

Energy Policy Act of 2005

SUMMARY

KEY COAL PROVISIONS

This summary addresses provisions of the Energy Policy Act of 2005 related to electricity generation using coal resources. This summary does not cover coal mining, tax provisions, and climate change. Separate summaries are available of “Title XIII–Energy Policy Tax Incentives” and “Title XVI–Climate Change.”

TITLE IV – COAL

Subtitle A – Clean Coal Power Initiative [CCPI]

Section 401. Authorization of Appropriations

Authorizes \$200 million each fiscal year FY06-FY14 for clean coal research in coal-based gasification and combustion technologies.

The Secretary of Energy shall submit a plan to Congress by March 31, 2007 containing a detailed assessment of whether the aggregate funding levels provided for CCPI are appropriate, a detailed description of how proposals will be solicited and evaluated, a detailed list of technical milestones, and a detailed description of how the program will avoid problems enumerated in the GAO reports on the Clean Coal Technology Program.

Section 402. Project Criteria

At least 70% of the funds must be used to fund projects on coal-based gasification technologies including gasification combined cycle, gasification fuel cells and turbine combined cycle, gasification co-production, hybrid gasification and combustion, and other advanced coal based technologies capable of producing a concentrated stream of carbon dioxide. Up to 30% of the funds can be used to fund “other technologies.”

Requires technical milestones tied to performance criteria through 2020. The milestones are to be developed in consultation with industry. By 2020:

- Gasification projects must be able to remove at least 99% of SO₂, not emit more than 0.05 lbs of NO_x/MMbtu, achieve at least 95% mercury removal, and achieve a minimum thermal efficiency according to type of coal.

- “Other technologies” must be able to remove at least 97% of SO₂, emit no more than 0.08 lbs of NO_x/MMBtu, achieve 90% mercury removal, and achieve a minimum thermal efficiency again according to type of coal.
- Projects at existing units must achieve an overall thermal efficiency improvement of 7 percent for coal of more than 9000 Btu/KWh, 6 percent for coal of 7000 to 9000 Btu/KWh, and 4 percent for coal of less than 7000 Btu/KWh.

In all cases, the thermal efficiency milestones are to be adjusted by altitude.

Requires at least 50% cost share from private industry for demonstration and commercial application projects (or if applicable 20% for research and development projects, and none for basic or fundamental research and development), which can be reduced by the Secretary of Energy, per Section 988 of the Act.

Provides that thermal efficiency targets be modified for projects that separate and capture at least 50% of the potential emissions of CO₂.

The Secretary may give priority to projects that include separation or capture of carbon dioxide or the reduction of the demand for natural gas if deployed.

Section 403. Report

Within 1 year after enactment (August 8, 2006) and every 2 years thereafter, the Secretary of Energy in consultation with other federal agencies as appropriate shall submit a report to Congress outlining the status of technical milestones from Section 402 and on the status of projects in achieving CCPI technical targets.

Section 404. Clean Coal Centers of Excellence

The Secretary of Energy can award grants to establish centers of excellence for energy systems of the future, using funds out of the \$200 million annual appropriation.

Subtitle B – Clean Power Projects

Section 411. Integrated Coal/Renewable Energy System

Subject to appropriations, the Secretary of Energy may provide loan guarantees for project to produce energy from coal of less than 7000 Btu/lb using integrated gasification combined cycle (IGCC) technology. Must be combined with wind or other renewables, minimize and provide the potential to sequester CO₂ emissions, and provide a ready source of hydrogen for near site fuel cell demonstrations.

Section 412. Loan to Place Alaska Clean Coal Technology Facility in Service

Authorizes a loan of up to \$80 million for an experimental plant under DOE cooperative agreement DE-FC2291-PC90544 (Alaska–Healy plant). Terms and conditions for the loan are spelled out.

Section 413. Western Integrated Coal Gasification Demonstration Project

Subject to appropriations, authorizes financial assistance for a demonstration project to produce energy from coal (of not more than 9000 Btu per lb) mined in the Western US and using IGCC that is capable of capturing and sequestering carbon. Must be located at greater than 4000 foot altitude. To the extent feasible, the project should be designed to use a variety of western coals.

Section 414. Coal Gasification

Authorizes the Secretary of Energy to provide loan guarantees for a project to produce energy using IGCC technology. Must be at least 400 MW, produce power at competitive rates in deregulated energy generation markets, and not receive any subsidy from ratepayers.

Section 415. Petroleum Coke Gasification

Authorizes the Secretary of Energy to provide loan guarantees for at least five petroleum coke gasification projects.

Section 416. Electron Scrubbing Demonstration

The Secretary of Energy shall use \$5 million from amounts appropriated to initiate, through the Chicago Operations office, a project to demonstrate the viability of high-energy electron scrubbing technology on commercial scale electrical generation using high-sulfur coal.

Section 417. Department of Energy Transportation Fuels from Illinois Basin Coal

The Secretary of Energy to carry out program to evaluate commercial and technical viability of advanced technologies for production of Fischer-Tropsch transportation fuels and other transportation fuels from Illinois basin coal. Authorizes construction of test facilities at Southern Illinois, Kentucky, and Purdue Universities. Also authorizes construction of a gasification products test center. Authorizes appropriation of \$85 million for the period FY06-FY10.

Subtitle C – Clean Air Coal Program [“Coal and Related Programs”]**Section 421. Amendment of the Energy Policy Act of 1992**

This section adds a new Title XXXI – Clean Air Coal Program – to the Energy Policy Act of 1992. Authorizes \$3 billion over seven years. The program would provide loans, cost sharing, and cooperative agreements for a clean coal technology deployment program designed: (1) to upgrade existing sources of coal-based power generation by retrofitting existing plants with pollution control equipment for the purpose of improving air quality (defined in the bill as an “Air Quality Enhancement Program”); and (2) to encourage the production and generation of new sources of advanced coal-based power, which may include the repowering of existing facilities (addressed in a section titled “Generation Projects”).

In the Air Quality Enhancement Program, cost-shared awards are made for existing coal-based plants that deploy advanced pollution control equipment and processes designed to meet or exceed current federal and states clean air obligations. Priority is given to projects that are likely to result in significant air quality improvements, that result in the mitigation of more than one pollutant, or that allow the use of waste or other by-products. A total of \$500 million over five years is authorized. The level of financial assistance is to be determined by the Secretary, with “cost sharing” not to exceed 50%.

As to the Generation Projects provisions, the types of projects eligible for funding include IGCC and gasification co-production, hybrid gasification/combustion, advanced coal projects including oxidation combustion and chemical looping techniques as well as ultrasupercritical boilers, and fuel cells. The Secretary is directed to develop performance criteria in order to receive funding for these projects, including specified thermal efficiency standards based on higher heating values (Btu/KWh) for coal with different levels of Btu/pound, for 2006-2011 and separately beginning in 2012 and 2013. Between 25 and 75 percent of the projects must be for the sole purpose of generating electricity, with priority given to demonstrated technologies that are not yet cost competitive and achieve greater efficiency and environmental performance. For these projects, a total of \$2.5 billion over seven years is authorized. Financial assistance to be determined by the Secretary, cost sharing shall not exceed 50%.

Subtitle D – Federal Coal Leases

This subtitle addresses federal coal lease issues and assessment of Federal lands with coal resources. It includes provisions modifying the Mineral Leasing Act's 160-acre limit for coal leases and royalty payment obligations.

Section 437. Inventory Requirement

Within 2 years of enactment and to be updated as warranted, the Secretary of Energy shall work with the Secretaries of Agriculture and the Interior to compile an inventory of coal resources on public lands and any restrictions on development of those resources. The Secretary shall publish a report to Congress containing each of these inventories and updates. Coal resources with sulfur content of 1.0-1.2 lb sulfur dioxide/MMBtu and with less than 1.0 lb sulfur dioxide/MMBtu are to be identified.

TITLE V – INDIAN ENERGY

Section 503. Indian Energy

Amends Title XXVI of the Energy Policy Act of 1992, including Section 2602(b)(3), which directs the Department of Energy to develop a program and implement research projects that provide tribes with opportunities to participate in carbon sequestration practices on Indian lands.

TITLE VII – VEHICLES AND FUELS

Section 752. Mobile Emission Reductions Trading and Crediting

Within 180 days after enactment, the EPA Administrator must submit a report to Congress on the experience with the trading of mobile source emission reduction credits for use by owners and operators of stationary sources to meet emission offset requirements within a nonattainment area.

TITLE IX – RESEARCH AND DEVELOPMENT

Subtitle F – Fossil Energy

Section 962. Coal and Related Technologies Program

Authorizes \$367 million for FY07, \$376 million for FY08 and \$394 million for FY09 (total \$1.137 billion) specifically for the Coal R&D program (see Section 961).

The Secretary of Energy must conduct a coal and power systems research, development and demonstration program, including a program to facilitate the production and generation of coal-based power, through:

- innovations for existing plants (including mercury removal);
- gasification systems;
- advanced combustion systems;
- turbines for synthesis gas from coal;
- carbon capture and sequestration research and development;
- coal derived transportation fuels and chemicals;

- liquid fuels derived from low rank coal and water slurry;
- solid fuels and feedstocks;
- advanced coal research;
- advanced separation technologies; and
- fuel cells from operation of coal derived syngas.

The program is to include cost and performance goals for coal-based technologies that would permit the continued cost-competitive use of coal for electricity generation, chemical feedstocks, and transportation fuel. Cost and performance goals shall be identified during calendar years 2008, 2010, 2012, 2016, and annually each fiscal year beginning after September 30, 2021.

Within 120 days after enactment, the Secretary of Energy shall identify and publish in the *Federal Register* the first draft cost and performance goals. Within 180 days after enactment and every 4 years thereafter, the Secretary of Energy shall submit a report to Congress describing the final cost and performance goals and how the program authorized in this section will not duplicate activities under the Clean Coal Power Initiative under Title IV.

The Secretary is directed to establish a research and development program on technologies to remove mercury from Powder River Basin sub-bituminous and Fort Union lignite coals and to examine the efficacy of technologies for these coals when blended with other coals.

Section 963. Carbon Capture Research and Development Program

Establishes a 10-year carbon capture R&D program to develop carbon dioxide capture technologies on combustion based systems for use in both existing and new units. Authorizes \$25 million in FY06, \$30 million in FY07, and \$35 million in FY08 to carry out the program.

Subtitle I – Research Administration and Operations

Section 996. Western Michigan Demonstration Project

EPA, in consultation with state and local officials, shall conduct a demonstration project to address ozone formation and transport in Southwestern Michigan, assess any difficulties such areas may experience in meeting the 8-hour national ambient air quality standard for ozone, and assess compliance alternatives.

TITLE XIII – ENERGY POLICY TAX INCENTIVES

Please see separate summary.

TITLE XIV – MISCELLANEOUS

Section 1407. Oxygen-Fuel

This program authorizes \$100 million per year from FY06 through FY08 for an oxygen fuel systems program that must include the retrofit of at least one small unit and one large unit and new construction of one small and one large unit. A large unit is defined as having a generating capacity of 100 megawatts or more; a small unit is defined as having a generating capacity of 10 to 50 megawatts. Oxygen fuel systems

are defined as ones using pure oxygen, high flame temperatures, and the exclusion of air in the boiler in industrial or electrical generating units to obtain fuel efficiency benefits of oil, gas, coal, and biomass.

TITLE XVI – CLIMATE CHANGE

Please see separate summary.

TITLE XVII – INCENTIVES FOR INNOVATIVE TECHNOLOGIES

Section 1703. Eligible Projects

This title establishes a loan guarantee program to provide incentives for projects that avoid, reduce or sequester air pollutants or greenhouse gases; and employ new or significantly improved technologies as compared to commercial technologies in service in the U.S. at the time the guarantee is issued. The ten types of eligible projects include advanced fossil energy technologies (including coal gasification and carbon capture and sequestration practices (including agricultural and forestry).

The Secretary of Energy may make guarantees for the following gasification projects:

- (1) IGCC for the production of electricity with at least 65 percent of annual heat input from coal, petroleum coke or biomass, or a combination thereof, where electricity will account for at least 65 percent of energy output; and, are designed to be capable of accommodating the equipment likely to be necessary to capture CO₂ that would otherwise be emitted in the flue gas from the plant. Specific projects noted are:
 - A project to produce energy from coal (of not more than 13,000 Btu/lb and mined in the western U.S.) that minimizes and offers the potential to sequester carbon dioxide, may include repowering of facilities, shall have a combined output of at least 100 MW, shall be located in a western State at an altitude greater than 4000 feet, and shall demonstrate the ability to use coal with an energy content of not more than 9,000 Btu/lb;
 - A project located in a taconite-producing region of the U.S. and approved by a state PUC to sell at least 450 MW to a utility;
 - Facilities that generate one or more hydrogen rich and carbon monoxide rich product streams for the gasification of coal or coal waste and use those streams to facilitate the production of ultra clean premium fuels through the Fischer Tropsch process;
 - A project to produce energy and clean fuels using coal liquefaction technologies and using western bituminous or sub-bituminous coal that is owned by a state government and may include tribal and private coal resources.
- (2) Industrial gasification projects for which electricity accounts for less than 65 percent of the useful energy output of the facility.
- (3) Petroleum coke gasification projects.
- (4) Liquefaction project (coal to oil).

All eligible projects must meet the following emissions requirements

- SO₂ – 0.05 lb/mmBtu
- Hg – 90% removal rate from syngas and any other fuel combusted
- NO_x – 0.08 lb/mmBtu
- Particulate matter – 0.01 lb/mmBtu

Loan guarantees cannot exceed 80 percent of the total project cost, per Section 1702(c).

TITLE XVIII - STUDIES

Section 1818. Natural Gas Supply Shortage Report

Within 180 days of enactment, the Secretary of Energy shall submit a report to Congress on natural gas demand and supply for the period January 1, 2004 and December 31, 2015. The report must include a comprehensive analysis of scenarios that encourage use of energy from other sources, including coal. The report is to include recommendations for Federal actions to encourage or require use of other sources and to support technologies for development of coal, nuclear, and renewable sources.

Section 1830. Study of Availability of Skilled Workers

The Secretary of Energy is to enter into agreement with the National Academy of Sciences on a study of the short-term and long-term availability of skilled workers to meet the energy and mineral security requirements of the U.S. The study is to be completed in two years of enactment.

Section 1836. Resolution of Federal Resource Development Conflicts in the Powder River Basin (PRB)

The Secretary of Interior shall review Federal and State laws to resolve any conflict relating to the Powder River Basin in Wyoming and Montana between development of Federal coal and development of Federal and non-Federal coalbed methane. A report is to be submitted to Congress within 180 days of enactment describing methods of resolving conflicts and identifies method of implementation.

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