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U.S. Officials Announce International Forum to Address Climate Change

Plans for world's first pollution-free power plant also unveiled

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Washington - U.S. officials have announced a public-private effort to construct a prototype electric and hydrogen production plant and the formation of a new international forum to advance carbon capture and storage technologies as ways to reduce the world's heat-trapping greenhouse gas emissions.

Energy Secretary Spencer Abraham and Under Secretary of State for Global Affairs Paula Dobriansky, joined at the Department of Energy (DOE) February 27 by representatives from several countries, said a government-industry partnership is being set up to design, build and operate the world's first pollution-free, coal-fired power plant. The facility will cost an estimated \$1,000 million over the next 10 years.

The 275-megawatt plant, to be known as FutureGen, will serve as a large-scale engineering laboratory for testing new clean power, carbon capture and coal-to-hydrogen technologies. According to DOE press material, the goal is to build the cleanest fossil fuel-fired power plant in the world.

"FutureGen will be one of the boldest steps our nation has taken toward a pollution-free energy future," Abraham said. He added that virtually every aspect of the prototype plant will be based on cutting-edge technology and "will serve as the test bed for demonstrating the best technologies the world has to offer."

"This creative initiative offers the hope not only of clean coal, but of even cleaner hydrogen made from clean coal," Dobriansky said.

The plant will be based on coal gasification, in which the coal's carbon is converted into a hydrogen-rich gas, rather than burning it directly. The hydrogen would then be extracted for use as a clean fuel in powering turbines or fuel cells to generate electricity. It could also be used in a refinery to help upgrade petroleum products.

The plant could also serve as the model for future hydrogen-production facilities to provide fuel for a new fleet of hydrogen-powered cars and trucks. President Bush's Hydrogen Fuel Initiative, announced on January 28, envisions the transformation of the nation's transportation fleet from reliance on petroleum to the use of clean-burning hydrogen by 2020.

Common air pollutants such as sulfur dioxide and nitrogen oxides created in FutureGen's coal gasification process would be cleaned from the coal gases and converted to useable byproducts such as fertilizers and soil enhancers. Carbon dioxide, one of the most potent of greenhouse gases, would be captured and permanently sequestered in deep geologic formations such as depleted oil and gas reservoirs and unmineable coal seams. The plant is expected to be capable of producing commercially competitive electricity by 2020.

In addition to the FutureGen announcement, Dobriansky outlined plans for creating the Carbon Sequestration Leadership Forum - an international body that will bring together ministerial-level representatives to discuss the latest research and emerging technologies for capturing and storing carbon dioxide. Dobriansky said the forum, which will hold its first meeting near Washington, D.C. in June, would also provide an international venue for planning future, multilateral carbon sequestration projects, such as FutureGen.

Dobriansky said the United States has so far invited Australia, Brazil, Canada, China, Colombia, India, Italy, Japan, Mexico, Norway, Russia, South Africa, the United Kingdom and the European Union to join the forum, adding that foreign partners are essential to achieving the ultimate goal of stabilizing greenhouse gas concentrations in the atmosphere.

"If we are to succeed in addressing the challenge of global climate change, we need the sustained effort of many nations," she said. "We need a collective effort. Science holds the key to much needed breakthroughs to develop and deploy new clean energy technologies."

Dobriansky said the forum provides a way for the United States and its international partners to collaborate on carbon capture and storage activities, and to mobilize international resources. "Through such collaboration, we can develop technologies that are universally applicable and not previously thought possible."

Global cooperation is already underway in some areas of carbon sequestration. One of the most notable projects is the Weyburn oil recovery project in Saskatchewan, Canada, where carbon dioxide from the Great Plains Coal Gasification Plant in the U.S. state of North Dakota is being injected into an active oil field. Scientists from 18 nations are monitoring the project to determine if the carbon dioxide remains entrapped in the field.

Dobriansky said such carbon sequestration projects, as well as other approaches to address the problem of climate change, are needed because fossil fuels account for about 85 percent of energy use today and will remain a dominant source of global energy for at least the next three decades.

"The world holds abundant coal resources, and this coal is in many cases the cheapest and most available source of energy for developing countries," she said. "As a result, we expect world use of coal to increase by half over the next 30 years, and by two-thirds for power generation uses. That's why we must invest in new technologies for clean fossil fuels, including coal."

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