Policies for Energy Provider Delivery of Energy Efficiency

Australia Workshop
December 12, 2011

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Energy Efficiency Advisor
Topics

- Why look to energy providers to deliver energy efficiency?
- Policy research needs for energy-provider delivered energy efficiency
- Exploring interactions between regulatory mechanisms and programme designs
- Creating opportunities for policy dialogue
Why should energy providers deliver energy efficiency?

- Well positioned in the energy marketplace
- Strong technical and administrative capacity
- Ability to mobilize funding
- Shared responsibility – with government - for energy security and sustainability
- Well positioned to help overcome the main barriers to climate solutions
Energy providers are well positioned to address the market failures and institutional barriers facing energy efficiency

End-user awareness, low energy prices, access to financing, and implementation capacity are the most common barriers
Energy efficiency policy trends

Europe
- UK Carbon Emission Reduction Targets (CERT)
- Italian, French, and Belgian White Certificates (WhC) schemes
- The proposed Energy Efficiency Directive

North America
- Rapid growth in energy provider EE spending
- Diversity of regulatory mechanisms

Asia-Pacific
- China’s new DSM Rule
- India’s investor-owned utilities
- Australia’s retailer obligation programmes
Regional patterns in energy provider-delivered energy efficiency

<table>
<thead>
<tr>
<th>Region</th>
<th>Sales (TWh)</th>
<th>Revenues (USD Billions)</th>
<th>EE Spending (USD Billions)</th>
<th>Spending metric (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North America</td>
<td>4,200</td>
<td>400</td>
<td>6.1</td>
<td>1.5</td>
</tr>
<tr>
<td>EU 27</td>
<td>3,350</td>
<td>650</td>
<td>3.0</td>
<td>0.5</td>
</tr>
<tr>
<td>China’s new DSM rule</td>
<td>4,700(^1)</td>
<td>410</td>
<td>1.2 (imputed)</td>
<td>0.3</td>
</tr>
<tr>
<td>Brazil</td>
<td>425</td>
<td>50</td>
<td>0.5 billion</td>
<td>1.0(^2)</td>
</tr>
</tbody>
</table>

\(^1\)2011 data  
\(^2\)System benefit charge level

Sources: Nevius, Eldridge and Krouk, 2009; Barbose, Goldman and Schlegel, 2009
Policy research on energy provider-delivered energy efficiency
Review of Energy Provider-delivered energy efficiency programmes

Desk study of programme types
- Incentives
- On-Bill Financing
- Equipment replacement
- Advice and assistance
- Direct installation

Outreach and survey of innovative and proven programs
- Through networks of utility providers
- Directly to investor-owned and municipal utilities
- 29 program profiles as of 9 December 2011
Focus on Innovative Programs

- Explore the range of measures and programme types
- Highlight both proven practice and promising new approaches
- Analyse variations in programs and their effectiveness:
  - Impact and cost-effectiveness
  - Compatibility with energy market design and regulatory frameworks
  - Variety in types of energy providers
  - Trends and opportunities.
- Metrics used to analyze and compare EE programs (resources and effectiveness)
- The regulatory conditions are that allow for innovative programs
- Policy recommendations for a successful program environment
Exploring policy-program interactions

- What does tradability contribute to an obligations scheme?
- Are “distributional safeguards” needed? How should they be provided?
- Setting an energy savings target trajectory
- Encouraging innovation while managing overhead costs
- Importance of oversight
- Competitive effects of obligations in liberalized markets
- What role can capacity and energy markets play?
- How important is additionality?
- Balancing long-lived and short-lived efficiency measures
Exploring institutional arrangements

- Determining obligated entities
- Choosing eligible entities
- Assigning administrative responsibility
- Building monitoring and verification capacity
- Selecting a market operator
Comparative analysis of programmes

- Market, institutional and regulatory interactions
- Program compatibility with market designs and regulatory frameworks
- Extending EE policies to cover upstream energy providers
- Exploring untried combinations of regulatory mechanisms and programme designs
Consideration of which energy providers might be obligated

- Who is most frequently tapped to deliver energy efficiency?
- What regulatory mechanisms might mobilize other energy providers?
- What type of energy efficiency programmes might they undertake?

<table>
<thead>
<tr>
<th>Energy provider entities</th>
<th>Market Structures</th>
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<tbody>
<tr>
<td></td>
<td>Integrated and regulated</td>
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<tr>
<td>Electricity</td>
<td></td>
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<tr>
<td>Transmission</td>
<td></td>
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<tr>
<td>Distribution</td>
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<tr>
<td>Retail</td>
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<tr>
<td>Fuels</td>
<td></td>
</tr>
<tr>
<td>Transmission</td>
<td></td>
</tr>
<tr>
<td>Distribution</td>
<td></td>
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<tr>
<td>Retail</td>
<td></td>
</tr>
</tbody>
</table>

**Often involved in delivering energy efficiency**

**Seldom involved in delivering energy efficiency**
Metrics for energy provider-delivered energy efficiency

- Projecting economic and technical potential
- Setting realistic targets for energy providers
- Benchmarking and comparing results across providers and types of energy provided

<table>
<thead>
<tr>
<th>Impact</th>
<th>Cost</th>
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<tbody>
<tr>
<td>- Energy savings by electric utility by sector in GWh</td>
<td></td>
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<tr>
<td>- Energy savings by gas utility by sector in TBtu</td>
<td></td>
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<tr>
<td>- Savings as % of sales</td>
<td></td>
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<tr>
<td>- Savings as % of peak demand</td>
<td></td>
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<tr>
<td>- Energy efficiency target as % of total sales</td>
<td></td>
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<tr>
<td>- Carbon dioxide reduction</td>
<td>- Total cost per kWh saved; per TBtu saved</td>
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<td></td>
<td>- Administrative costs per kWh saved; per TBtu saved</td>
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<td></td>
<td>- Spending per ratepayer</td>
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</tbody>
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Creating opportunities for policy dialogue
Outreach and engagement strategy

- Regional workshops
  - North America
  - Europe
  - Asia – India, China, Australia

- Workshop conveners
  - IEA and IPEEC member governments
  - Regulator associations
  - Energy provider associations

- Other partners
  - WBSCD and WEF
  - Academics and NGOs
# Regional policy dialogue partners

<table>
<thead>
<tr>
<th>Region</th>
<th>Regulator network</th>
<th>Energy provider network</th>
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<tbody>
<tr>
<td>International</td>
<td>International Confederation of Energy Regulators (ICER)</td>
<td>WBCSD</td>
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<tr>
<td>Europe</td>
<td>Council of European Energy Regulators (CEER)</td>
<td>WEF</td>
</tr>
<tr>
<td>US</td>
<td>National Association of Regulatory Utility Commissioners (NARUC)</td>
<td>Eurelectric</td>
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<tr>
<td></td>
<td></td>
<td>Eurogas</td>
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<tr>
<td>India</td>
<td>Forum of Indian Regulators</td>
<td>Council of Power Utilities</td>
</tr>
<tr>
<td>China</td>
<td>State Electricity Regulatory Commission</td>
<td>State Grid</td>
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<tr>
<td></td>
<td></td>
<td>Southern Grid</td>
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<tr>
<td>Australia</td>
<td>Australian Energy Regulator, Australia Energy Market Commission State energy regulators</td>
<td>Energy Retailers Association</td>
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<tr>
<td></td>
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<td>Energy Supply Association</td>
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<td>Energy Networks Association</td>
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Discussion and questions

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