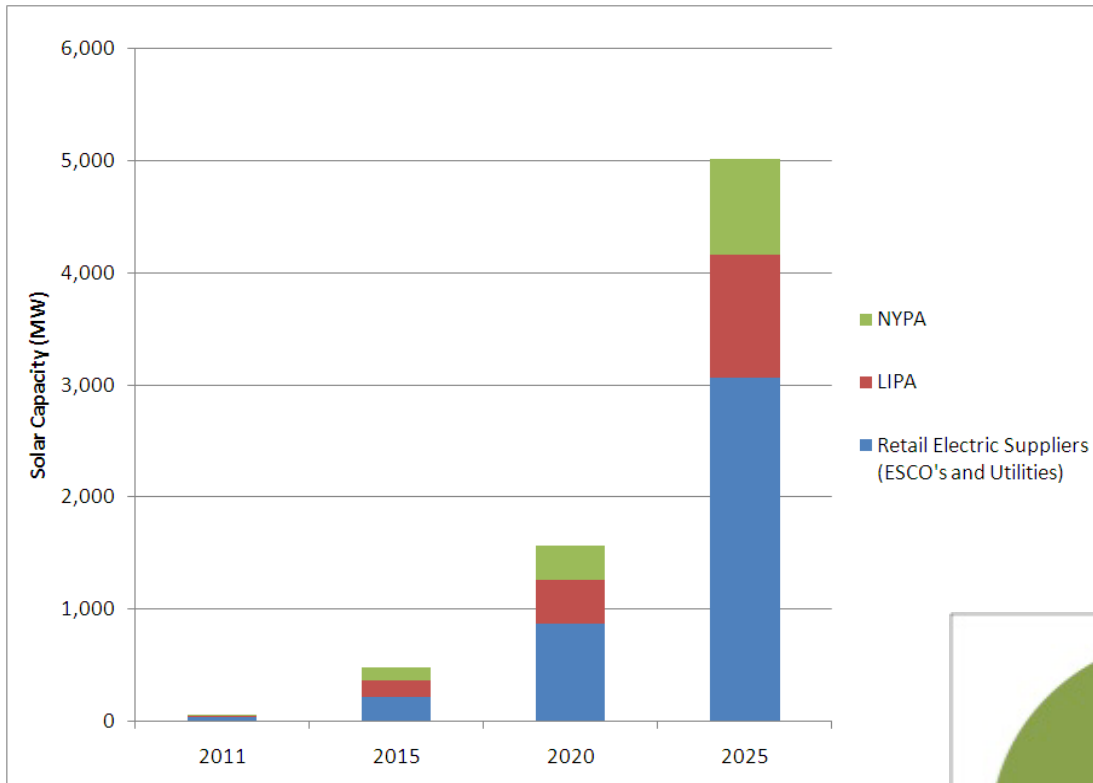
- Carbon regulation – protect Clean Air Act
- Renewable Electric Standard
  - Targets not high enough, biomass definition not strong enough
  - Important for planning, but a Band-Aid by itself
- 2 yr treasury grant extension
- Long-term fix to tax equity market making them much more liquid or alternative production incentive
- Loan guarantees and other financial tools to help with valley of death
- Agencies – organic RE siting authority for BLM, much quicker and more protective permitting policy for offshore RE
- Clean energy manufacturing and innovation incentives
- Low-carbon transmission policy/RE Integration tax credit

# Policy needed at the state and local level

- Renewable Portfolio Standards (with teeth)
  - Low carbon biomass standards
- Regional low-carbon fuel standards and transportation policies
- Financial incentives
  - Tax credits
  - Purchase agreements
  - Pilot plant grants
- Clean energy economic development aid
  - Tax breaks
  - Energy efficient engineering and investment incentives
  - Job training
- Regional low-carbon transmission planning
- Low environmental impact/high renewable resource mapping



# New York State Solar Bill



# New York State Solar Bill

## Other Notable Features

- Tradable Solar Renewable Energy Credits (SRECs) and bankable up to 2 years.
- PSC shall establish a declining annual Alternative Compliance Payment (ACP) for SREC acquisition at the outset for all program years (2012-2026).
- PSC shall establish a standardized contracting template for SRECs
- Long-term contracts: Retail ESCO's (and utilities) required to contract for SRECs at minimum of 15 years for all projects.
- Feed-in Tariff (FIT) terms and conditions apply to systems up to 50 kW in size. Bi-annual adjustment to FIT rate (new projects only, not existing contracts) will be determined by the prices/trends on the competitively bid SREC market from the previous 2 years.
- Program rate impact cap 2% annual total NYS electric cost.
- Utility cost recovery that includes PSC establishing incentives to reward grid location efficiency.