Wall Street attitudes toward Small Modular Reactors (SMRs)

 Briefing for US Department of Energy

Presented by Bruce Lacy
April 12, 2013
### Wall Street:
**Who We Talk to and What They Do**

<table>
<thead>
<tr>
<th>Users of Capital (Debt &amp; Equity)</th>
<th>Markets and Intermediaries</th>
<th>Providers of Capital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Publicly traded companies (D&amp;E)</td>
<td>Public Capital Markets</td>
<td>Pension Funds</td>
</tr>
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<td>Privately held companies (D&amp;E)</td>
<td>“Investment” Bankers</td>
<td>Mutual Funds</td>
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<td>COOPS (D)</td>
<td>Publicly traded:</td>
<td>Insurance Companies</td>
</tr>
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<td>Munis and Public Power (D)</td>
<td>- Debt- Bonds</td>
<td>Companies (public and private)</td>
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<td>- Equity- Stocks</td>
<td>Individual Savers</td>
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<td>Rating Agencies</td>
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<td></td>
<td>- Loans</td>
<td></td>
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<td></td>
<td>- Project Finance</td>
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<td>Hedge Funds</td>
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About the Survey

- 2013 is the 7th regular survey
- Survey started in 2007 focused on nuclear new build
- Has expanded over time to include coal, natural gas and renewables
- Typically 40-45 participants (47 in 2013)
- “In-person” interviews provide opportunity for relationship building and in-depth understanding of attitudes
- Wall Street is not monolithic

A joint effort between Lacy Consulting Group, LLC and Chappaqua Capital Consultants, LLC
DOE’s Request for Survey

- Incorporate SMRS into existing survey
  - Including specific survey question(s)
  - Pursuing SMRs as a topic in other questions
- Analyze results in context of current and prior year survey results
- Provide a tailored briefing on Wall Street attitudes toward SMRs

“What should DOE’s Wall Street strategy be for SMRs?”
Summary

• Poor demand and cheap natural gas are the overwhelming issues driving thinking about new generation
• Nuclear is a subset of this demand/natural gas picture
• Wall Street’s attitude toward nuclear:
  – Generally favorable
  – But mixed with many issues
• Wall Street generally sees SMRs as something potentially very different from the “big” reactor experience
• SMRs are largely a “blank slate” for Wall Street
• This is an opportunity for DOE to establish the SMR message
Natural gas dominates all discussions

- Renewables surpass coal and nuclear
- Solar is expected to surpass wind
- Coal spending is driven by environmental concerns
- Nuclear spending is lowest of all generation options surveyed
- 2013 forecast for generation Capex compared to 2012 is predominately the same or lower
Long Term View

Natural gas dominates

• 2013 Survey long term look shows Natural Gas down slightly from 2012 survey, but change is probably not significant due to shift in question
• Renewables are seen as replacing coal and nuclear “baseload”
• Coal and nuclear are forecast to be replaced by 25-30% coal and nuclear

Note: the 2013 vs. 2012 comparison above is based on two different, but similar questions
The Future of “Big” Nuclear

- Short term (0-10 years) perspective is stable (Vogtle and Summer are key) or decline
- Longer term (10-30 years) perspective is binary, either growth or decline
- Nuclear issues are competitiveness and ability to construct, not Fukushima
- SMRs are rarely mentioned as part of long term picture, regarded as new and different

2013 Prospects for US Nuclear Power, Short Term (0-10 years)

2013 Prospects for US Nuclear Power, Long Term (10-30 years)
Can SMRs be Competitive?

Uncertainty dominates responses

- Anxiety/skepticism about SMRs and “big” reactor overheads
- Skepticism about whether SMRs are “real”
- Smaller financing need of SMRs is very important
- CCCT’s and Renewables are noted as SMR competitors
- There are SMR advocates on Wall Street
“What additional confidence does the recent Government investment in SMRs (award to Generation mPower for development) give you in terms of improving future deployment potential for SMRs?”

- **Positive reactions include:**
  - R&D is role of government
  - Government is paying attention
  - Planning for the future
  - Increases likelihood of a licensable design

- **Neutral reactions include:**
  - Helpful for DOE to jumpstart, but need to survive on their own
  - Fear lack of support from others

- **Negative reactions are a mix of predictable with surprises:**
  - Government does not have commercial perspective
  - SMR program is not big enough
  - Need framework of a broader policy
Additional themes and "comments" relevant to SMRs

• Carbon is off the radar screen (for the moment)
• “Need to approach SMRs with upfront view toward international market”
• “Need to get big high tech manufacturers involved”
• Support for US exceptionalism (but don’t bank on it!)
• US exceptionalism fits with view toward international markets, e.g. US needs to be global player/leader
• “Comparison with “big” nukes is not the right approach, SMRs must compete in a new niche”
• Risk of overdependence on Natural Gas is on the radar screen, expectations for solutions vary, not all require government action
Financing: Nuclear vs. Natural Gas vs. Renewables

• Vogtle 3&4 ($15B)
  – All forms of financing are being used successfully
  – Debt for Georgia Power is being issued at 0.10% over non nuclear utilities
  – Relies on recovery of costs either through state or coop set rates

• Sabine Pass LNG facility, four trains ($8B)
  – Owner equity with remainder as project finance
  – $3.6B Term Loan A secured, $1.5B debt offering was oversubscribed
  – Relies on 20 year off take contracts and confidence in construction

• Sun Desert Solar Project ($2.3B) $1.7B project finance with $1.5B 80% guaranteed by DOE, supported by long term off take contracts, oversubscribed

• CCCT’s ($250M) all combinations of owner equity, debt and project finance

• Wind Farm ($50-150M) owner equity and project finance, relies on smaller financing size, off take contracts and substantial policy support (PTCs)

SMRs need to observe and learn
Conclusions and Recommendations regarding SMRs and Wall Street

- **Wall Street**
  - Is focused on natural gas, but is alert to risk of overdependence
  - Sees SMRs as possibly new and different from the “big” reactor experience
  - Has yet to take a definitive view of SMRs
  - Likes the smaller financing requirement associated with SMRs
  - Is focused on the short term, sees SMRs as “in the future”

- **Recommendations to DOE**
  - Appreciate the opportunity provided by a “blank slate”
    - Beware and immunize against hype, “under commit, over perform”
    - Acknowledge today’s circumstances and uncertainties, DOE’s SMR program is about providing answers for the future
  - View Wall Street as a strategic player for SMRs
    - Build relationships with a tailored approach
    - Engage Wall Street’s competitive spirit and talent for financial creativity
Thank You

Questions?