



AREVA Low Carbon Energy Future Stakeholder Dialogue

December 2, 2009
Washington, DC

Summary

INTRODUCTION

On December 2nd, 2009, Business for Social Responsibility and AREVA, Inc convened 10 stakeholders from policy think tanks, academia, consumer advocates, unions, and nonprofit organizations addressing climate change and other environmental issues in Washington DC for a dialogue with AREVA senior management from the United States and France. AREVA participants included representatives of the executive team, Sustainable Development and Continuous Improvement, ADAGE (the company's joint venture in biomass), Quality and Performance Improvement, Strategy, Government Relations, and Communications. The framing question for the dialogue was:

How can nuclear and renewable energy technologies provide reliable, low-carbon solutions to United States energy needs now and in the future?

The dialogue's stated objective was to discover areas of agreement regarding a responsible, low carbon energy future for the United States and in doing so:

- Contribute to the national dialogue on this subject;
- Provide actionable feedback to AREVA on how to align the company's current and planned actions and future investment activities with this vision, as a responsible provider of low-carbon electricity services; and
- Identify what role AREVA can play in leadership and innovation to achieve this vision.

The morning portion of the meeting was structured around a series of small dialogues, with initial Presentations on the framing question, and AREVA's nuclear and renewables strategies in the United States, followed by discussion. This helped to identify key themes which were discussed in greater detail in the afternoon.

The sections below summarize the key issues raised in the course of discussion and stakeholder suggestions for AREVA.

KEY ISSUES AND RECOMMENDATIONS

Issue areas are reflected below along with bulleted stakeholder recommendations. It should be noted that a bulleted recommendation does not reflect stakeholder consensus as feedback varied among stakeholder participants.

1) Achieving cost-competitiveness for low-carbon energy solutions, including nuclear energy. Some participants questioned the cost of nuclear energy and its competitiveness with other technologies. This topic was coupled with a discussion of how to improve the cost-competitiveness of renewable technologies.

- Be careful about claims regarding cost-competitiveness of nuclear because of ongoing debate and concern about cost

- Take the lead in development of ‘technology roadmaps’ that show how to achieve costcompetitiveness for all renewables – either within AREVA or through advocacy with the US government
- Develop your own innovation strategy for renewable technologies to rapidly improve their costcompetitiveness
- Pair nuclear energy development with an efficiency plan to manage the rise in customer rates associated with the cost of build (rate shock)

2) Uranium mining. Stakeholders are concerned about the impacts of mining low quality uranium deposits (the majority of those in the U.S.) located in high-value landscapes or those in politically unstable regions of the world. There is a high level of concern about the standards for in-situ leaching sites and small/ marginal operations that don’t have sufficient resources to monitor impacts.

- Focus on high-quality deposits in politically stable environments (e.g. Canada)

3) Nuclear Waste/ Recycling/ Non-Proliferation. The question of waste storage needs to be addressed in developing nuclear, which raises the option of recycling to manage waste. Recycling is technically feasible; stakeholders are concerned about cost-effectiveness and proliferation. NRDC currently has a proposal tabled for the creation of an international structure for take-back of reprocessed fuel involving secure leased areas in existing nuclear countries that would be under control/ monitoring by an independent international agency.

- Provide more clarity on the issues which need to be addressed (fuel technology, qualifying fuels, risks associated with fast reactors) before a reprocessing plant is built
- Make the development of controls on proliferation related to recycling a leadership initiative for AREVA –as the foremost nuclear fuel company in the world, AREVA has the lead on this issue
- Advocate with the French government to pull back on its aggressive recycling stance
- Continue program on medical uses as an alternative disposal option
- Petition the NRC to phase out HEU in US and exports

4) Bias towards utility-scale renewable development in AREVA’s strategy. Stakeholders noted that AREVA’s renewable energy strategy is heavily oriented towards utility-scale products and services – where the company’s core competencies and traditional customer base lie. Stakeholders felt there is significant benefit in exploring distributed generation technology: it may open up markets in Africa, Latin America and Asia, address challenges with transmission & distribution, and keep AREVA competitive with China and Korea if market turns in this direction. *This mirrors comments from European stakeholders.* A smaller-scale reactor than the EPR may also be aligned with future trends in nuclear generation. A distributed generation strategy does not necessarily require production of household units – EDF, for example, is producing “community sized” solar units. This also creates a complementary need for intra-community transmission services.

5) “Holistic sustainability” of new technologies. While renewables offer benefits for carbon reduction, they are not void of other environmental impacts. For example: use of water in nuclear and solar generation; wildlife, noise, stroboscopic effects of wind power; land impact on turtles and lizards; heavy metals in photovoltaics. The impacts for some technologies (like offshore wind) are still unknown. Water use is becoming a critical issue, especially in the Midwest.

- Approach new technologies from the angle of environmental efficiency (water and land use) and differentiation based on environmental performance
- Apply European standards for deposition of heavy metals from solar panels or commit to collection and recycling of panels
- Support development of a more transparent public input process around permitting for renewables

- Promote environmental responsibility along the whole supply chain; support NEI standards of conduct for mining
- Engage with relevant stakeholders and communities for each new project or investment in renewables

6) Inter-locking renewable or renewable/ non-renewable technologies.

- Explore opportunities to pair technologies to address deployment challenges – e.g. solar (intermittent) and biomass (baseload) – or serve as ‘bridge’ technologies (e.g. by pairing coal and solar) to reduce need for additional baseload.

7) Energy storage solutions. “The energy storage question will determine the total structure of our future energy system”.

- Make a bet on storage/ carriers for energy; it could have a big payoff

8) Siting renewables facilities. Engagement with stakeholders impacted by new renewables technologies as soon as possible will be the ‘linchpin of success’

- Engage with local communities affected by offshore wind development
- Engage with pulp and paper companies as there is potential for conflict over use of forest resources for each business; very sensitive to increasing costs of timber, which could impact their profitability

9) Opportunities in energy efficiency. Are there opportunities for AREVA to develop products and services related to energy efficiency?

- Continue emphasis on efficiency in existing technologies
- Explore products/ services/ business models to promote energy efficiency

10) Developing a true portfolio approach to low-carbon energy. What does a true ‘portfolio’ look like?

What criteria does this imply for decision-making? What market/societal signals does AREVA need to be tracking?

- Ensure AREVA has secondary plans that provide additional options if technology ‘bets’ do not work
- Think about capabilities required to be flexible – for example, the ability to move people and resources between business lines
- Conduct scenario planning; identify the worst case scenario – what if there were no nuclear at all? What are the early signals that that scenario is happening?
- Monitor for ‘game changing’ technologies that can be acquired
- Recognize different maturity levels in renewables options and keep a diverse portfolio
- Look for business opportunities in the supply chain (e.g. AREVA may be able to strengthen replacement programs so that reactor lifetime is extended near-indefinitely)
- Hedge with smaller reactor design; higher burn-up fuels that might provide alternatives to recycling

11) Public investment in low-carbon technologies. Government investment/intervention to achieve carbon reductions is very controversial – what is the opportunity cost of investing our scarce financial resources in one technology over another? Stakeholders are concerned that nuclear isn’t the cheapest or fastest technology for reducing carbon emissions; some stakeholders want to see a ‘rational allocation of capital to decarbonization and are concerned that investment in nuclear energy –and recycling – runs counter to this goal.

- Examine how many jobs are created per kilowatt across generation technologies
- Be able to speak to how quickly AREVA can deploy cost-competitive low-carbon energy sources to reduce carbon emissions

12) Public policy advocacy. The brunt of political risk is currently borne mostly by politicians – companies need to do more to work with them and other interested groups to share knowledge, success stories.

- Take the lead in developing a biomass plan for the Southeast US
- Play a more active role in energy policy development on Capitol Hill- provide explicit support for climate policy
- Build on your leadership in non-proliferation internationally
- More progress on policy issues may be achieved at the regulation level; take a proactive role in advocacy around regulatory barriers. For example, cogeneration is more of a regulatory challenge than an issue of financial incentives, or opening the grid
- Tie advocacy for technologies to job creation opportunities

13) Communication.

- Tell the story about AREVA's renewable strategy – positioning as an energy company vs. a nuclear company; ability to alleviate skepticism about viability of these technologies
- Highlight the economic development opportunities AREVA offers in the roll-out of business strategy
- Communicate to Congress/ the administration on the opportunities created by removal of some of the current policy barriers