

An hourglass-shaped graphic with a globe inside. The top bulb is dark blue, and the bottom bulb is light blue. The globe is centered in the narrow neck of the hourglass. The text is centered within the hourglass.

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February 2, 2009

Congressional Research Service

Report RL32790

*Major Coal Issues in the 109th Congress*

Marc Humphries, Resources, Science, and Industry Division

June 10, 2005

**Abstract.** Major legislative issues related to coal in the 109th Congress include coal and energy security, clean air and environmental concerns, funding strategies for technology R&D, loan guarantees for coal gasification projects, and the Abandoned Mine Land (AML) program.

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# CRS Report for Congress

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## Major Coal Issues in the 109<sup>th</sup> Congress

**Updated June 10, 2005**

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# Major Coal Issues in the 109<sup>th</sup> Congress

## Summary

Major legislative issues related to coal in the 109<sup>th</sup> Congress include coal and energy security, clean air and environmental concerns, funding strategies for technology R&D, loan guarantees for coal gasification projects, and the Abandoned Mine Land (AML) program.

The Administration anticipates a long-term reliance on coal because of its relatively low-cost abundance. Coal supplies 22% of U.S. energy demand but over 50% of the energy used by the electric power sector. The Energy Information Administration forecasts electricity consumption to grow by 1.9% per year through 2025. The increase will largely be met by new coal-fired or natural gas-fired power plants.

By mandating significant reductions in three pollutants emitted by coal-fired electric generating units, proposed Clear Skies legislation (S. 131) could have significant impact on coal production and distribution, if enacted. When Clear Skies was introduced in the 108<sup>th</sup> Congress, the Environmental Protection Agency (EPA) conducted an analysis of its effects on the coal industry. While the analysis indicated growth in coal production for electric utility production (from 905 million tons in 2000 to 998 million tons in 2020), coal generation's share of the 2020 generation mix was projected to decline from 46% to 44%. Clear Skies legislation, however, faces an uncertain future. In March 2005, the Senate Environment and Public Works Committee killed S. 131 on a 9-9 vote.

In FY2002, President Bush initiated the Clean Coal Power Initiative (CCPI) focusing on advanced coal combustion technology for removal of SO<sub>x</sub>, NO<sub>x</sub>, mercury, and fine particulate matter and carbon sequestration. The CCPI is a 10-year, \$2 billion government-industry cost sharing program. The FY2006 funding request for Fossil Energy R&D is heavily weighted towards clean coal technology, potentially at the expense of other fossil technologies — such as natural gas or petroleum technology R&D.

Legislation in the 109<sup>th</sup> Congress for an omnibus energy bill (H.R. 6) was approved by the House on April 21, 2005. H.R. 6 includes provisions for coal nearly identical to the H.R. 6 conference report filed in the 108<sup>th</sup> Congress. Within the CCPI section there would be loan guarantees for specific integrated gasification combined cycle projects. The Senate Committee on Energy and Natural Resources approved its version of the bill (S. 10) on May 26, 2005.

Authorization for collection of AML fees was scheduled to expire at the end of FY2004 and was extended nine months to the end of June 2005 by the Consolidated Appropriations Act for 2005 (P.L. 108-447). Subsequently, H.R. 1268 (P.L. 109-13) a supplemental appropriations bill for FY2005, extended AML authorization to the end of FY2005. In its FY2006 budget submission for the Office of Surface Mining, the Administration once again proposed the changes in the AML program included with the FY2005 budget, this time seeking a \$58 million increase in the appropriation for the fund. This report will be updated.

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# Major Coal Issues in the 109<sup>th</sup> Congress

## Introduction

The Bush Administration considers coal a major component of its National Energy Strategy. The Administration anticipates a long-term reliance on coal because of its low-cost abundance. Numerous issues arise when harnessing this cheap, abundant fuel source. This report examines some of the major legislative issues related to coal in the 109<sup>th</sup> Congress, including coal and energy security, clean air and environmental concerns, funding strategies for technology R&D, loan guarantees for coal gasification projects, and the Abandoned Mine Land program.

## Energy Security and Coal<sup>1</sup>

Energy that is available, reliable, and affordable is a focal point when discussing energy security concerns.<sup>2</sup> And coal will be part of that conversation. Out of the four major fuel sources — oil, gas, uranium, and coal — coal has the largest domestic reserve base, the largest share of U.S. energy production in BTUs, and the smallest percent met by imports. The Energy Information Administration (EIA) projects that coal imports will continue to be negligible through 2025, while there will be a growing reliance on foreign sources for other major fuels. In addition, coal is forecast to be the largest source of domestic fuel production in the foreseeable future.

Coal supplies 22% of U.S. energy demand but over 50% of the energy used by the electric power sector (both utility and non-utility consumers). The electric power sector consumes 90% of all coal in the United States. The remaining 10% is used in the industrial and commercial sectors or used in coke plants. Coal use in the electric power sector has maintained a share greater than 50% for the past two decades.

The EIA forecasts electricity consumption to grow by 1.9% per year through 2025 — from 3,481 billion kilowatt hours (kwh) to 5,220 billion kwh.<sup>3</sup> The increase in demand is largely to be met by new coal-fired or natural gas-fired power plants. The price of each fuel, the capital costs associated with power plant construction, and plant efficiencies will determine the competitiveness of each fuel source. But

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<sup>1</sup> Prepared by Marc Humphries, Analyst in Energy Policy, CRS Resources, Science, and Industry Division.

<sup>2</sup> As defined by some experts, *energy security* is assurance of (1) adequate supplies of energy at reasonable prices compatible with economic growth; and (2) the ability to buffer the nation and its economy from a disruption and uncertainty in supply and the price spikes that normally accompany severe shortages.

<sup>3</sup> DOE/EIA, Annual Energy Outlook, 2005, p. 87.

because of limited domestic supply, natural gas supply is unlikely to keep pace with demand. This will lead to increased imports, according to EIA forecasts. Per-well reserve additions are expected to continue to decline over the EIA forecast period (2004-2025). EIA further forecasts that natural gas will not displace coal as the dominant fuel supply for power generation despite projected increases in liquefied natural gas (LNG) imports, additional domestic supply from the lower 48 states, and Alaskan natural gas from a newly constructed pipeline.<sup>4</sup>

## Coal vs. Natural Gas

Power plant development for electricity generation is primarily driven by economics. The lower-cost, more efficient operations are the plants that get built. Production costs include the costs of fuel, operation and maintenance, and capital. Fuel costs are a major consideration for fossil fuel-fired plants, and the fuel cost differences between a coal-fired and natural gas-fired plant are significant. For instance, fuel costs for a coal-fired plant are about 24% of total costs, whereas fuel costs for a natural gas facility are close to 69% of total costs. This price difference could give coal an advantage. However, new plant capital costs favor natural gas, accounting for only 23% of total electric production costs. Capital costs for new coal-fired plants are closer to 60% of total costs. **Table 1**, below, illustrates the dynamics of power plant economics for advanced coal and advanced combined cycle (natural gas-fired) plants expected to be built in the years 2015 and 2025.

**Table 1. Costs of Producing Electricity from New Plants**  
(2003 mills/Kwh)

Costs	2015		2025	
	Advanced coal	Advanced combined cycle	Advanced coal	Advanced combined cycle
Capital	31.68	11.63	28.87	11.08
Fixed	4.59	1.36	4.59	1.36
Variable (primarily fuel)	12.28	34.88	13.98	39.06
Incremental Transmission	3.24	2.80	3.41	2.86
Total	51.79	50.67	50.85	54.3

**Source:** DOE/EIA, Annual Energy Outlook, 2005, p. 89.

A combination of low capital costs, greater efficiency, and reasonable natural gas prices led to the current build-up of natural gas-fired capacity. Power plant capacity rose an estimated 186 gigawatts (GW) from 2000 to 2003: 27 GW in 2000;

<sup>4</sup> Annual Energy Outlook, 2005, DOE/EIA, p. 3.

42 GW in 2001; 72 GW in 2002; and 45 GW in 2003. About 175 GW was new natural gas-fired capacity, and only 1 GW was new coal-fired capacity.<sup>5</sup> This build-up has led to excess capacity, which should diminish after 2010. Capacity utilization would rise from 72% in 2003 to 83% in 2025, according to EIA.

EIA projects that a total of 281 GW of new capacity will be needed by 2025 — including an estimated 19 GW annually from 2011 to 2025 (268 GW total). Natural gas facilities (combined cycle; combustion turbine or distributed generation technology) are forecast to account for 60% of the new capacity. Total new coal capacity of 87 GW is to come online between 2004-2025; thus, coal capacity will be 33% of new capacity after 2011, according to EIA. New coal capacity becomes more competitive with natural gas late in the forecast between 2016 and 2025. Despite relatively low coal costs, the high capital costs will likely limit the number of advanced coal integrated gasification combined cycle (IGCC) facilities to about 16 plants or 6 GW of commercial capacity by 2025.<sup>6</sup>

Rising natural gas prices will lead to the construction of more coal-fired facilities between the years 2010 and 2025, according to EIA. Coal is competitive at natural gas prices of \$4-\$6 per million Btus; prices above that range push up the total cost of gas-fired power facilities above coal-fired plants. Even so, natural gas, as a percent of the total electricity, will increase to 24% in 2025 from 17% in 2003, projects EIA, while nuclear and petroleum will remain flat. Renewables rise from 359 billion Kwh to 489 billion Kwh during the same time period. Coal maintains a 50% share of the electricity market in 2025, says EIA.

New capacity is also needed to replace retired capacity and to meet rising demand. An estimated 43 GW of fossil fuel capacity is expected to be retired from 2004 to 2025 (3 GW Coal; 15 GW of older oil or gas combustion turbines or combined cycle, and 25 GW of oil and gas steam plants).

If the EIA forecasts prove to be accurate, then long-term investment in clean coal could pay off because of the greater coal capacity needs beyond 2016. Among the most important factors to watch regarding coal versus natural gas-fired plants are the natural gas prices, capital costs for IGCC plants, and stricter environmental regulations aimed at pollutants derived from burning coal.

## Clear Skies Legislation<sup>7</sup>

By mandating significant reductions in three pollutants emitted by coal-fired electric generating units, proposed Clear Skies legislation could have significant impact on coal production and distribution, if enacted. Electric utilities are the

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<sup>5</sup> EIA, AEO, 2004, p. 81.

<sup>6</sup> EIA, AEO, 2005, p. 87.

<sup>7</sup> Prepared by Larry Parker, Specialist in Environmental Policy, CRS Resources, Science, and Industry Division.

largest users of coal, and legislation restricting their emissions could affect coal markets in several ways, depending on the specifics of any final legislation.

## Background

In the 109<sup>th</sup> Congress, a modified version of the President's proposed Clear Skies legislation has been introduced by Senator Inhofe — S. 131. The proposal would amend the Clean Air Act to place caps on electric utility emissions of sulfur dioxide (SO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), and mercury (Hg). Implemented through a tradeable allowance program, the emissions caps would be imposed in two phases: 2010 (2008 in the case of NO<sub>x</sub>) and 2018.<sup>8</sup> The proposed caps are summarized in **Table 2**.

**Table 2. Proposed Emission Caps Under S. 131**

	<b>Beginning in 2010 (except NO<sub>x</sub> — 2008)</b>	<b>Beginning in 2018</b>
Emissions Cap on SO <sub>2</sub>	4.5 million tons	3.0 million tons
Emissions Cap on NO <sub>x</sub> (total for both zones)	2.19 million tons	1.79 million tons
Emissions Cap on Hg	34 tons	15 tons

Although proposed Clear Skies legislation is the focus of legislative debate, regulatory initiatives currently being promoted by Environmental Protection Agency (EPA) raise many of the same issues for coal interests as does Clear Skies. These initiatives include the proposed Clean Air Interstate Rule and the proposed Mercury Rule.<sup>9</sup>

## Legislative Issues

When Clear Skies was introduced in the 108<sup>th</sup> Congress, EPA conducted an analysis of its effects on the coal industry.<sup>10</sup> While the analysis indicated growth in coal production for electric utility consumption (from 905 million tons in 2000 to 998 million tons in 2020), coal generation's share of the 2020 generation mix<sup>11</sup> was projected to decline from 46% to 44%. The beneficiary of this projected decline was natural gas combined cycle, whose share of the mix climbed from 24% in 2000 to

<sup>8</sup> For more information, see CRS Report RL32755, *Air Quality: Multi-Pollutant Legislation in the 109<sup>th</sup> Congress*, by Larry Parker and John Blodgett.

<sup>9</sup> See CRS Report RL32273, *Air Quality: EPA's Proposed Interstate Air Quality Rule*, by Larry Parker and John Blodgett; and CRS Report RL31881, *Mercury Emissions to the Air: Regulatory and Legislative Proposals*, by James McCarthy.

<sup>10</sup> See those analyses at [<http://epa.gov/air/clearskies/technical.html>].

<sup>11</sup> Generation Mix in EPA's analysis in footnote 10, above, refers to generation capacity, not electric generation production used in EIA projections.



26% in 2020. Obviously the actual mix that would result from any enactment of Clear Skies would be heavily dependent on future natural gas prices and utility decisions with respect to compliance strategies.

With respect to compliance strategies, the EPA analysis projected a substantial increase in the installation of flue-gas desulfurization units (FGD) to achieve the 70% reduction in SO<sub>2</sub> required by the proposed legislation. Currently, about 100,000 megawatts (Mw) of coal-fired capacity has FGD units. EPA projected that Clear Skies would result in that number rising to just over 200,000 Mw by 2020.<sup>12</sup> This would increase the share of FGD-equipped coal-fired capacity in the country from about one-third to two-thirds. A similar increase was expected for the installation of Selective Catalytic Reduction (SCR) to reduce NOx emissions, although some of that increase would be due to the implementation of the NOx SIP Call.<sup>13</sup>

Such an increase in emissions control (particularly FGD units) could reduce the market advantage that high-sulfur coal currently enjoys in the coal markets. As indicated by **Table 3**, EPA analysis indicates that the Interior Basin in particular benefits from the increased SO<sub>2</sub> controls.

**Table 3. EPA's Projections of Coal Production Under Clear Skies Legislation**  
(million tons)

Region	2000 Production	2020 Production under Clear Skies Legislation
Appalachia	299	305
Interior	131	220
West	475	473
<b>Total</b>	<b>905</b>	<b>998</b>

**Source:** EPA, Technical Analysis, *Section D*, p. D-3.

With respect to Hg controls, S. 131 would weaken the proposed phase 1 Hg cap from the 26 tons originally proposed by the Administration to 34 tons, based on a DOE estimate about the actual level of emissions that could be achieved without dedicated Hg controls (i.e., “co-benefits”). There are substantial differences between the Hg characteristics of bituminous and subbituminous coals, and uncertainty about what the actual “co-benefits” levels for Hg control are. If Clear Skies reflects the actual “co-benefits” levels, the effect of Hg controls on coal production would be nil,

<sup>12</sup> EPA, Technical Analysis, *Section D: Projected Impacts on Generation and Fuel Use*, available at [<http://epa.gov/air/clearskies/technical.html>].

<sup>13</sup> The NOx SIP Call is a regional cap-and-trade program designed to reduce nitrogen oxide emissions from 20 eastern states and the District of Columbia. Beginning in 2004, the purpose is to reduce interstate transport of ozone and thus assist states in achieving the one-hour National Ambient Air Quality Standard for Ozone.

beyond that estimated for SO<sub>2</sub> and NO<sub>x</sub> controls. Likewise, the commercialization of emerging Hg control technology, such as activated carbon injection (ACI), would eliminate any shift between coal types. However, there is substantial controversy over what any “co-benefits” level is and the future availability of ACI and other alternatives.

The pivotal issues for coal and Clear Skies include the following: (1) the potential for natural gas to erode market share for coal due to higher pollution control costs under Clear Skies, (2) the potential for market shift between western suppliers and eastern suppliers because of increased SO<sub>2</sub> controls, and (3) the uncertain effects of Hg controls if they exceed “co-benefit” levels or if emerging Hg controls are not available.

## Outlook

Clear Skies faces an uncertain future. In March 2005, the Senate Environment and Public Works Committee killed S. 131 on a 9-9 vote. However, many of the issues identified here also manifest themselves in EPA’s final Clear Air Interstate Rule (CAIR) and its final Hg rule. So the issue is not likely to disappear.

## Clean Coal Technology<sup>14</sup>

### Background

The original Clean Coal Technology (CCT) program began in 1984 to demonstrate emissions control technologies, advanced electric power generation facilities, and coal and industrial processing projects. Congress had appropriated \$2.5 billion for the CCT program by 1990, but since 1994 as much as \$300 million had been deferred or rescinded because of limited commercial prospects and less Administration interest. President Bush, however, has revived the CCT program under a new banner — the Clean Coal Power Initiative (CCPI) — focusing on advanced coal combustion technology for removal of SO<sub>x</sub>, NO<sub>x</sub>, mercury, and fine particulate matter and carbon sequestration. Coal plants are responsible for 69% of all SO<sub>2</sub>, 33% of mercury, 39% of CO<sub>2</sub>, and 22% of nitrogen oxide air emissions in the United States.

The CCPI is a 10-year, \$2 billion government-industry cost sharing program structured similarly to the original CCT program. There are currently 10 active CCPI projects. The DOE wanted the early projects to focus on technologies that would reduce pollutants being addressed under the President’s “Clear Skies” proposal and Global Climate Change initiative. Round 1 projects feature multi-pollutant control systems, while Round 2 features two multi-pollutant control technologies and two integrated gasification combined cycle (IGCC) demonstration projects. Announcements for Round 3 projects are expected to occur during FY2006.

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<sup>14</sup> Prepared by Marc Humphries, Analyst in Energy Policy, CRS Resources, Science, and Industry Division.

## Legislative/Appropriation Issues

One of the issues that arise is funding for long-term clean coal technology versus closer-term pilot and demonstration projects. Both are being funded. Based on recent appropriation trends, the greatest interest for closer-term R&D is with IGCC projects for electricity supply and emissions reduction.

There are two small-scale IGCC commercial plants operating today: a 250 megawatt (MW) facility operated by Tampa Electric Power in Florida and a 300 MW facility operated by Cinergy at its Wabash River site in Indiana. IGCC technology involves the gasification of coal to produce electricity. During the gasification process, coal is co-fed with water and oxygen in a reducing atmosphere at high pressure to produce synthetic gas, carbon monoxide, and hydrogen. Sulfur and carbon dioxide are also produced and removed. The synthetic gas drives a combustion turbine, whose exhaust is used to make steam to drive a secondary turbine. One of the biggest obstacles facing IGCC is the reliability of the gasification process. Because of reliability questions, among other challenges, large-scale competitive commercial plants may still be years away. Both Congress and the Administration continue to invest heavily in IGCC because of the potential benefits from reduced NO<sub>x</sub>, SO<sub>x</sub>, mercury, and particulate matter. Moreover, lower CO<sub>2</sub> emissions through greater plant efficiencies and/or potential sequestration could be substantial.

The Administration is looking at very long-term investments as well. FutureGen represents that strategy. FutureGen — an integrated sequestration and hydrogen research initiative — is a \$1 billion dollar industry/government partnership to build a coal-fired gasification and hydrogen production plant to serve as a prototype to test emissions-free and carbon sequestration technologies. The goal is to permanently sequester CO<sub>2</sub> in a geologic formation. A FutureGen plant would provide 275 MW from electricity and hydrogen and sequester 1 million metric tons of carbon dioxide annually. The project is designed to build international support to address “global warming and energy security.”<sup>15</sup> The prototype will allow DOE to operate a large-scale facility to prove the technical feasibility of zero emission production. Out of the \$950 million cost estimate of the project, DOE would invest \$500 million, plus an additional \$120 million from its sequestration program, the private sector would contribute \$250 million (which would be capped), and about \$80 million is anticipated from the international community.

The funding for FutureGen began in FY2004 at \$9 million. Appropriations were nearly doubled to \$17.5 million in FY2005. The Bush Administration is seeking \$18 million for FY2006. Project funding between FY2004 and FY2006 is for plant definition and NEPA requirements. Funding requests are projected by DOE to rise rapidly in the near-term to \$50 million in FY2007, then \$100 million in FY2008, at which time procurement and construction efforts would begin. DOE projects another \$228 million of direct funding needed between FY2009-FY2013, plus an additional \$120 million from the DOE Sequestration program during this time frame. Finally, an additional \$77 million would be needed through FY2018. The Bush

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<sup>15</sup> DOE/Office of Fossil Energy, FutureGen: Integrated Hydrogen, Electric Power Production and Carbon Sequestration Research Initiative, March 2004.

Administration has also been seeking to cancel previously appropriated funds for the original CCT program and shift that money to FutureGen. Congress has blocked such an effort in the past two budgets.

Below is a summary of the Administration's funding request for Clean Coal R&D programs for FY2006:

***Clean coal power initiative*** — A 10 year, \$2 billion effort that began in FY2002. The Administration has submitted a \$50 million request for FY2006. Nearly \$400 million in funding has already been appropriated since FY2002. Rounds 1 and 2 are already underway. DOE's Office of Fossil Energy will begin Round 3 solicitations during FY2006

***Coal R&D programs*** — These programs are being encouraged by the Administration. Within the Fossil Energy R&D program, Coal R&D programs, other than the CCPI and FutureGen, would rise by 5.9% to \$218 million while nearly all other fossil energy programs would be cut. Major cuts to programs other than coal are proposed which would reduce the total Fossil Energy program to \$491.5 million — 14% (\$80.5 million) less than the enacted amount for FY2005.

***Coal Gasification*** — Within the Coal R&D program, the Administration's request for gasification research went up from \$34.5 million in FY2005 to \$56.4 million in FY2006. FY2005 appropriations were \$45.8 million. This level of increase is an indication of more commitment by the Administration and Congress to IGCC efforts aimed at commercialization of the technology.

***Carbon sequestration*** — The R&D program would receive \$67.2 million in the Administration's FY2006 request — a \$21.8 million increase over FY2005.

***FutureGen*** — The FY2006 Administration request is \$18 million.

## Outlook

The FY2006 funding request for Fossil Energy R&D is heavily weighted towards clean coal technology, potentially at the expense of other fossil technologies — such as natural gas or petroleum technology R&D. However, the CCPI may need consistently higher investments in a constrained spending environment to provide the desired long-term results — a commercially affordable coal technology for electricity generation while substantially reducing emission levels. If funding support or incentives are not high enough, industry may forgo the long-term commitment needed and instead abandon gasification projects altogether. Even with heavy investment in clean coal/gasification strategies, natural gas-fired generation may retain its economic advantage over the long-term because of moderate natural gas prices and/or more efficient gas units. On a similar note, technology obstacles with IGCC may not be resolved, IGCC may not be deployed for larger-scale commercial production, and decades-long R&D funding never recouped.

However, the strategy of investing in coal-gasification projects for closer-term commercialization fits EIA's forecast that 16 commercial IGCC plants will be on-line between 2011-2025. The total output would still be only 7% of all coal-fired capacity, but if there are capital cost reductions and greater technological efficiencies, IGCC is likely to continue its growth beyond 2025.

The House-passed version of the FY2006 Energy and Water Development appropriations bill (H.R. 2419), which includes funding for Fossil Energy R&D, supports the Administration's request for CCPI and FutureGen. However, while both agree there is an unused previously appropriated balance of \$257 million from the Clean Coal Technology program, the Administration requests rescinding the money and incorporating the funds into the fossil fuel account for FutureGen activities as an advanced appropriation to be used in FY2007 and beyond. The House approved, instead, deferring the \$257 million, while acknowledging that the funds will be used for the FutureGen program in FY2007 and beyond.

## Omnibus Energy Legislation<sup>16</sup>

### Background

Energy legislation initiated in the 107<sup>th</sup> Congress reached a conference-level agreement (H.R. 6) in the 108<sup>th</sup> Congress, and was passed by the House but was blocked by a Senate filibuster. A Senate alternative (S. 2095) introduced to address the differences with the House version over MTBE and energy tax incentives also died in the 108<sup>th</sup> Congress. These earlier versions both contained provisions under Title IV (Coal) that would have provided loan guarantees for various coal projects focused on developing the IGCC technology. Provisions under Title IX supported R&D for IGCC, carbon sequestration, and other coal-related technologies. There were also loan guarantees to fund a Fischer-Tropsch synthetic fuels project for diesel fuel.

### Legislative Issues

Legislation in the 109<sup>th</sup> Congress for an omnibus energy bill (H.R. 6) was approved by the House on April 21, 2005. H.R. 6 includes provisions for coal nearly identical to the H.R. 6 conference report filed in the 108<sup>th</sup> Congress.<sup>17</sup> Within the Clean Coal Power Initiative section there would be loan guarantees for specific IGCC projects. Federal loans or loan guarantees would account for up to 30% of all obligated money in any fiscal year with the federal share not to exceed 50% of any one project. Pollution control projects (i.e., for mercury, NO<sub>x</sub>, SO<sub>x</sub>, and particulate matter) would get \$500 million in funding, and \$1.5 billion would be authorized for cogeneration and gasification projects between fiscal years 2006 and 2012. Coal Technology provisions include an R&D program on IGCC systems, turbines for

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<sup>16</sup> Prepared by Marc Humphries, Analyst in Energy Policy, CRS Resources, Science, and Industry Division.

<sup>17</sup> H.R. 6, H.Rept. 108-375, November 17, 2003.

synthetic gas from coal, carbon sequestration, and loan guarantees for development of Fischer-Tropsch diesel fuels. The Senate version of comprehensive energy legislation (S. 10), among other things, authorizes CCPI for \$200 million annually for FY2006-FY2014.

## Outlook

Funding for R&D and loan guarantees for the development of IGCC technology appear to have some bipartisan support, based on previous support of clean coal technology programs received in the annual Interior appropriations bill.

The Natural Resources Defense Council (NRDC), while on record in support of IGCC technology because of its potential for emissions reduction and better efficiencies, would prefer to see more stringent standards serve as a catalyst for the industry to solve the clean air problem.<sup>18</sup> That sentiment is echoed by Resources for the Future Senior Fellow Dallas Burtraw. He argues that the Clean Air Act Amendments of 1990 were the catalyst that led to major reductions in SO<sub>2</sub> despite years of incentives.<sup>19</sup> An American Electric Power (AEP) representative contends that without a subsidy, large-scale IGCC development will not take place. The AEP argues that the Administration would need to “jump-start” development of about six commercial-scale plants.<sup>20</sup> The DOE has a study underway to help determine the “best federal incentives” to move IGCC forward.<sup>21</sup>

The Senate Committee on Energy and Natural Resources held hearings on energy policy in February 2005, but the anticipated schedule for omnibus energy legislation in the House has slowed. Concern over spending has given rise to differing opinions about how costly the energy tax provisions in the bill should be. On February 10, 2005, the House Science Committee reported H.R. 610, legislation including less controversial R&D provisions that were part of comprehensive legislation debated in the 108<sup>th</sup> Congress.

## Abandoned Mine Lands<sup>22</sup>

### Background

The Surface Mining Control and Reclamation Act (SMCRA, P.L. 95-87), enacted in 1977, established reclamation standards for all coal surface mining operations and for the surface effects of underground mining. It also established the Abandoned Mine Land (AML) program to promote the reclamation of sites mined

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<sup>18</sup> “Getting to Clean Coal,” C&EN, February 23, 2004, p. 44.

<sup>19</sup> Ibid.

<sup>20</sup> Ibid, p. 24.

<sup>21</sup> Inside Energy, February 15, 2005, p. 1.

<sup>22</sup> Prepared by Robert Bamberger, Special in Energy Policy, CRS Resources, Science, and Industry Division.

and abandoned prior to the enactment of SMCRA. To finance reclamation of abandoned mine sites, the legislation established fees on coal production. These collections are divided into federal and state shares; subject to annual appropriation, AML funds are distributed annually to states with approved reclamation programs. Since the program's inception and through FY2004, collections have totaled \$7.1 billion; appropriations from the fund have totaled \$5.5 billion. The unappropriated balance in the fund approached \$1.7 billion at the end of FY2004. As of the end of FY2004, roughly \$1.1 billion of this sum is credited to the state share accounts, of which nearly \$430 million alone is in Wyoming's account, because — even though most of the sites awaiting cleanup are in the eastern part of the nation — coal production has shifted westward. Consequently, the western states have been making significantly larger contributions to the fund in recent years.

## Legislative Issues

Authorization for collection of AML fees was scheduled to expire at the end of FY2004 and was extended nine months to the end of June 2005 by the Consolidated Appropriations Act for 2005 (P.L. 108-447). Subsequently, H.R. 1268 (P.L. 109-13), a supplemental appropriations bill for FY2005, extended AML authorization to the end of FY2005. Bills have been introduced in the 109<sup>th</sup> Congress to extend the authorization for fee collections and make changes to the program that would address concerns about the mechanics of the program, the fee structure, and the unappropriated balances.

## Outlook

Legislation reauthorizing AML was introduced in the 108<sup>th</sup> Congress, but did not pass. In addition, Congress did not adopt in its FY2005 AML appropriation an Administration proposal that would have refunded, through a significant increase in appropriations, unobligated state balances over a 10-year period. In its FY2006 budget request, the Administration has made virtually the same proposal and seeks an additional \$58 million to begin returning the unobligated balances. A bill advancing the Bush changes to the AML program, H.R. 2721, was introduced May 26, 2005. Under the Bush plan, unappropriated balances would be returned to states and Indian tribes that had completed reclamation of their Priority 1 sites. These states would no longer receive grants from the AML fund itself, freeing up funds to be targeted to states with sites awaiting cleanup. It is not apparent that the Administration proposal will receive a different reception in the 109<sup>th</sup> Congress than in the previous one.

Another bill introduced in the 109<sup>th</sup> Congress, H.R. 1600, is similar to legislation introduced in the 108<sup>th</sup> Congress, and differs greatly in some respects from the Administration proposal. The bill would extend authorization of the program through FY2020, and reduce the fee collected per ton of coal production. It would maintain the distinction between state and federal shares and would require that 50% of annual contributions be returned to states even if cleanup of priority abandoned mine sites had been completed. States and tribes would be allowed to use the money for other purposes if cleanup of AML sites had been completed. Both H.R. 2721 and H.R. 1600 would end an allocation of a portion of AML collections to the Rural

Abandoned Mine Land Program, a program that has received no appropriation since 1995.