

## [Climate Change and Energy are Converging into New Era of Clean Energy](#)

"High energy prices, climate change and energy security are converging as the new engine driving the development of clean energy," Daniel Yergin, chairman of Cambridge Energy Research Associates (CERA) and executive vice president, IHS Inc., said today in Washington, D.C.

"There is a major shift in public opinion towards clean energy, which is being bolstered by the growing conviction that new carbon policies will reshape the competitive landscape of the global energy business."

Yergin spoke at the 2008 National Governors Association (NGA) Winter Meeting. The organization's members are the governors of the 50 states, three territories and two commonwealths of the United States. Making the nation a global leader in clean energy was the key topic of this year's meeting.

Citing CERA's new study, *Crossing the Divide: the Future of Clean Energy*, Yergin said that renewable power and biofuels could be supplying as much as 16 percent of the global electric and transportation needs by 2030. "We are going through a period of what I call the 'great bubbling,' a high degree of innovation all across the energy spectrum," he said.

"To paraphrase a famous phrase about states as the laboratories of democracy, the states today are truly 'laboratories' of energy innovation and initiative for the nation.

"There are a broad range of opportunities and benefits, as well as risks, and pitfalls, as the modern energy industry increasingly moves to adopt clean technologies that will be part of the alternative, low-carbon pathway to the energy future," Yergin told the NGA audience.

"All participants in the global energy business, from traditional firms such as electric power companies and oil and gas companies to new entrants such as venture capital firms and high tech companies will play a role in shaping this changing energy future. So will government at both the state and federal levels."

On current oil prices, he added, "A major reason for the current leap to around \$100 a barrel is the economy - but now a weak U.S. economy, rather than the strong global economy that has been so important the last few years.

A slowing U.S. economy, rate cuts by the Federal Reserve and expectations of more, and a weak U.S. dollar - along with the reappearance of inflation around the world - are driving investors into oil and other commodities. Instead of the traditional 'flight to the dollar' during times of uncertainty, we are seeing a 'flight to oil.'"

He cited several key insights from the *Crossing the Divide* study:

- Renewable power technologies are poised for substantial growth - Wind will make the largest gains, followed by solar power and biomass - despite near-term bottlenecks in wind turbine manufacturing, supply shortages in silicon and competitive pressures from escalating component costs.
- Government policy remains a key driver for clean energy advancement - Putting a price on CO2 emissions, setting mandates and providing subsidies all work to kick-start clean energy technologies by meeting the economic competitiveness and cost advantages of conventional technologies.

The challenge in the years ahead is to provide subsidies in a way that ensures that these technologies get off the drawing board and are able to wean themselves from support - allowing for a phase-out rather than an increase in subsidies - as they become commercially viable on their own. It is also important that mandates be set at achievable levels and with care so as not to create unexpected pressures from higher prices.

- Clean energy portfolio-A full range of clean energy technologies along with demand side responses will be needed to address the challenge of redirecting global greenhouse gas emissions trends.

While many clean energy technologies are commercially available, more work is needed to develop and demonstrate a broader set of technologies including advanced coal systems.

- Conventional emission-free technologies - Nuclear and hydroelectric generation will account for most of the clean energy impact for the next decade, and almost half the gross clean power additions by 2030. The coal resource base and utilization in the United States and China will create a powerful drive to develop "clean coal" technologies.

- Asia demand and manufacturing - Rapid economic growth may push Asian energy needs from 30 percent of current global demand to 40 percent by 2030; combined with its manufacturing cost-competitiveness, this could make Asia a nexus for clean energy technology research, development and equipment production.

- The Economy - Economic growth affects energy demand and carbon emissions as well as the political and financial support for research and development of new clean energy technologies.

- The Big Three: "The Big Three" in terms of energy consumption - the United States, the European Union and China - will have a major impact on development of "clean energy," along with certain other countries, particularly Japan, India and Brazil.

Yergin explained how CERA's analysis in Crossing the Divide uses a scenarios framework to assess the prospects among the various clean energy technologies and help define key risks and opportunities as companies seek to place their technology bets.

The analysis addresses new and conventional energy technologies that can provide energy with a minimal carbon footprint and facilitate greater energy security. These technologies include biofuels, renewable power technologies, carbon capture and storage, nuclear and hydropower.

### About the Author

Daniel Yergin, chairman of CERA, received the Pulitzer Prize for "The Prize: The Epic Quest for Oil, Money & Power" and the United States Energy Award for lifelong achievements in energy and the promotion of international understanding. Vist [CERA](#).

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