

*Event Summary: Geopolitics of Clean Energy*

June 1, 2011

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On June 1, 2011 the CSIS Energy and National Security Program and the Joint Institute for Strategic Energy Analysis hosted a discussion on the geopolitical implications of current clean energy trends. Sarah Ladislav, Senior Fellow, CSIS Energy Program moderated the session which explored the dynamics of the current clean energy landscape, the existing competition between clean energy and the conventional system, and emerging characteristics and challenges that will shape the development and trajectory of the clean energy economy.

Michael Liebreich, CEO of Bloomberg New Energy Finance, began by speaking on the current clean energy landscape. Mr. Liebreich argued that over the past several years clean energy sources have become economically competitive without government subsidies. The power generating capacity of clean energy has risen as costs have decreased due to technological innovation while the environmental and geopolitical costs associated with traditional energy sources have increased.

Mr. Liebreich cited a dramatic increase in international patent filings, arguing that world scientists are devoting their efforts to clean energy technology development, further supporting the growth of the clean energy market and fundamentally restructuring the energy industry. Interestingly, while the production of solar and wind technologies has gravitated towards Asia, venture capital and innovation activities remain concentrated in North America. Liebreich concluded by explaining the geopolitical challenges that exist for clean energy. Battles over access to lithium supplies for batteries could replace today's fight over access to oil, and smart grids that use computer technology to increase efficiency could prove more vulnerable to cyber-attacks. Despite these potential challenges, Mr. Liebreich presented an optimistic picture of clean energy's future and the dramatic changes occurring in the energy industry.

Claude Mandil, former executive director of the International Energy Agency, addressed changes in conventional wisdom of energy geopolitics. Mr. Mandil discussed the "old geopolitics" of energy based on three "E"s: energy security, economic growth, and environmental protection. At the start of 2011, shale gas was plentiful, nuclear energy was popular, and an explicit consensus existed between oil producers and consumers favoring a price of \$80/barrel. However, several events are challenging conventional wisdom:

- The Cancun Climate Summit, which demonstrated the weakness of top-down negotiation;
- The Arab Spring, which destroyed the \$80/bbl oil price, eliminated exports from Libya and Yemen, and has left a "huge additional social burden" on Arab producers;

- The Fukushima Crisis, which hampered the popularity of nuclear power and may boost the appeal of traditional, carbon-heavy sources; and finally,
- In future world-wide elections politicians may be unwilling to make hard energy choices and instead seek easy ways to reduce energy costs for voters.

According to Mr. Mandil, recent history indicates that current energy geopolitics, like the “old” geopolitics, are not about long term issues but about short term issues. As Mr. Mandil said, if governments are not brave enough to make good policy decisions the geopolitics of clean energy is unlikely to change. However, it is also up to consumers to learn to adjust to market signals, become more energy efficient and adapt to fluctuating energy prices.

The final speaker, Mr. Arent, Executive Director of the Joint Institute for Strategic Energy Analysis, addressed emerging dynamics within the clean energy sector. Mr. Arent began by touching on the new competitive environment of clean energy. Issues such as the threat of climate change and protectionist policies have changed the clean energy landscape. Mr. Arent concluded by discussing six specific dynamics that must be addressed as the sector moves forward:

- Strategic minerals, such as the rare earth elements and minerals needed for clean technology, multiple sourcing, and mandates for recycling requirements;
- Clean energy competition, and the challenges of bringing new technologies to market;
- Environmental concerns at the local and global level;
- Domestic and international infrastructure challenges, and associated political challenges;
- Low carbon trade issues, including tariffs and patents; and,
- Clean energy for development.

