

US Competitiveness Subcommittee

Renewable Energy & Energy Efficiency
Advisory Committee

September 10, 2013

Subcommittee Objectives

- RE&EE exports will require a strong domestic RE&EE industry
- We define domestic as where the jobs are, not by what flag is flying over corporate HQ
- A strong domestic RE&EE market will be a function of both supply and demand, and policies driving both sides must be considered

Demand Side Considerations

- Climate change concerns
- Cost of renewable vs. fossil fueled generation
- Overall economic growth rates
- Growth of distributed generation & microgrids
- Economics of energy efficiency
- Solutions to intermittency issues
- Portfolio standards for renewable generation, efficiency & peak reduction
- Competitive financing options
- Emergence of demand response & smartgrid

Supply Side Considerations

- Predictable, sustainable domestic demand
- Financial incentives
- Manufacturing-friendly environment
 - Tax policy
 - Workforce
 - Functional infrastructure & logistics systems
 - Energy costs
 - Rule of law/litigation environment
 - State & local incentives
- Blurring of supply & demand side result as a result of distributed generation

What levers do we have to push?

- Specific policy recommendations – within the executive branch
- Education of policy makers
- Coordination of state efforts

Energy Efficiency Financing

- Energy efficiency programs will both reduce energy consumption and promote the use of renewable generation
- Financing options include:
 - Property Assessed Clean Energy (PACE) – provides access to municipal bond financing for energy efficiency retrofits
 - On Bill Repayment (OBR), piloting this year in California, utilizes utility billing as a repayment mechanism for private sector retrofit financing
- How can these programs be accelerated throughout the country?

Harmonization of State Policies

- State RPS and REC programs, as well as regional power market structures and policies, vary dramatically.
- Renewable energy markets consequently are fragmented, thin, and highly volatile and do not create consistent demand for new RE projects.
- A single national system for renewable energy procurement (national RPS) could offer cost and operational efficiencies, and facilitate the more rapid deployment of renewable generation. However, a national RPS appears not to be feasible in the foreseeable future.
- Harmonization of state and regional policies , especially for states sharing significant energy resources, through interstate compacts or other coordinated programs or policies, could generate significant benefits through a broader and more efficient market while preserving regional autonomy and flexibility.
- DOC and other federal agencies (DOE, FERC) should work with state regulators (NARUC), governors, and legislatures to promote common regional markets and common renewable energy procurement policies .

Expansion of the E3 Program

- Economy Energy Environment (E3) is a technical assistance framework organized by 6 Federal agencies (DOA, DOC, DOE, DOL, EPA & SBA) to support manufacturing by helping communities, companies and supply chains grow in the green economy.
- How can its programs be cost-effectively expanded to "match the scale of the problem?"
- How can findings on "high impact investments" identified through cooperation of White House, NSF & DOC's National Institute of Science & Technology best be shared with appropriate audiences?

Capital Market Access

- In order for renewable energy sources to reach grid parity, reductions will need to be realized in both capital cost and financing cost.
- Access by commercially proven renewable technologies to public debt and equity capital markets would provide significant improvements in the cost of capital.
- Potential vehicles include
 - REITs – will require IRS rule changes
 - MLPS – will require new legislation
 - Securitization – will require market recovery from 2008 crash
 - IPO's - NRG Yield IPO will hopefully set a precedent
 - Green Bonds – require market development

Efficiency of Federal Incentives

- To the extent tax incentives continue to be used, policy needs to be more consistent – e.g. stop and start PTC has profoundly damaged the wind industry
- Refundable credits and cash grants are significantly more efficient in terms of assets developed per dollar of government expenditure, as well as in lowering overall capital costs to developers
- Tax depreciation lives for demand side hardware should be reevaluated

Domestic Standards

- With dramatic reductions in the cost of solar panels, attention has shifted to cost reduction in balance of system, and specifically soft and installation costs.
- Establishing national standards (domestically) through the National Institute of Standards and Technology for panel size could generate significant efficiencies and cost savings in the installation process
- DOE Sunshot initiative recommends standard sizes of 40 x 1000 x 1664 mm for 60-cell modules, and 40 x 1000 x 1980 mm for 72-cell modules

Business Response to Climate Change

- Grid resiliency products and services should be included in RE&EE considerations
- NOAA data on effects of climate change on business & agriculture should be compiled and researched for RE&EE opportunities
- Insurance industry reactions to climate change should be researched to quantify financial impact of climate change

Clean Energy Manufacturing Initiative

- Follow up with Libby Wayman of DOE for detailed discussion of barriers and opportunities for clean energy manufacturing in the US