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Indian External Affairs Minister Pranab Mukherjee and U.S. Secretary of State Condoleezza Rice exchange documents after signing the U.S.-India civil nuclear agreement in Washington, D.C. in October.

The Civil Nuclear Agreement and Beyond

By ERICA LEE NELSON

Despite all the challenges, the U.S. Congress overwhelmingly approved the agreement that overturns a three-decade ban on nuclear energy trade with India.

When the Indian ambassador to the United States, Ronen Sen, congratulated the organizers of the first Green India conference on "impeccable timing," the entire crowd of political and business heavyweights at the mid-October event in Washington, D.C. had to laugh—partly out of good humor, but also with a bit of relief.

Just five days earlier, on October 10, U.S. Secretary of State Condoleezza Rice and Indian External Affairs Minister Pranab Mukherjee had signed the U.S.-India civil nuclear cooperation agreement after months of political uncertainty. Despite all the challenges, the U.S. Congress overwhelmingly approved the agreement, which overturns a three-decade ban on nuclear energy trade with India and leads the two countries into a new era of bilateral relations.

Now, American firms can sell nuclear fuel and technology to India—signaling a significant step toward satisfying India's growing energy needs. At the conference, Indian Power Minister Sushilkumar Shinde said he hoped that, with the newly established international cooperation and domestic development, nuclear energy could add 40,000 megawatts to India's grid by 2020.

However, the full potential of clean energy cooperation, "can only be realized if private sectors in both our countries substantially increase their engagement," Sen said in his remarks. "The summit today is an important step in that direction."

While the successful nuclear deal was surely the star of the day, it was by no means the only topic. The summit—organized by the U.S.-India Business Council and the Confederation of Indian Industries—is set to be an annual event, covering environment-friendly ways to meet all of India's infrastructure demands: renewable energy, water, clean coal technologies and climate change issues.

Speakers such as U.S. Secretary of Commerce Carlos Gutierrez praised India's long history of cultivating sustainable

sources of energy. One example: India has the fourth largest wind power capacity in the world.

From the fields of jatropha—a non-food source for biofuels—to its new emphasis on solar energy, India is moving along the cutting edge of green technologies. But both the American and Indian delegations at the conference know that much more can be done, and that possibilities are growing.

As Gutierrez said: "Over the past decade, India has implemented new energy policies that have promoted clean technology, as well as the momentum and support needed to see projects through....The U.S. is committed to being India's partner in providing clean, sustainable energy."

SEBASTIAN JOHN

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Above: Indian Power Minister Sushilkumar Shinde speaks at the Green India conference.

Right: Ron Somers, president of the U.S.-India Business Council (from left); William S. Cohen, former U.S. secretary of defense, and Ronen Sen, Indian ambassador to the United States, at the conference.

India's new plan

Gutierrez also congratulated India on the release of its National Action Plan on Climate Change earlier this year—an initiative that was also highlighted from the Indian side by Shinde and Special Envoy on Climate Change Issues Shyam Saran, who spoke via video link.

The action plan makes alternative energy capacity and energy efficiency top priorities as India continues to develop this sector. "We have set ourselves an ambitious target of achieving savings of 5 percent of energy consumption by way of energy conservation measures by the year 2012," Shinde said.

The centerpiece of the action plan is solar energy, and India plans to launch a research and development program to create more affordable and convenient solar power systems. On this effort especially, Shinde and Saran called for enhanced private sector cooperation with the United States.

"The scale [for solar power] which India can offer, very few countries can offer," Saran said after his speech, alluding to the intense tropical sunlight India receives.

India receives 5,000 trillion kilowatts of energy through solar radiation per year. According to the action plan, if this could be effectively harnessed, just one percent of India's land area could meet the country's entire electricity needs for 20 years.

Energy

The U.S.-India Business Council projects that the civilian nuclear deal could create $150 billion worth of business between American and Indian companies over the next 30 years. But listening to the business leaders at this conference, you realize that it is just a beginning.

Everyone agrees that energy is key to India's continued economic growth. With 44 percent of Indians lacking access to electricity, it's not just power generation, but power distribution and transmission that need to be increased.

The transmission sector is a big opportunity for the United States to bring its expertise to India, says R. Srinivasan of Tata Consulting Engineers Limited. Patricia Campbell of General Electric's nuclear energy division, pointed out that India isn't the only country with transmission problems. Throughout the world, she said, transmission investment is well below the rate it should be at: $50 for every $50 spent on generation.

To help American companies take advantage of opportunities in India, the U.S. Commerce Department has led 40 U.S. firms on three Clean Energy and Environment Trade Missions since April 2007. During the third trade mission in September 2008, one U.S. firm, Synergics, signed a deal to provide hydroelectric power to approximately one million homes in India.

Campbell pointed out that through nuclear cooperation and other energy-related business ventures with the United States, India would gain both technological expertise and new jobs. While much of the nuclear technology for any future reactors will come from the United States, Indian suppliers would be needed to produce and service parts domestically, thus creating jobs in both countries.

For more information:

Ambassador Ronen Sen's address
http://www.indianembassy.org/newsite/press_release/2008/Oct/10.asp/

GE Water
http://www.gewater.com/index.jsp

Water

The business community wasn't only bullish about energy, but also saw the water

sector as a major opportunity. As Gutierrez noted, population and economic growth in India are increasing demands on water resources by 10 to 12 percent annually.

On this front, the United States is already in a good position; it is India's principal source of imported water treatment equipment.

Yet, Jeff Fulgham of General Electric's water division sees this sector growing rapidly, since only five percent of waste water in India is treated. Because waste water often contaminates ground water, treatment is a key step to any major clean water initiative, he said.

Business panelists also drew a connection between water and power, pointing out that much of a municipality's power demands relate to pumping and moving water. Even advanced membrane filtration techniques—while effective at removing impurities—still use up electricity.

All these factors need to be considered by companies entering India, Patrick McCann, president and CEO of Weston Solutions said. "There are opportunities for many of us to make meaningful contributions and at the same time see very positive business results."

One recommended model involved the unglamorous yet critical business of sewage recycling. Since power companies use so much water, some are buying sewage from local communities, treating it, and then using that for industrial purposes. Srinivasan of Tata Consulting Engineers also said that some Tata plants use sea water for industrial needs.

Looking ahead

Naina Lal Kidwai, India country head for HSBC Bank, probably had the toughest topic to address: finding up to a half trillion dollars needed for India's infrastructure during a global economic slowdown. She, too, emphasized the importance of water, in her speech.

Kidwai contended that solutions for clean, accessible water will not just help in development, but will actually strengthen Indian democracy. She told the story of a village woman who was given money through a micro-finance organization to set up a rainwater collection system for her house.

This meant she no longer had to walk hours every day to fetch water. With the free time, the woman got a job and began to earn money—which also earned her respect in her family and community. Eventually, she was elected to the local panchayat.

Kidwai said she believes women's voices in local governments are crucial for India as a whole, and that the story of empowerment illustrates "how critical water is, and how simple the solutions sometimes are."

Despite the current conditions, Kidwai did not envision a bleak future for green projects. In a credit crunch, companies are looking harder than ever for energy savings to keep costs down. "There's nothing like the high price of that energy to drive some of that change," she said.

To keep things moving, India needs U.S. venture capital and expertise. And Kidwai also called on India to develop friendly tax policies for environment-related ventures and incentives for research and development (R&D).

Pat Sonti, president of Strategic Capital Investments, is one of the businessmen working to facilitate such exchanges. Sonti says that fledgling U.S. companies can get more out of their budgets by using India's abundant engineering and information technology talent. They should ask themselves, "How can I leverage Indian R&D? Or engineering? Then look at collaborating with Indian partners and help them invest in the United States. It's all about creating jobs, in both places."

Exchange between the countries should get a big boost from the December visit by the largest U.S. civil nuclear and clean technology trade mission to India.

Farther ahead in 2010, India will host the second International Renewable Energy Conference. The first one took place in Washington, D.C. in early 2008, and featured energy ministers from more than 80 countries who pledged to create thousands of megawatts of renewable electricity capacity through 2030.

Everyone knows that the challenges for creating a green energy future are formidable. But the excitement about such a future is just as strong. As Secretary Rice remarked at the signing of the 123 Agreement, "The world's largest democracy and the world's oldest democracy...now stand as equals, closer together than ever before.... And with the conclusion of this civil nuclear agreement, our partnership will be limited only by our will and our imagination."

Erica Lee Nelson is a Washington, D.C.-based writer.

"This legislation will strengthen our global nuclear nonproliferation efforts, protect the environment, create jobs, and assist India in meeting its growing energy needs in a responsible manner."

—President George W. Bush, *October 1, 2008*

"I voted for the (U.S.) India civil nuclear cooperation deal in 2006 and have since worked to ensure that the agreement is implemented properly so that Indians benefit from expanded energy sources and that nuclear proliferation concerns are addressed."

—Senator Barack Obama, *October 23, 2008, Interview with IANS*