

## Abraham Says U.S. Pursuing Clean Coal Projects with Other Countries

Remarks delivered at clean coal conference in Washington



*U.S. Energy Secretary Spencer Abraham*  
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U.S. Energy Secretary Spencer Abraham says the United States is moving ahead in an unprecedented international effort to make clean energy the cornerstone of economic growth, improved health and closer ties among nations.

Abraham called clean coal a crucial element of the nation's overall energy policy when he spoke November 17 at the Clean Coal and Power Conference being held in Washington. The two-day conference -- sponsored in part by the Department of Energy -- includes representatives from foreign governments and companies that, together with the United States, account for most of the world's coal production and consumption.

The Washington conference, being attended by, among others, a delegation from China, is being conducted in conjunction with the Second Joint United States-People's Republic of China Conference on Clean Energy.

Abraham said that many governments, private companies, universities and research laboratories are joining together to tackle the challenges of clean coal through bilateral agreements such as the recent protocol signed by the United States and China, and a recent agreement between the United States and India to cooperate on clean coal projects.


Abraham said multilateral agreements are also flourishing, such as the U.S.-initiated Carbon Sequestration Leadership Forum (CSLF). In June of this year, 14 countries, including China, India and the European Union joined the United States in signing a CSLF charter to pursue the development of carbon capture and storage technologies, seeking to eventually make the process commercially viable and environmentally safe.

"Carbon sequestration has rapidly grown in importance to become one of this administration's highest clean coal priorities," Abraham said. "Current activities include 65 carbon sequestration research projects across the country, funded with \$110 million in public and private funds."

Since about one-third of all U.S. carbon dioxide emissions come from power generation, with most of that from coal, Abraham said, carbon sequestration alone offers the potential to reduce and eventually eliminate nearly one-third of the nation's heat-trapping greenhouse gas emissions.

In the 30-year period between 1970 and 2000, using current clean coal technologies, the United States has reduced emission rates of sulfur dioxide from coal-based power generation by over 75 percent and cut emission rates of nitrous oxides nearly in half. Under President Bush's proposed Clear Skies Initiative,

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emissions rates for these two pollutants are predicted by the administration to drop another 70 percent by the year 2018, and mercury emissions from power generation to be controlled for the first time.

Following is the text of Abraham's prepared remarks at the conference:

U.S. Department of Energy  
November 17, 2003

Remarks by Secretary Spencer Abraham to the Clean Coal and Power Conference in Washington, D.C.

Thank you, and welcome to all of you here this morning.

I know that many of you have traveled a long way to participate in this Conference. The Department of Energy appreciates your interest in the far-reaching potential of clean coal, as well as the knowledge and experience you will be contributing to the Conference's deliberations over the next three days.

The many representatives here from the American coal, power and general energy sectors are proof of the tremendous interest in clean coal here in the United States. The private sector, testing new technologies and ideas in the marketplace, is largely responsible for the remarkable progress we have made in recent decades.

Government can promote, coordinate and help to fund clean coal research and development activities, but it is the commitment and creativity of private companies, and of the scientists and engineers at our national laboratories, universities and private research facilities, that turn laudable goals into hard realities.

I want to join with Mike Smith in thanking the Center for Energy and Economic Development, the National Mining Association, the Electric Power Research Institute, and the Council of Industrial Boiler Owners for co-sponsoring this Conference with the Department of Energy.

And I bid a special welcome to the representatives of foreign governments and companies joining us today.

It is a particular pleasure to welcome the delegation from the Peoples Republic of China. That this Conference is being conducted in conjunction with the Second Joint United States/Peoples Republic of China Conference on Clean Energy is added proof of the importance of coal to the world's energy future.

The United States is today in the process of implementing and enacting President Bush's far-reaching national energy policy -- a policy that will help guarantee our nation's energy security by ensuring supplies of dependable, affordable and environmentally sound energy for the future.

Clearly, energy security is a goal every nation shares, and President Bush has pledged that the United States will be a leader in the long-term effort to achieve that goal. The policies needed for energy security may differ somewhat from nation to nation, but the essentials, we believe, are the same:

-- First, we all recognize that energy is too precious a commodity to waste. Good policy begins with the most efficient possible use of energy. More than half of the more than 100 recommendations in the President's energy plan address energy efficiency and renewable energy. In fact, we are seeking more funding for energy efficiency and renewable energy programs this year than Congress appropriated last year or any year during the last 20 years.

-- Second, we require a balanced and diversified portfolio of energy resources, which in the case of the United States includes coal, oil, natural gas, nuclear power and renewable energy sources.

-- Third, we recognize the urgent need to conserve and improve the quality of the environment by reducing emissions from energy production and consumption. Environmental performance is integral to any discussion of energy.

-- Fourth, we understand that scientific breakthroughs and technological innovations are essential to achieving our energy security goals, improving the use of today's energy resources and paving the way for a transformed energy future.

-- And fifth, we are committed to international cooperation to strengthen energy trade relationships, accelerate scientific/ technological progress, and spread the benefits of energy and environmental advances to every corner of the world.

Clean coal is a crucial element in our overall policy. President Bush has committed the United States to a 10-year, \$2 billion clean coal research initiative. Earlier this year, we announced eight projects under the clean coal initiative totaling \$1.3 billion -- over \$1 billion of which will come from the private sector. Clean coal is a cornerstone of our current energy portfolio, particularly for power generation, and it will continue to be for the long-term future.

Not only that, we see the potential for an additional and perhaps equally significant contribution from clean coal. We believe coal will become an important source of the hydrogen that will power the fuel cells that will transform the transportation energy sector in decades to come, as well as contribute greatly to on-site industrial, commercial and residential power generation.

Breakthroughs in scientific research and new technological developments are the basis for past and future advances in clean coal, and cooperative international efforts such as this Conference will speed our progress and spread the benefits of our work.

We have gathered here the right participants for a conference on clean coal. Taken together, the countries represented in this room account for most of the world's coal production and consumption.

The United States, China and India alone account for 37 percent of the world's coal reserves and 46 percent of coal consumption today. Our Energy Information Administration forecasts that world coal consumption over the next 24 years will increase by nearly 50 percent, to approximately 7,500 million tons a year -- and the US, China and India will account for 58 percent of that total.

The reasons for coal's popularity are obvious:

-- It is the world's most abundant energy resource, with reserves enough to last two to three centuries.

-- It is widely dispersed around the world.

-- It is among the most economic of energy resources.

-- It has been a key source of energy for the world's people since the dawn of history, and

-- It has been used extensively, it is being used extensively, and it will continue to be used extensively long into the future.

Coal is an energy winner with one glaring drawback: it is among the most environmentally problematic of all energy resources. We are here this week to continue the vital work of making coal into one of the cleanest of energy resources, and a valued contributor to a transformed energy future.

We have already made great progress, and we will go much farther in years to come. The more the development and application of new technologies achieves, the more opportunities we see for even greater accomplishments.

In the 30-year period between 1970 and 2000, for example, the United States reduced emission rates of sulfur dioxide from coal-based power generation by over 75 percent, and cut emission rates of nitrous oxides nearly in half. Under President Bush's Clear Skies Initiative, emissions rates for these two pollutants will drop another 70 percent by the year 2018, just 15 years from now.

Mercury emissions from power generation, which were not considered in previous years, will be controlled for the first time under Clear Skies.

And greenhouse gas emissions from coal, which have become a source of concern only in recent years, will be significantly reduced and even eliminated in this century if the President's energy policy is vigorously and successfully pursued.

Most of the parties in this room are participants in, or share our hopes for, the success of the Carbon Sequestration Leadership Forum, a joint initiative of the U. S Department of State and the Department of Energy. In June of this year, 14 countries, including China and India, as well as the European Union, joined the United States in signing the CSLF's charter. The signatories seek to realize the promise of carbon capture and storage, making it commercially viable and environmentally safe.

Carbon sequestration has rapidly grown in importance to become one of this Administration's highest clean coal priorities. Our activities and our plans bear out the determination with which we are pursuing the promise of carbon sequestration.

Current activities include 65 carbon sequestration projects across the country, funded with \$110 million in public and private funds.

We have increased this year's budget request for research into carbon sequestration by 50 percent, from the \$40 million enacted in last year's budget to \$62 million. We

are confident that the energy bill now being debated in Congress will ratify our increased funding request.

And, in our most comprehensive action yet, the Department of Energy in September selected seven Regional Carbon Sequestration Partnerships. The partnerships comprise nearly 150 organizations -- among them are federal and state governments, universities and private industry -- that span the United States and parts of Canada. The decentralized approach we have chosen will encourage flexibility and creativity, allowing the Partnerships to evaluate and promote technologies that are best suited to each unique region.

Perhaps our most exciting carbon sequestration initiative is the FutureGen project. FutureGen, as many of you know, is a \$1 billion public-private partnership to design, build, and operate a virtually emissions-free, coal-fired, electricity and hydrogen production plant.

Based on the knowledge and experience accumulated over FutureGen's 10-to-15-year lifespan, we intend to develop and perfect the carbon sequestration technologies that will help make coal-based power and hydrogen production a mainstay of our energy mix. FutureGen has immense potential to change the way we think about coal and its contribution to the world's energy future.

Consider the size of the emissions targets we are aiming at. In the United States, approximately one-third of all carbon dioxide emissions come from power generation, with most of that from coal. Carbon sequestration presents us with the potential, then, to reduce and eventually eliminate nearly one-third of our nation's greenhouse gas emissions.

And that's not all. The transportation sector is responsible for another third of our greenhouse gases. The President's hydrogen initiatives are designed to promote the development of hydrogen infrastructure and hydrogen fuel-cell vehicles that could appear on America's roads in large numbers as early as the year 2020. Those vehicles will emit no pollutants or greenhouse gases.

Neither will the FutureGen plants that produce hydrogen to power those fuel-cell vehicles. Coal, then, could well be a major contributor to a transformed energy transportation sector that eventually eliminates its one-third share of greenhouse gas emissions as we build a growing, thriving hydrogen economy.

I know that many of you here today plan also to attend the first meeting of the International Partnership for a Hydrogen Economy later in the week. The idea for the IPHE originated with the Department of Energy, and we are pleased with the enthusiastic response generated by the announcement of the first IPHE meeting.

The response proves that many share our enthusiasm for the potential of hydrogen to transform our national economies and make our current preoccupations with energy and environmental challenges into relics of the past.

FutureGen and hydrogen are taking direct aim at as much as two-thirds of the carbon dioxide emitted by the United States. The final one-third of U.S. carbon dioxide emissions is produced by all the other sectors of the American economy. Zero-emissions, hydrogen-producing clean coal will no doubt also contribute to the reduction or elimination of those emissions.

Multiply those long-term advances by similar emissions-reduction achievements in China and India, and the world's other major coal users. Suddenly the long-term challenge of ensuring adequate, dependable, affordable supplies of emissions-free energy begins to seem eminently manageable.

But despite all these interesting programs and possibilities, a significant number of people remain pessimistic about our ability to cope successfully with the energy and environmental challenges we face today. President Bush and his Administration, emphatically including the Department of Energy and the Department of State, respectfully disagree. As, I suspect, do the people in this room.

Indeed, based on our experience of the amazing scientific and technological advances made in the 20th century, we believe it is difficult not to be optimistic about the world's ability to find timely solutions to these challenges.

Many nations, and many of the world's best minds, have mobilized to create a large network of cooperative, complementary energy research and development initiatives. Governments, private companies, universities, research laboratories and scientists and engineers are joining together to tackle the challenges of clean coal through bi-lateral agreements such as the recent Protocol agreement signed by the United States and the People's Republic of China, and our recent agreement with India to cooperate on clean coal projects.

Multilateral agreements are flourishing. They include the Carbon Sequestration Leadership Forum; the Generation IV initiative for the design of next-generation advanced nuclear power plants; and the ITER project to harness the power of fusion. They are all clear demonstrations of the determination and commitment of governments around the world to a cooperative approach to future energy security.

The International Partnership for a Hydrogen Economy has the potential to accelerate research and development and eliminate duplication of effort. If successful, it will save money and lead to common solutions applicable in a variety of circumstances.

We are moving ahead on a broad front, pooling resources, knowledge, experience and capital in an unprecedented, cooperative, international effort to make clean energy the cornerstone of economic growth, improved health and standards of living, and closer ties among nations.

This Conference is a major step toward making clean coal a major contributor to the secure energy future we envision. You are doing your part to turn coal from what many today consider an environmentally challenging energy resource into an essential factor in the solution of the world's clean energy equation.

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