Order Code RL33578

CRS Report for Congress

Energy Tax Policy: History and Current Issues

Updated May 22, 2008

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Prepared for Members and Committees of Congress

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Summary

Historically, U.S. federal energy tax policy promoted the supply of oil and gas. However, the 1970s witnessed (1) a significant cutback in the oil and gas industry's tax preferences, (2) the imposition of new excise taxes on oil, and (3) the introduction of numerous tax preferences for energy conservation, the development of alternative fuels, and the commercialization of the technologies for producing these fuels (renewables such as solar, wind, and biomass, and nonconventional fossil fuels such as shale oil and coalbed methane).

The Reagan Administration, using a free-market approach, advocated repeal of the windfall profit tax on oil and the repeal or phase-out of most energy tax preferences — for oil and gas, as well as alternative fuels. Due to the combined effects of the Economic Recovery Tax Act and the energy tax subsidies that had not been repealed, which together created negative effective tax rates in some cases, the actual energy tax policy differed from the stated policy. The George H. W. Bush and Bill Clinton years witnessed a return to a much more activist energy tax policy, with an emphasis on energy conservation and alternative fuels. While the original aim was to reduce demand for imported oil, energy tax policy was also increasingly viewed as a tool for achieving environmental and fiscal objectives. The Clinton Administration's energy tax policy emphasized the environmental benefits of reducing greenhouse gases and global climate change, but it will also be remembered for its failed proposal to enact a broadly based energy tax on Btus (British thermal units) and its 1993 across-the-board increase in motor fuels taxes of 4.3¢/gallon.

President Bush has proposed a limited number of energy tax measures, but the 109th Congress enacted the Energy Policy Act of 2005 (P.L. 109-58) — comprehensive energy legislation that included numerous energy tax incentives to increase the supply of, and reduce the demand for, fossil fuels and electricity. Signed by President Bush on August 8, 2005, it provided a net energy tax cut of $11.5 billion ($14.5 billion gross energy tax cuts, less $3 billion of energy tax increases). The act included tax incentives for energy efficiency in residential and commercial buildings and for more energy efficient vehicles, and tax incentives for several types of alternative and renewable resources, such as solar and geothermal. The Tax Relief and Health Care Act of 2006 (P.L. 109-432), enacted in December 2006, provided for one-year extensions of these provisions. The current energy tax structure favors tax incentives for alternative and renewable fuels supply relative to energy from conventional fossil fuels, and this posture was accentuated under the Energy Policy Act of 2005.

At this writing, Congressional action on energy tax proposals is being taken along two fronts: First, there is the broad and relatively significant expansion and liberalizations of energy tax subsidies, as well as extension of expired or about-to-expire energy tax provisions in H.R. 6049, which was approved by the House on May 21. Second, the farm bill (H.R. 2419) expands and reforms several energy tax provisions — all tax subsidies for renewable and alternative fuels from crops — but also includes a proposed 6¢ reduction in the excise tax credit for fuel ethanol. On May 21, the House overrode a Presidential veto of this bill.

Contents

Energy Tax Policy: History and Current Issues

Introduction

Energy tax policy involves the use of the government's main fiscal instruments — taxes (financial disincentives) and tax subsidies (or incentives) — to alter the allocation or configuration of energy resources. In theory, energy taxes and subsidies, like tax policy instruments in general, are intended either to correct a problem or distortion in the energy markets or to achieve some social, economic (efficiency, equity, or even macroeconomic), environmental, or fiscal objective. In practice, however, energy tax policy in the United States is made in a political setting, being determined by the views and interests of the key players in this setting: politicians, special interest groups, bureaucrats, and academic scholars. This implies that the policy does not generally, if ever, adhere to the principles of economic or public finance theory alone; that more often than not, energy tax policy may compound existing distortions, rather than correct them.[1]

The idea of applying tax policy instruments to the energy markets is not new, but until the 1970s, energy tax policy had been little used, except for the oil and gas industry. Recurrent energy-related problems since the 1970s — oil embargoes, oil price and supply shocks, wide petroleum price variations and price spikes, large geographical price disparities, tight energy supplies, and rising oil import dependence, as well as increased concern for the environment — have caused policymakers to look toward energy taxes and subsidies with greater frequency.

Comprehensive energy policy legislation containing numerous tax incentives, and some tax increases on the oil industry, was signed on August 8, 2005 (P.L. 109-58). The law, the Energy Policy Act of 2005, contained about $15 billion in energy tax incentives over 11 years, including numerous tax incentives for the supply of conventional fuels. However, record oil industry profits, due primarily to high crude oil and refined oil product prices, and the 2006 mid-term elections, which gave the control of the Congress to the Democratic Party, has changed the mood of policymakers. Instead of stimulating the traditional fuels industry — oil, gas, and electricity from coal — in addition to incentivizing alternative fuels and energy conservation, the mood now is to take away, or rescind, the 2005 tax incentives and use the money to further stimulate alternative fuels and energy conservation. A minor step in this direction was made, on May 17, 2006, when President Bush signed a $70 billion tax reconciliation bill (P.L. 109-222). This bill included a provision that

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[1] The theory underlying these distortions, and the nature of the distortions, is discussed in detail in a companion report: CRS Report RL30406, *Energy Tax Policy: An Economic Analysis*, by Salvatore Lazzari.

further increased taxes on major integrated oil companies by extending the depreciation recovery period for geological and geophysical costs from two to five years (thus taking back some of the benefits enacted under the 2005 law). And currently, the major tax writing committees in both Houses are considering further, but more significant, tax increases on the oil and gas industry to fund additional tax cuts for the alternative fuels and energy conservation industries. These bills are being considered as part of the debate over new versions of comprehensive energy policy legislation in the 110th Congress (H.R. 6).

This report discusses the history, current posture, and outlook for federal energy tax policy. It also discusses current energy tax proposals and major energy tax provisions enacted in the 109th Congress. (For a general economic analysis of energy tax policy, see CRS Report RL30406, *Energy Tax Policy: An Economic Analysis*, by Salvatore Lazzari.)

Background

The history of federal energy tax policy can be divided into four eras: the oil and gas period from 1916 to 1970, the energy crisis period of the 1970s, the free-market era of the Reagan Administration, and the post-Reagan era — including the period since 1998, which has witnessed a plethora of energy tax proposals to address recurring energy market problems.

Energy Tax Policy from 1918 to 1970: Promoting Oil and Gas

Historically, federal energy tax policy was focused on increasing domestic oil and gas reserves and production; there were no tax incentives for energy conservation or for alternative fuels. Two oil/gas tax code preferences embodied this policy: (1) expensing of intangible drilling costs (IDCs) and dry hole costs, which was introduced in 1916, and (2) the percentage depletion allowance, first enacted in 1926 (coal was added in 1932).[2]

Expensing of IDCs (such as labor costs, material costs, supplies, and repairs associated with drilling a well) gave oil and gas producers the benefit of fully deducting from the first year's income ("writing off") a significant portion of the total costs of bringing a well into production, costs that would otherwise (i.e., in theory and under standard, accepted tax accounting methods) be capitalized (i.e., written off during the life of the well as income is earned). For dry holes, which comprised on average about 80% of all the wells drilled, the costs were also allowed to be deducted in the year drilled (expensed) and deducted against other types of income, which led to many tax shelters that benefitted primarily high-income

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[2] Tax preferences are special tax provisions — such as tax credits, exemptions, exclusions, deductions, deferrals, or favorable tax rates — that reduce tax rates for the preferred economic activity and favored taxpayers. Such preferences, also known as tax expenditures or tax subsidies, generally deviate from a neutral tax system and from generally accepted economic and accounting principles unless they are targeted to the correction of preexisting market distortions.

taxpayers. Expensing accelerates tax deductions, defers tax liability, and encourages oil and gas prospecting, drilling, and the development of reserves.

The oil and gas percentage depletion allowance permitted oil and gas producers to claim 27.5% of revenue as a deduction for the cost of exhaustion or depletion of the deposit, allowing deductions in excess of capital investment (i.e, in excess of adjusted cost depletion) — the economically neutral method of capital recovery for the extractive industries. Percentage depletion encourages faster mineral development than cost depletion (the equivalent of depreciation of plants and equipment).

These and other tax subsidies discussed later (e.g., capital gains treatment of the sale of successful properties, the special exemption from the passive loss limitation rules, and special tax credits) reduced marginal effective tax rates in the oil and gas industries, reduced production costs, and increased investments in locating reserves (increased exploration). They also led to more profitable production and some acceleration of oil and gas production (increased rate of extraction), and more rapid depletion of energy resources than would otherwise occur. Such subsidies tend to channel resources into these activities that otherwise would be used for oil and gas activities abroad or for other economic activities in the United States. Relatively low oil prices encouraged petroleum consumption (as opposed to conservation) and inhibited the development of alternatives to fossil fuels, such as unconventional fuels and renewable forms of energy. Oil and gas production increased from 16% of total U.S. energy production in 1920 to 71.1% of total energy production in 1970 (the peak year).

Energy Tax Policy During the 1970s: Conservation and Alternative Fuels

Three developments during the 1970s caused a dramatic shift in the focus of federal energy tax policy. First, the large revenue losses associated with the oil and gas tax preferences became increasingly hard to justify in the face of increasing federal budget deficits — and in view of the longstanding economic arguments against the special tax treatment for oil and gas, as noted in the above paragraph. Second, heightened awareness of environmental pollution and concern for environmental degradation, and the increased importance of distributional issues in policy formulation (i.e., equity and fairness), lost the domestic oil and gas industry much political support. Thus, it became more difficult to justify percentage depletion and other subsidies, largely claimed by wealthy individuals and big vertically integrated oil companies. More importantly, during the 1970s there were two energy crises: the oil embargo of 1973 — also known as the first oil shock — and the Iranian Revolution in 1978-1979, which focused policymakers' attention on the problems (alleged "failures") in the energy markets and how these problems reverberated throughout the economy, causing stagflation, shortages, productivity problems, rising import dependence, and other economic and social problems.

These developments caused federal energy tax policy to shift from oil and gas supply toward energy conservation (reduced energy demand) and alternative energy sources.

Three broad actions were taken through the tax code to implement the new energy tax policy during the 1970s. First, the oil industry's two major tax preferences — expensing of IDCs and percentage depletion — were significantly reduced, particularly the percentage depletion allowance, which was eliminated for the major integrated oil companies and reduced for the remaining producers. Other oil and gas tax benefits were also cut back during this period. For example, oil- and gas-fired boilers used in steam generation (e.g., to generate electricity) could no longer qualify for accelerated depreciation as a result of the Energy Tax Act of 1978 (as discussed below).

The second broad policy action was the imposition of several new excise taxes penalizing the use of conventional fossil fuels, particularly oil and gas (and later coal). The Energy Tax Act of 1978 (ETA, P.L. 95-618) created a federal "gas guzzler" excise tax on the sale of automobiles with relatively low fuel economy ratings. This tax, which is still in effect, currently ranges from $1,000 for an automobile rated between 21.5 and 22.5 miles per gallon (mpg) to $7,700 for an automobile rated at less than 12.5 mpg. Chief among the taxes on oil was the windfall profit tax (WPT) enacted in 1980 (P.L. 96-223). The WPT imposed an excise tax of 15% to 70% on the difference between the market price of oil and a predetermined (adjusted) base price. This tax, which was repealed in 1988, was part of a political compromise that decontrolled oil prices. (Between 1971 and 1980, oil prices were controlled under President Nixon's Economic Stabilization Act of 1970 — the so-called "wage-price freeze.") (For more detail on the windfall profit tax on crude oil that was imposed from 1980 until its repeal in 1988, see CRS Report RL33305, *The Crude Oil Windfall Profit Tax of the 1980s: Implications for Current Energy Policy*, by Salvatore Lazzari.)

Another, but relatively small, excise tax on petroleum was instituted in 1980: the environmental excise tax on crude oil received at a U.S. refinery. This tax, part of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (P.L. 96-510), otherwise known as the "Superfund" program, was designed to charge oil refineries for the cost of releasing any hazardous materials that resulted from the refining of crude oil. The tax rate was set initially at 0.79¢ ($0.0079) per barrel and was subsequently raised to 9.70¢ per barrel. This tax expired at the end of 1995, but legislation has been proposed since then to reinstate it as part of Superfund reauthorization.

The third broad action taken during the 1970s to implement the new and refocused energy tax policy was the introduction of numerous tax incentives or subsidies (e.g., special tax credits, deductions, exclusions) for energy conservation, the development of alternative fuels (renewable and nonconventional fuels), and the commercialization of energy efficiency and alternative fuels technologies. Most of these new tax subsidies were introduced as part of the Energy Tax Act of 1978 and expanded under the WPT, which also introduced additional new energy tax subsidies. The following list describes these:

- *Residential and Business Energy Tax Credits.* The ETA provided income tax credits for homeowners and businesses that invested in a variety of energy conservation products (e.g., insulation and other energy-conserving components) and for solar and wind energy

equipment installed in a principal home or a business. The business energy tax credits were 10% to 15% of the investment in conservation or alternative fuels technologies, such as synthetic fuels, solar, wind, geothermal, and biomass. These tax credits were also expanded as part of the WPT, but they generally expired (except for business use of solar and geothermal technologies) as scheduled either in 1982 or 1985. A 15% investment tax credit for business use of solar and geothermal energy, which was made permanent, is all that remains of these tax credits.

- *Tax Subsidies for Alcohol Fuels.* The ETA also introduced the excise tax exemption for gasohol, recently at 5.2¢ per gallon out of a gasoline tax of 18.4¢/gal. Subsequent legislation extended the exemption and converted it into an immediate tax credit (currently at 51¢/gallon of *ethanol*).

- *Percentage Depletion for Geothermal*. The ETA made geothermal deposits eligible for the percentage depletion allowance, at the rate of 22%. Currently the rate is 15%.

- *§29 Tax Credit for Unconventional Fuels.* The 1980 WPT included a $3.00 (in 1979 dollars) production tax credit to stimulate the supply of selected unconventional fuels: oil from shale or tar sands, gas produced from geo-pressurized brine, Devonian shale, tight formations, or coalbed methane, gas from biomass, and synthetic fuels from coal. In current dollars this credit, which is still in effect for certain types of fuels, was $6.56 per barrel of liquid fuels and about $1.16 per thousand cubic feet (mcf) of gas in 2004.

- *Tax-Exempt Interest on Industrial Development Bonds.* The WPT made facilities for producing fuels from solid waste exempt from federal taxation of interest on industrial development bonds (IDBs). This exemption was for the benefit of the development of alcohol fuels produced from biomass, for solid-waste-to-energy facilities, for hydroelectric facilities, and for facilities for producing renewable energy. IDBs, which provide significant benefits to state and local electric utilities (public power), had become a popular source of financing for renewable energy projects.

Some of these incentives — for example, the residential energy tax credits — have since expired, but others remain and still new ones have been introduced, such as the §45 renewable electricity tax credit, which was introduced in 1992 and expanded under the American Jobs Creation Act of 2004 (P.L. 108-357). This approach toward energy tax policy — subsidizing a plethora of different forms of energy (both conventional and renewable) and providing incentives for diverse energy conservation (efficiency) technologies in as many sectors as possible — has been the paradigm followed by policymakers since the 1970s. A significant increase in nontax interventions in the energy markets — laws and regulations, such as the Corporate Average Fuel Economy (CAFÉ) standards to reduce transportation fuel use, and other interventions through the budget and the credit markets — has also

been a significant feature of energy policy since the 1970s. This included some of the most extensive energy legislation ever enacted.

Energy Tax Policy in the 1980s: The "Free-Market Approach"

The Reagan Administration opposed using the tax law to promote oil and gas development, energy conservation, or the supply of alternative fuels. The idea was to have a more neutral and less distortionary energy tax policy, which economic theory predicts would make energy markets work more efficiently and generate benefits to the general economy. The Reagan Administration believed that the responsibility for commercializing conservation and alternative energy technologies rested with the private sector and that high oil prices — real oil prices (corrected for inflation) were at historically high levels in 1981 and 1982 — would be ample encouragement for the development of alternative energy resources. High oil prices in themselves create conservation incentives and stimulate oil and gas production.

President Reagan's free-market views were well known prior to his election. During the 1980 presidential campaign, he proposed repealing the WPT, deregulating oil and natural gas prices, and minimizing government intervention in the energy markets. The Reagan Administration's energy tax policy was professed more formally in several energy and tax policy studies, including its 1981 National Energy Policy Plan and the 1983 update to this plan; it culminated in a 1984 Treasury study on general tax reform, which also proposed fundamental reforms of federal energy tax policy. In terms of actual legislation, many of the Reagan Administration's objectives were realized, although as discussed below there were unintended effects.

In 1982, the business energy tax credits on most types of nonrenewable technologies — those enacted under the ETA of 1978 — were allowed to expire as scheduled; other business credits and the residential energy tax credits were allowed to expire at the end of 1985, also as scheduled. Only the tax credits for business solar, geothermal, ocean thermal, and biomass technologies were extended. As mentioned above, today the tax credit for business investment in solar and geothermal technologies, which has since been reduced to 10%, is all that remains of these tax credits. A final accomplishment was the repeal of the WPT, but not until 1988, the end of Reagan's second term. The Reagan Administration's other energy tax policy proposals, however, were not adopted. The tax incentives for oil and gas were not eliminated, although they were pared back as part of the Tax Reform Act (TRA) of 1986.

Although the Reagan Administration's objective was to create a free-market energy policy, significant liberalization of the depreciation system and reduction in marginal tax rates — both the result of the Economic Recovery Tax Act of 1981 (ERTA, P.L. 97-34) — combined with the regular investment tax credit and the business energy investment tax credits, resulted in negative effective tax rates for many investments, including alternative energy investments, such as solar and synthetic fuels. Also, the retention of percentage depletion and expensing of IDCs (even at the reduced rates) rendered oil and gas investments still favored relative to investments in general.

Energy Tax Policy After 1988

After the Reagan Administration, several major energy and non-energy laws were enacted that amended the energy tax laws in several ways, some major:

- *Revenue Provisions of the Omnibus Reconciliation Act of 1990.* President George H.W. Bush's first major tax law included numerous energy tax incentives: (1) for conservation (and deficit reduction), the law increased the gasoline tax by 5¢/gallon and doubled the gas-guzzler tax; (2) for oil and gas, the law introduced a 10% tax credit for enhanced oil recovery expenditures, liberalized some of the restrictions on the percentage depletion allowance, and reduced the impact of the alternative minimum tax on oil and gas investments; and (3) for alternative fuels, the law expanded the §29 tax credit for unconventional fuels and introduced the tax credit for small producers of ethanol used as a motor fuel.

- *Energy Policy Act of 1992 (P.L. 102-486).* This broad energy measure introduced the §45 tax credit, at 1.5¢ per kilowatt hour, for electricity generated from wind and "closed-loop" biomass systems. (Poultry litter was added later.) For new facilities, this tax credit expired at the end of 2001 and again in 2003 but has been retroactively extended by recent tax legislation (as discussed below). In addition, the 1992 law (1) added an income tax deduction for the costs, up to $2,000, of clean-fuel powered vehicles; (2) liberalized the alcohol fuels tax exemption; (3) expanded the §29 production tax credit for nonconventional energy resources; and (4) liberalized the tax breaks for oil and gas.

- *Omnibus Budget Reconciliation Act of 1993 (P.L. 103-66).* President Clinton proposed a differential Btu tax on fossil fuels (a broadly based general tax primarily on oil, gas, and coal based on the British thermal units of heat output), which was dropped in favor of a broadly applied 4.3¢/gallon increase in the excise taxes on motor fuels, with revenues allocated for deficit reduction rather than the various trust funds.

- *Taxpayer Relief Act of 1997 (P.L. 105-34).* This law included a variety of excise tax provisions for motor fuels, of which some involved tax reductions on alternative transportation fuels, and some involved increases, such as on kerosene, which on balance further tilted energy tax policy toward alternative fuels.

- *Tax Relief and Extension Act.* Enacted as Title V of the Ticket to Work and Work Incentives Improvement Act of 1999 (P.L. 106-170), it extended and liberalized the 1.5¢/kWh renewable electricity production tax credit, and renewed the suspension of the net income limit on the percentage depletion allowance for marginal oil and gas wells.

As this list suggests, the post-Reagan energy tax policy returned more to the interventionist course established during the 1970s and primarily was directed at energy conservation and alternative fuels, mostly for the purpose of reducing oil import dependence and enhancing energy security. However, there is an environmental twist to energy tax policy during this period, particularly in the Clinton years. Fiscal concerns, which for most of that period created a perennial search for more revenues to reduce budget deficits, have also driven energy tax policy proposals during the post-Reagan era. This is underscored by proposals, which have not been enacted, to impose broad-based energy taxes such as the Btu tax or the carbon tax to mitigate greenhouse gas emissions.

Another interesting feature of the post-Reagan energy tax policy is that while the primary focus continues to be energy conservation and alternative fuels, no energy tax legislation has been enacted during this period that does not also include some, relatively minor, tax relief for the oil and gas industry, either in the form of new tax incentives or liberalization of existing tax breaks (or both).

Energy Tax Incentives in Comprehensive Energy Legislation Since 1998

Several negative energy market developments since about 1998, characterized by some as an "energy crisis," have led to congressional action on comprehensive energy proposals, which included numerous energy tax incentives.

Brief History of Comprehensive Energy Policy Proposals

Although the primary rationale for comprehensive energy legislation has historically been spiking petroleum prices, and to a lesser extent spiking natural gas and electricity prices, the origin of bills introduced in the late 1990s was the very low crude oil prices of that period. Domestic crude oil prices reached a low of just over $10 per barrel in the winter of 1998-1999, among the lowest crude oil prices in history after correcting for inflation. From 1986 to 1999, oil prices averaged about $17 per barrel, fluctuating between $12 and $20 per barrel. These low oil prices hurt oil producers, benefitted oil refiners, and encouraged consumption. They also served as a disincentive to conservation and investment in energy efficiency technologies and discouraged production of alternative fuels and renewable technologies. To address the low oil prices, there were many tax bills in the first session of the 106th Congress (1999) focused on production tax credits for marginal or stripper wells, but they also included carryback provisions for net operating losses, and other fossil fuels supply provisions.

By summer 1999, crude oil prices rose to about $20 per barrel, and peaked at more than $30 per barrel by summer 2000, causing higher gasoline, diesel, and heating oil prices. To address the effects of rising crude oil prices, legislative proposals again focused on production tax credits and other supply incentives. The rationale was not tax relief for a depressed industry but tax incentives to increase output, reduce prices, and provide price relief to consumers.

In addition to higher petroleum prices there were forces — some of which were understood (factors such as environmental regulations and pipeline breaks) and others that are still are not so clearly understood — that caused the prices of refined petroleum products to spike. In response, there were proposals in 2000 to either temporarily reduce or eliminate the federal excise tax on gasoline, diesel, and other special motor fuels. The proposals aimed to help consumers (including truckers) cushion the financial effect of the price spikes. The Midwest gasoline price spike in summer 2000 kept interest in these excise tax moratoria alive and generated interest in proposals for a windfall profit tax on oil companies, which, by then, were earning substantial profits from high prices.

Despite numerous bills to address these issues, no major energy tax bill was enacted in the 106th Congress. However, some minor amendments to energy tax provisions were enacted as part of nonenergy tax bills. This includes Title V of the Ticket to Work and Work Incentives Improvement Act of 1999 (P.L. 106-170). Also, the 106th Congress did enact a package of $500 million in loan guarantees for small independent oil and gas producers (P.L. 106-51).

Energy Tax Action in the 107th Congress

In early 2001, the 107th Congress faced a combination of fluctuating oil prices, an electricity crisis in California, and spiking natural gas prices. The gas prices had increased steadily in 2000 and reached $9 per thousand cubic feet (mcf) at the outset of the 107th Congress. At one point, spot market prices reached about $30 per mcf, the energy equivalent of $175 per barrel of oil. The combination of energy problems had developed into an "energy crisis," which prompted congressional action on a comprehensive energy policy bill — the first since 1992 — that included a significant expansion of energy tax incentives and subsidies and other energy policy measures.

In 2002, the House and Senate approved two distinct versions of an omnibus energy bill, H.R. 4. While there were substantial differences in the nontax provisions of the bill, the energy tax measures also differed significantly. The House bill proposed larger energy tax cuts, with some energy tax increases. It would have reduced energy taxes by about $36.5 billion over 10 years, in contrast to the Senate bill, which cut about $18.3 billion over 10 years, including about $5.1 billion in tax credits over 10 years for two mandates: a renewable energy portfolio standard ($0.3 billion) and a renewable fuel standard ($4.8 billion). The House version emphasized conventional fuels supply, including capital investment incentives to stimulate production and distribution of oil, natural gas, and electricity. This focus assumed that recent energy problems were due mainly to supply and capacity shortages driven by economic growth and low energy prices. In comparison, the Senate bill would have provided a much smaller amount of tax incentives for fossil fuels and nuclear power and somewhat fewer incentives for energy efficiency, but provided more incentives for alternative and renewable fuels. The conference committee on H.R. 4 could not resolve differences, so the bills were dropped on November 13, 2002.

Energy Tax Action in the 108th Congress

On the House side, on April 3, 2003, the Ways and Means Committee (WMC) voted 24-12 for an energy tax incentives bill (H.R. 1531) that was incorporated into H.R. 6 and approved by the House on April 11, 2003, by a vote of 247-175. The House version of H.R. 6 provided about $17.1 billion of energy tax incentives and included $83 million of non-energy tax increases, or offsets. This bill was a substantially scaled-down version of the House energy tax bill, H.R. 2511 (107th Congress), which was incorporated into H.R. 4, the House energy bill of the 107th Congress that never became law. After returning from the August 2003 recess, a House and Senate conference committee negotiated differences among provisions in three energy policy bills: the House and Senate versions of H.R. 6, and a substitute to the Senate Finance Committee (SFC) bill — a modified (or amended) version of S. 1149 substituted for Senate H.R. 6 in conference as S.Amdt. 1424 and S.Amdt. 1431.

On November 14, 2003, House and Senate conferees reconciled the few remaining differences over the two conference versions of H.R. 6, which primarily centered on several energy tax issues — ethanol tax subsidies, the §29 unconventional fuels tax credit, tax incentives for nuclear power, and clean coal. On November 18, 2003, the House approved, by a fairly wide margin (246-180), the conference report containing about $23.5 billion of energy tax incentives. However, the proposed ethanol mandate would further reduce energy tax receipts — the 10-year revenue loss was projected to be around $26 billion. On November 24, Senate Republicans put aside attempts to enact H.R. 6. A number of uneasy alliances pieced together to bridge contentious divides over regional issues as varied as electricity, fuel additives (MTBE), and natural gas subsidies, failed to secure the necessary 60 votes to overcome a Democratic filibuster before Congress's adjournment for the holiday season. This represented the third attempt to pass comprehensive energy legislation, a top priority for many Republicans in Congress and for President Bush.

Senator Domenici introduced a smaller energy bill as S. 2095 on February 12, 2004. S. 2095 included a slightly modified version of the amended energy tax bill S. 1149; the tax provisions of S. 2095 were added to the export tax repeal bill S. 1637, on April 5, 2004. The Senate approved S. 1637, with the energy tax measures, on May 11. H.R. 4520, the House version of the export tax repeal legislation, did not contain energy tax measures; they were incorporated into H.R. 6.

Some energy tax incentives were enacted on October 4, 2004, as part of the Working Families Tax Relief Act of 2004 (P.L. 108-311), a $146 billion package of middle class and business tax breaks. This legislation, which was signed into law on October 4, 2004, retroactively extended four energy tax subsidies: the §45 renewable tax credit, suspension of the 100% net income limitation for the oil and gas percentage depletion allowance, the $4,000 tax credit for electric vehicles, and the deduction for clean fuel vehicles (which ranges from $2,000 to $50,000). The §45 tax credit and the suspension of the 100% net income limitation had each expired on January 1, 2004; they were retroactively extended through December 31, 2005. The electric vehicle credit and the clean-vehicle income tax deduction were being phased out gradually beginning on January 1, 2004. P.L. 108-311 arrested the phase-down — providing 100% of the tax breaks — through 2005, but resumed it beginning on

January 1, 2006, when only 25% of the tax break was available. (For more information, see CRS Report RL32265, *Expired and Expiring Energy Tax Incentives*, by Salvatore Lazzari.)

The American Jobs Creation Act of 2004 (P.L. 108-357), commonly referred to as the "FSC-ETI" or "jobs" bill, was enacted on October 22, 2004. It included about $5 billion in energy tax incentives.

Energy Action in the 109th Congress

The 109th Congress enacted the Energy Policy Act of 2005 (P.L. 109-58), which included the most extensive amendments to U.S. energy tax laws since 1992, and the Tax Relief and Health Care Act of 2006, which extended the energy tax subsidies enacted under the 2005 Energy Policy Act (EPACT05).

The Energy Policy Act of 2005 (P.L. 109-58)

On June 28, 2005, the Senate approved by an 85-12 vote a broadly based energy bill (H.R. 6) with an 11-year, $18.6 billion package of energy tax breaks tilted toward renewable energy resources and conservation. Joint Committee on Taxation figures released on June 28 show that the bill included about $0.2 billion in non-energy tax cuts and more than $4.7 billion in revenue offsets, meaning the bill had a total tax cut of $18.8 billion over 11 years, offset by the $4.7 billion in tax increases. The House energy bill, which included energy tax incentives totaling about $8.1 billion over 11 years, and no tax increases, was approved in April. This bill was weighted almost entirely toward fossil fuels and electricity supply. On July 27, 2005, the conference committee on H.R. 6 reached agreement on $11.1 billion of energy tax incentives, including $3 billion in tax increases (both energy and non-energy). The distribution of the cuts by type of fuel for each of the three versions of H.R. 6 is shown in **Table 1.**

One way to briefly compare the two measures is to compare revenue losses from the energy tax incentives alone and the percentage distribution by type of incentive as a percent of the net energy tax cuts (i.e., the columns marked "%" divided by the dollar figures in row 11). The net revenue losses over an 11-year time frame from FY2005 to FY2015 were estimated by the Joint Committee on Taxation. The total revenue losses are reported in two ways. The absolute dollar value of tax cuts over 11 years and the percentage distribution of total revenue losses by type of incentive for each measure.

Table 1 shows that the conference report provided about $1.3 billion for energy efficiency and conservation, including a deduction for energy-efficient commercial property, fuel cells, and micro-turbines, and $4.5 billion in renewables incentives, including a two-year extension of the tax code §45 credit, renewable energy bonds, and business credits for solar. A $2.6 billion package of oil and gas incentives included seven-year depreciation for natural gas gathering lines, a refinery expensing provision, and a small refiner definition for refiner depletion. A nearly $3 billion coal package provided for an 84-month amortization for pollution control facilities

and treatment of §29 as a general business credit. More than $3 billion in electricity incentives leaned more toward the House version, including provisions providing 15-year depreciation for transmission property, nuclear decommissioning provisions, and a nuclear electricity production tax credit. It also provided for the five-year carryback of net operating losses of certain electric utility companies. A Senate-passed tax credit to encourage the recycling of a variety of items, including paper, glass, plastics, and electronic products, was dropped from the final version of the energy bill (H.R. 6). Instead, conferees included a provision requiring the Treasury and Energy departments to conduct a study on recycling. The House approved the conference report on July 28, 2005; the Senate on June 28, 2005, one month later on July 28, 2005, clearing it for the President's signature on August 8 (P.L. 109-58).

Four revenue offsets were retained in the conference report: reinstatement of the Oil Spill Liability Trust Fund; extension of the Leaking Underground Storage Tank (LUST) trust fund rate, which would be expanded to all fuels; modification of the §197 amortization, and a small increase in the excise taxes on tires. The offsets total roughly $3 billion compared with nearly $5 billion in the Senate-approved H.R. 6. Because the oil spill liability tax and the Leaking Underground Storage Tank financing taxes are imposed on oil refineries, the oil and gas refinery and distribution sector (row 2 of **Table 1**) received a net tax increase of $1,769 ($2,857-$1,088).

The Tax Increase Prevention and Reconciliation Act (P.L. 109-222)

After expanding energy tax incentives in the EPACT05, the 109th Congress moved to rescind oil and gas incentives, and even to raise energy taxes on oil and gas, in response to the high energy prices and resulting record oil and gas industry profits. Many bills were introduced in the 109th Congress to pare back or repeal the oil and gas industry tax subsidies and other loopholes, both those enacted under EPACT05 as well as those that preexisted EPACT05. Many of the bills focused on the oil and gas exploration and development (E&D) subsidy — expensing of intangible drilling costs (IDCs). This subsidy, which has been in existence since the early days of the income tax, is available to integrated and independent oil and gas companies, both large and small alike.[3] It is an exploration and development incentive, which allows the immediate tax write-off of what economically are capital costs, that is, the costs of creating a capital asset (the oil and gas well).

Public and congressional outcry over high crude oil and product prices, and the oil and gas industry's record profits, did lead to a paring back of one of EPACT05's tax subsidies: two-year amortization, rather than capitalization, of geological and geophysical (G&G) costs, including those associated with abandoned wells (dry holes). Prior to the EPACT05, G&G costs for dry holes were expensed in the first year and for successful wells they were capitalized, which is consistent with economic theory and accounting principles. The Tax Increase Prevention and Reconciliation Act, (P.L. 109-222), signed into law May 2006, reduced the value of

[3] As is discussed later in the report, many of the other remaining tax subsidies are only available to independent oil and gas producers, which, however, may be very large.

the subsidy by raising the amortization period from two years to five years, still faster than the capitalization treatment before the 2005 act, but slower than the treatment under that act. The higher amortization period applies only to the major integrated oil companies — independent (unintegrated) oil companies may continue to amortize all G&G costs over two years — and it applies to abandoned as well as successful properties. This change increased taxes on major integrated oil companies by an estimated $189 million over 10 years, effectively rescinding about 20% of the nearly $1.1 billion 11-year tax for oil and gas production under EPACT05.

The Tax Relief and Health Care Act of 2006 (P.L. 109-432)

At the end of 2006, the 109th Congress enacted a tax extenders package that included extension of numerous renewable energy and excise tax provisions. Many of the renewable energy provision in this bill had already been extended under the Energy Policy Act of 2005 and were not set to expire until the end of 2007 or later. The Tax Relief and Health Care Act of 2006 provided for one-year extensions of these provisions.

Current Posture of Energy Tax Policy

The above background discussion of energy tax policy may be conveniently summarized in **Table 2**, which shows current energy tax provisions — both special (or targeted) energy tax subsidies and targeted energy taxes — and related revenue effects. A minus sign ("-") indicates revenue losses, which means that the provision is a tax subsidy or incentive, intended to increase the subsidized activity (energy conservation measures or the supply of some alternative and renewable fuel or technology); no minus sign means that the provision is a tax, which means that it should reduce supply of, or demand for, the taxed activity (either conventional fuel supply, energy demand, or the demand for energy-using technologies, such as cars).

Note that the table defines those special or targeted tax subsidies or incentives as those that are due to provisions in the tax law that apply only to that particular industry and not to others. Thus, for example, in the case of the oil and gas industry, the table excludes tax subsidies and incentives of current law that may apply generally to all businesses but that may also confer tax benefits to it. There are numerous such provisions in the tax code; a complete listing of them is beyond the scope of this report. However, the following example illustrates the point: The current system of depreciation allows the writeoff of equipment and structures somewhat faster than would be the case under both general accounting principles and economic theory; the Joint Committee on Taxation treats the excess of depreciation deductions over the alternative depreciation system as a tax subsidy (or "tax expenditure"). In FY2006, the JCT estimates that the aggregate revenue loss from this accelerated depreciation deduction (including the expensing under IRC §179) is $6.7 billion. A certain, but unknown, fraction of this revenue loss or tax benefits accrues to the domestic oil and gas industry, but separate estimates are unavailable. This point applies to all the industries reflected in **Table 2**.

Energy Tax Policy in the 110th Congress

Continued high crude oil and petroleum product prices and oil and gas industry profits, and the political realignment of the Congress resulting from the 2006 Congressional elections continued the energy policy shift toward increased taxes on the oil and gas industry, and the emphasis on energy conservation and alternative and renewable fuels rather than conventional hydrocarbons.[4] In the 110th Congress, the shift became reflected in proposals to reduce oil and gas production incentives or subsidies, which were initially incorporated into, but ultimately dropped from comprehensive energy policy legislation. In the debate over these two comprehensive energy bills, raising taxes on the oil and gas industry, by either repealing tax incentives enacted under EPACT05, by introducing new taxes on the industry, or by other means was a key objective, motivated by the feeling that additional tax incentives were unnecessary — record crude oil and gasoline prices and industry profits provides sufficient (if not excessive) incentives.

The (Failed) Compromise Bill

In the House, action in 2007 focused on the Speaker's announced "Energy Independence Day" initiative (H.R. 3221), which combined bills approved by several House committees, including the energy tax provisions approved by the Ways and Means Committee H.R. 2776.[5] H.R. 2776 provided $16 billion in tax incentives, including a four-year extension in renewable energy tax credits under IRC § 45(d) for facilities placed in service after December 31, 2008. It also would have added a tax credit for businesses constructing facilities to produce energy from waves, tides, and other marine sources. The bill would largely have been paid for by rescinding the IRC §199 manufacturing tax deduction for oil and gas producers and by streamlining the tax treatment of foreign oil-related income so it is treated the same as foreign oil and gas extraction income. The House passed H.R. 2776 August 4, by a vote of 221-189. Upon passage, the tax provisions were folded into H.R. 3221.

On the Senate side, the Senate Finance Committee's (SFC) on June 19, 2007, approved a package of tax provisions to be added to the comprehensive energy bill (H.R. 6) by a vote of 15-5. The energy tax bill (the Energy Advancement and Investment Act) proposed a $32.2 billion tax cut for alternative fuels and energy conservation, more than double the size of the W/M bill, to be offset by $32.2 billion of tax increases primarily on the domestic oil and gas industry, but including $4 billion of taxes from disallowing losses on abusive SILO (sale-in, lease out) transactions, and by several other relatively minor tax increases. The proposed tax increases on the domestic oil and gas industry total nearly $27 billion over ten years and account for about 83% of the proposed tax increases. The Senate failed June 21, 2007, to limit debate on the tax title when it was pending as an amendment to the

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[4] There is an important economic distinction between a subsidy and a tax benefit. As is discussed elsewhere in this report, firms receive a variety of tax benefits that are not necessarily targeted subsidies (or tax expenditures) because they are available generally.

[5] Note: on April 10, 2008 the Senate substituted, and approved, its housing/mortgage relief amendment as H.R. 3221. (See below for more detail).

legislation. The Senate passed H.R. 6 without the tax title on June 21 by a vote of 65-27.

In early December 2007, it appeared that the conferees had reached agreement on a comprehensive energy bill, the Energy Independence and Security Act, and particularly on the controversial energy tax provisions. The compromise on the energy tax title proposed to raise taxes by about $21 billion to fund extensions and liberalization of existing energy tax incentives. The Senate December 13 stripped the controversial tax title from its version of the comprehensive energy bill (H.R. 6) and then succeeded in passing the bill, 86-8, leading to the President's signing of the Energy Independence and Security Act of 2007 (P.L. 110-140), on December 19, 2007. The only tax-related provisions that survived were (1) an extension of the Federal Unemployment Tax Act surtax for one year, raising about $1.5 billion, (2) higher penalties for failure to file partnership returns, increasing revenues by $655 million, and (3) an extension of the amortization period for geological and geophysical expenditures to seven years from five years, raising $103 million in revenues. The latter provision was the only tax increase on the oil and gas industry that survived. Those three provisions would offset the $2.1 billion in lost excise tax revenues going into the federal Highway Trust Fund as a result of the implementation of the revised Corporate Average Fuel Economy standards. The decision to strip the much larger $21 billion tax title stemmed from a White House veto threat and the Senate's inability to get the votes required to end debate on the bill earlier in the day. Senate Majority Leader Harry Reid's (D-Nev.) effort to invoke cloture fell short by one vote, in a 59-40 tally.

The 2008 Economic Stimulus Bill

On February 7 the House and Senate approved a $152 billion bill (H.R. 5140) to stimulate the economy by cutting taxes and increasing spending. The version approved by the SFC on January 30 was a $157 billion economic stimulus package that was similar to the House-passed bill, but which also included $5.6 billion in energy tax incentives, primarily an extension of many of the energy tax provisions for renewable energy and energy efficiency that were dropped from the comprehensive energy bill, the Energy Independence and Security Act of 2007 (P.L. 110-140). Senate Democrats sought this more comprehensive stimulus package that also included an extension of unemployment insurance benefits, and an increase in funding for the low-income home energy assistance program (LIHEAP). However, a cloture vote to limit debate and move this broader bill forward fell one vote short of the 60 votes needed. The Bush administration also voiced its opposition to the Senate's inclusion of the unemployment insurance extension. Thus, the approved H.R. 5140, which President Bush is expected to sign, did not include extension of energy tax provisions that either have expired or will expire in 2008.

Energy Tax Proposals Under Congressional Consideration

Frustrated with the lack of action on energy tax subsidies over the past year, on February 27, 2008, House Democrats introduced another bill (H.R. 5351) that contained $18.1 billion in renewable energy and energy efficiency incentives, with many provisions the same as in prior bills, including increased taxes on the major oil

and gas companies. H.R. 5351, the Renewable Energy and Energy Conservation Tax Act of 2008, is a package of energy tax incentives aimed at encouraging the production and use of alternative fuels and renewable forms of energy and for energy conservation. It is a slightly smaller version of the energy tax title that was dropped from H.R. 3221 in December 2007, but slightly larger than the $16 billion bill approved by the W/MC in 2007 (H.R. 2776). The tax cuts would be financed largely by repealing the IRC §199 manufacturing tax deduction for major oil and gas producers, and freezing the deduction for all other oil and gas producers at the current rate of 6%.[6] Additional revenue would come from a provision to streamline the tax treatment of foreign oil-related income so it is treated the same as foreign oil and gas extraction income. In response, the administration threatened to also veto this bill, in part because of its increased taxes on the oil and gas industry. House Speaker Pelosi and other Democrats sent Bush a letter February 28, 2008, urging him to reconsider his opposition to the Democratic renewable energy plan, arguing that their energy tax plan would "correct an imbalance in the tax code."

In the Senate, action appeared at one point to be focused on S. 2642; some also speculated that energy tax legislation in the Senate could be part of a $35 billion budget reconciliation effort, which would allow the tax package to pass with only a simple majority of senators, rather than the typical 60 votes needed to avoid filibuster. (Even if the Senate clears the measure, however, President Bush has threatened to veto it.) At this writing, however, Senate action appears to be focused on the Clean Energy Tax Stimulus Act of 2008 (S. 2821), a $6 billion tax bill introduced by Senators Cantwell and Ensign on April 3. On April 10, this bill was added as amendment (S.Amdt. 4419) to H.R. 3221, which in the Senate became the housing/mortgage relief bill.[7] H.R. 3221, as amended, was approved by the Senate on April 10. S. 2821 is one-third the size of H.R. 5361 and has no offsets.

At this writing, Congressional action on energy tax proposals is being taken along two fronts: First, there is the broad and relatively significant expansion and liberalizations of energy tax subsidies for alternative energy and energy efficiency as

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[6] First enacted in 2004, this provision allows a deduction, as a business expense, for a specified percentage of the qualified production activity's income subject to a limit of 50% of the wages paid that are allocable to the domestic production during the taxable year. The deduction was 3% of income for 2006, is currently 6%, and is scheduled to increase to 9% when fully phased in by 2010. For the domestic oil and gas industry, the deduction applies to oil and gas or any primary product thereof, provided that such product was "manufactured, produced, or extracted in whole or in significant part in the United States." Note that extraction is considered to be manufacturing for purposes of this deduction, which means that domestic firms in the business of extracting oil and gas qualify for the deduction. This deduction was enacted under the American Jobs Creation Act of 2004 (P.L. 108-357, also known as the "JOBS" bill).

[7] S.Amdt. 4419, i.e., S. 2821, was added to S.Amdt. 4387, which was itself a substitute to H.R. 3221. As discussed in the text of this report, in the House, H.R. 3221 was originally the House's comprehensive energy policy act, which incorporated the energy tax provisions of H.R. 2776. In December 2007, H.R. 3221 failed but was replaced by H.R. 6 which was enacted without energy tax provisions as P.L. 110-140. In the House, the housing/mortgage relief bill is H.R. 5720, which was approved by the House Ways and Means committee on April 9, 2008.

embodied in H.R. 6049. This bill, which was approved by the House on May 21, 2008, combines many of the energy tax incentives in prior bills with bills to extend expiring tax provisions, including expired or about to expire energy tax incentives. Second, several relatively small energy tax provisions (both new provisions, and expansions of existing provisions) are in the farm bill, which is currently in conference. These focus mostly on energy from biomass and agricultural products, such as biogas and ethanol.

H.R. 6049. H.R. 6049, The Energy and Tax Extenders Act of 2008, is a $54 billion bill that would extend more than three dozen tax provisions, including nearly a dozen energy tax incentives, at a cost of nearly $17 billion in lost federal tax revenue over 10 years. It also contains $10 billion to cover the expansion of the refundable child tax credit, a new standard for deduction of property taxes, and alternative minimum tax relief and an extension of already expired provisions, such as the research and development tax credit. It does not include tax increases on the oil and gas industry.

The House approved version of H.R. 6049 is a scaled-back version of the bill approved on May 15 by the House Ways and Means Committee. The five provisions removed from the bill were the creation of a cellulosic biofuels tax credit, a reduction in the ethanol credit, a change in the determination of the ethanol credit, a one-year extension of a provision to encourage contributions of property interests made for conservation purposes, and a comprehensive study of biofuels. These energy tax provisions were stripped from the bill because they are included in the farm bill, which is discussed in the next section. A Senate bill (S. 2886) addressing expired and expiring tax extenders differs from H.R. 6049 in two major ways: it would extend the energy tax incentives for a shorter period; it does not include the expansion and liberalization of energy tax subsidies. Also, the Senate bill would patch the AMT for one year, whereas the House bill is silent on this issue; and it does not contain offsets.

The energy tax provisions of H.R. 6049, as approved by the House, are:

- **Long-term Extension and Modification of §45 Renewable Energy Production Tax Credit**. The bill extends the placed-in-service date for wind facilities for one year (through December 31, 2009). The bill would also extend the placed-in-service date for three years (through December 31, 2011) for certain other qualifying facilities: closed-loop biomass; open-loop biomass; geothermal; small irrigation; hydropower; landfill gas; and trash combustion facilities. The bill also includes a new category of qualifying facilities that will benefit from the longer December 31, 2011 placed-in-service date — facilities that generate electricity from marine renewables (e.g., waves and tides). The bill would cap the aggregate amount of tax credits that can be earned for these qualifying facilities placed in service after December 31, 2009, to an amount that has a present value equal to 35% of the facility's cost. The bill clarifies the availability of the production tax credit with respect to certain sales of electricity to regulated public utilities and updates the definition of an open-loop biomass facility, the definition of a trash combustion facility, and the definition of a

nonhydroelectric dam. This proposal is estimated to cost $7.046 billion over ten years;

- **Long-Term Extension and Modification of the Business Tax Credit for Solar, Fuel Cell, Geothermal and Microturbine Investments.** The bill extends the 30% investment tax credit for solar energy property and qualified fuel cell property and the 10% investment tax credit for microturbines for six years (through the end of 2014). It also increases the $500 per half kilowatt of capacity cap for qualified fuel cells to $1,500 per half kilowatt of capacity. The bill removes an existing limitation that prevents public utilities from claiming the investment tax credit. The bill would also provide a new 10% investment tax credit for combined heat and power systems. The bill also allows these credits to be used to offset alternative minimum tax (AMT). This proposal is estimated to cost $1.376 billion over 10 years;

- **Long-term Extension and Modification of the Residential Solar Property Credit (IRC§25D)**. The bill would extend the credit for residential solar property for six years (through the end of 2014). The bill would also increase the annual credit cap (currently capped at $2,000) to $4,000. The bill would include residential small wind equipment and geothermal heat pumps as property qualifying for this credit. The bill also allows the credit to be used to offset alternative minimum tax (AMT). This proposal is estimated to cost approximately $666 million over ten years;

- **Sales of Electric Transmission Property**. The bill extends the present-law deferral of capital gain on sales of transmission property by vertically integrated electric utilities to FERC-approved independent transmission companies. Rather than recognizing the full amount of gain in the year of sale, this provision allows gain on such sales to be recognized ratably over an eight-year period. The rule applies to sales before January 1, 2010. This proposal is revenue neutral over 10 years;

- **New Clean Renewable Energy Bonds ("CREBs")**. The bill authorizes $2 billion of new clean renewable energy bonds to finance facilities that generate electricity from the following resources: wind; closed-loop biomass; open-loop biomass; geothermal; small irrigation; hydropower; landfill gas; marine renewable; and trash combustion facilities. This $2 billion authorization will be subdivided into thirds: 1/3 will be available for qualifying projects of State/local/tribal governments; 1/3 for qualifying projects of public power providers; and 1/3 for qualifying projects of electric cooperatives. This proposal is estimated to cost $548 million over 10 years;

- **Carbon Mitigation (Capture and Sequestration) Provisions.** The bill would provide $1.5 billion of tax credits for the creation of

advanced coal electricity projects and certain coal gasification projects that demonstrate the greatest potential for carbon capture and sequestration (CCS) technology. Of these $1.5 billion of incentives, $1.25 billion would be awarded to advanced coal electricity projects and $250 million would be awarded to certain coal gasification projects. These tax credits would be awarded by Treasury through an application process, with the applicants that demonstrate the greatest carbon capture and sequestration percentage of total CO_2 emissions receiving the highest priority. Applications will not be considered unless applicants can demonstrate that either their advanced coal electricity project would capture and sequester at least 65% of the facility's carbon dioxide emissions or that their coal gasification project would capture and sequester at least 75% of the facility's carbon dioxide emissions. Once these credits are awarded, recipients that fail to meet these minimum levels of carbon capture and sequestration would forfeit these tax credits. This proposal is estimated to cost $1.422 billion over 10 years;

- **Carbon Audit of the Tax Code.** The bill directs the Secretary of the Treasury to request that the National Academy of Sciences undertake a comprehensive review of the tax code to identify the types of specific tax provisions that have the largest effects on carbon and other greenhouse gas emissions and to estimate the magnitude of those effects. This proposal has no revenue effect;

- **Expansion of Allowance for Property to Produce Cellulosic Alcohol.** Under current law, taxpayers are allowed to immediately write off 50% of the cost of facilities that produce cellulosic ethanol if such facilities are placed in service before January 1, 2013. Consistent with other provisions in the bill that seek to be technology neutral, the bill would allow this write off to be available for the production of other cellulosic biofuels in addition to cellulosic ethanol. This proposal is estimated to be revenue neutral over 10 years;

- **Extension of Biodiesel Production Tax Credit, and Extension and Modification of Renewable Diesel Tax Credit.** The bill extends for one year (through December 31, 2009) the $1.00 per gallon production tax credits for biodiesel and the small biodiesel producer credit of 10 cents per gallon. The bill also extends for one year (through December 31, 2009) the $1.00 per gallon production tax credit for diesel fuel created from biomass. The bill eliminates the current-law disparity in credit for biodiesel and agri-biodiesel and eliminates the requirement that renewable diesel fuel must be produced using a thermal depolymerization process. As a result, the credit will be available for any diesel fuel created from biomass without regard to the process used so long as the fuel is usable as home heating oil, as a fuel in vehicles, or as aviation jet fuel. The bill also clarifies that the $1 per gallon production credit for renewable diesel is limited to diesel fuel that is produced solely from

biomass. Diesel fuel that is created by co-processing biomass with other feedstocks (e.g., petroleum) will be eligible for the 50 cent per gallon tax credit for alternative fuels. This proposal is estimated to cost $456 million over 10 years;

- **Plug-in Hybrid/Electric Drive Vehicle Credit.** The bill establishes a new credit for each qualified plug-in electric drive vehicle placed in service during each taxable year by a taxpayer. The base amount of the credit is $3,000. If the qualified vehicle draws propulsion from a battery with at least 5 kilowatt hours of capacity, the credit amount is increased by $200, plus another $200 for each kilowatt hour of battery capacity in excess of 5 kilowatt hours up to 15 kilowatt hours. Taxpayers may claim the full amount of the allowable credit up to the end of the first calendar quarter after the quarter in which the manufacturer records 60,000 sales. The credit is reduced in following calendar quarters. The credit is available against the alternative minimum tax (AMT). This proposal is estimated to cost $1.056 billion over 10 years;

- **Incentives for Idling Reduction Units and Advanced Insulation for Heavy Trucks.** The bill provides an exemption from the heavy vehicle excise tax for the cost of idling reduction units, such as auxiliary power units (APUs), which are designed to eliminate the need for truck engine idling (e.g., to provide heating, air conditioning, or electricity) at vehicle rest stops or other temporary parking locations. The bill would also exempt the installation of advanced insulation, which can reduce the need for energy consumption by transportation vehicles carrying refrigerated cargo. Both of these exemptions are intended to reduce carbon emissions in the transportation sector. This proposal is estimated to cost $96 million over 10 years;

- **Fringe Benefit for Bicycle Commuters.** The bill allows employers to provide employees that commute to work using a bicycle limited fringe benefits to offset the costs of such commuting (e.g., bicycle storage). This proposal is estimated to cost $10 million over 10 years;

- **Extension and Increase of Alternative Refueling Stations Tax Credit.** The bill increases the 30% alternative refueling property credit (capped at $30,000) to 50% (capped at $50,000). The credit provides a tax credit to businesses (e.g., gas stations) that install alternative fuel pumps, such as fuel pumps that dispense E85 fuel. The bill also extends this credit through the end of 2010. This proposal is estimated to cost $156 million over ten years;

- **Qualified Energy Conservation Bonds.** The bill creates a new category of tax credit bonds to finance State and local government programs and initiatives designed to reduce greenhouse gas emissions. There is a national limitation of $3 billion which is

allocated to States, municipalities, and tribal governments. This proposal is estimated to cost $1.027 billion over 10 years;

- **Extension and Modification of Credit for Energy-Efficiency Improvements to Existing Homes (IRC§25C)**. The bill extends the tax credits for energy-efficient existing homes for one year (through December 31, 2008) and includes energy-efficient biomass fuel stoves as a new class of energy-efficient property eligible for a consumer tax credit of $300. This proposal is estimated to cost $1.061 billion over 10 years;

- **Extension of Energy-Efficient Commercial Buildings Deduction**. The bill extends the energy-efficient commercial buildings deduction for five years (through December 31, 2013). This proposal is estimated to cost $891 million over 10 years;

- **Modification and Extension of Energy-Efficient Appliance Credit**. The bill would modify the existing energy-efficient appliance credit and extend this credit for three years (through the end of 2010). This proposal is estimated to cost $323 million over 10 years;

- **Accelerated Depreciation for Smart Meters and Smart Grid Systems.** The bill would provide accelerated depreciation for smart electric meters and smart electric grid systems. Under current law, taxpayers are generally able to recover the cost of this property over the course of 20 years. The bill would cut the cost recovery time in half by allowing taxpayers to recover the cost of this property over a 10-year period. This proposal is estimated to cost $921 million over 10 years;

- **Extension and Modification of Qualified Green Building and Sustainable Design Project Bond**. The bill would extend the authority to issue qualified green building and sustainable design project bonds through the end of 2012. Authority to issues these bonds is currently set to expire on September 30, 2009. The bill would also clarify the application of the reserve account rules to multiple bond issuances. This proposal is estimated to cost $45 million over 10 years;

- **Refund of Certain Coal Excise Taxes Unconstitutionally Collected from Exporters.** The Courts have determined that the Export Clause of the U.S. Constitution prevents the imposition of the coal excise tax on exported coal and, therefore, taxes collected on such exported coal are subject to a claim for refund. The bill would create a new procedure under which certain coal producers and exporters may claim a refund of these excise taxes that were imposed on coal exported from the United States. Under this procedure, coal producers or exporters that exported coal during the

period beginning on or after October 1, 1990, and ending on or before the date of enactment of the bill, may obtain a refund (plus interest) from the Treasury of excise taxes paid on such exported coal and any interest accrued from the date of overpayment. This proposal is estimated to cost $199 million over 10 years;

- **Solvency for the Black Lung Disability Trust Fund**. The bill would enact the President's proposal to bring the Black Lung Disability Trust Fund out of debt. Under current law, an excise tax is imposed on coal at a rate of $1.10 per ton for coal from underground mines and $0.55 per ton for coal from surface mines (aggregate tax per ton capped at 4.4% of the amount sold by the producer). Receipts from this tax are deposited in the Black Lung Disability Trust Fund, which is used to pay compensation, medical and survivor benefits to eligible miners and their survivors and to cover costs of program administration. The Trust Fund is permitted to borrow from the general fund any amounts necessary to make authorized expenditures if excise tax receipts do not provide sufficient funding. Reduced rates of excise tax apply after the earlier of December 31, 2013, or the date on which the Black Lung Disability Trust Fund has repaid, with interest, all amounts borrowed from the general fund of the Treasury. The President's Budget proposes that the current excise tax rate should continue to apply beyond 2013 until all amounts borrowed from the general fund of the Treasury have been repaid with interest. After repayment, the reduced excise tax rates of $0.50 per ton for coal from underground mines and $0.25 per ton for coal from surface mines would apply (aggregate tax per ton capped at 2% of the amount sold by the producer). The bill would enact the President's proposal. This proposal is estimated to raise $1.287 billion over 10 years.

Energy Tax Incentives in the Farm Bill. It should also be mentioned that there are several, relatively small, energy tax provisions in the farm bill (H.R. 2419), which has just been approved by the conference committee.[8] The Conference Report includes the following energy tax provisions, all intended to promote alternative and renewable fuels from agricultural resources:

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[8] The Conference Report also contains numerous non-tax provisions to promote alternative and renewable fuels from crops. The Conference Report provides $320 million in mandatory funding for loan guarantees for commercial scale biorefineries for advanced biofuels. It also provides $250 million in mandatory funding to provide grants and loan guarantees for renewable energy and energy efficiency systems for farmers, ranchers, and rural small businesses. The Conference Report also provides $35 million in mandatory funding for grants to support repowering of existing biorefineries with biomass energy systems. Included in the energy title is $300 million in mandatory funding for the Bioenergy Program to provide payments to support the production of advanced biofuels, including biodiesel and cellulosic biofuels. The Conference Report continues the Biomass Research and Development program and provides $118 million in mandatory funding. Competitive grants to educate the public about effective biodiesel use and the benefits of biodiesel are continued with funding of $1 million per year

- **Cellulosic Biofuels Credit.** Cellulosic biofuels can be produced from agricultural waste, wood chips, switch grass, and other non-food feedstocks. The bill includes a new, temporary cellulosic biofuels production tax credit for up to $1.01 per gallon, available through December 31, 2012. This provision is estimated to cost $348 million over five years and $403 million over ten years;

- **Comprehensive Biofuels Study.** The bill directs the Secretary of the Treasury, in consultation with the Secretary of Agriculture, the Secretary of Energy, and the Administrator of the Environmental Protection Agency, to request that the National Academy of Sciences produce an analysis of current scientific findings relating to the future production of biofuels and the domestic effects of an increase in the production of biofuels. This provision is estimated to have no revenue effect;

- **Modification of the Incentives Relating to Alcohol Fuels (Volumetric Ethanol Excise Tax Credit)**. The bill reduces the 51¢ per-gallon incentive for ethanol to 45¢ per gallon for calendar year 2009 and thereafter. If Treasury makes a determination — in consultation with EPA — that 7.5 billion gallons of ethanol (including cellulosic ethanol) were not produced in or imported into the United States in 2008, the reduction in the credit amount will be delayed. If a determination is made that the threshold was not reached in 2008, the reduction for 2010 also will be delayed if the Secretary determines 7.5 billion gallons were not produced or imported in 2009. In the absence of a determination, the reduction remains in effect. In the event the determination is made subsequent to the start of a calendar year, those persons claiming the reduced amount prior to the Secretary's determination will be entitled to the difference between the correct credit amount for that year and the credit amount claimed, e.g. between 51¢ per gallon and 45¢ per gallon. This provision is estimated to raise $1.203 billion over five years and $1.203 billion over ten years;

- **Calculations of Volume of Alcohol for Fuel Credits.** The Internal Revenue Code provides a per-gallon credit for the volume of alcohol used as a fuel or in a qualified mixture. For purposes of determining the number of gallons of alcohol with respect to which the credit is allowable, the volume of alcohol includes any denaturant, including gasoline. The denaturant must be added under a formula approved by the Secretary, and the denaturant cannot exceed 5% of the volume of such alcohol (including denaturants). This provision reduces the amount of allowable denaturants to 2% of the volume of the alcohol as regulated by the Alcohol and Tobacco Tax and Trade Bureau. This provision is estimated to raise $124 million over five years and $124 million over ten years;

- **Extension of Tariff on Ethanol**. The bill extends the tariff on imported ethanol for two years (through December 31, 2010). This provision is effective on the date of enactment. This provision is estimated to raise $70 million over five years and $70 million over ten years;

- **Duty Drawback on Imported Ethanol.** This provision clarifies the eligibility for a drawback for jet fuel products. A drawback is a rebate on duties, fees, or taxes paid on imported goods when a U.S. business subsequently exports a "commercially interchangeable" good. Current law permits drawback claims for exported jet fuel on the basis of ethanol imports, even though such jet fuel exports are not blended with the ethanol imports. The Conference Report discontinues this practice for ethanol imports beginning on October 1, 2008, allowing for a phase-out of the current practice. Drawback claims for such imports must be filed by October 1, 2010. This provision is estimated to raise $12 million over five years and $17 million over ten years.

The farm bill was vetoed by President Bush, but the House has overridden his veto and the Senate is expected to do so.

Likely Effects on Oil and Gas Prices and Oil Import Dependence

Many of the bills to significantly expand and liberalize energy conservation tax subsidies relied on revenue offsets that primarily increased taxes on the domestic oil and gas industry. This is particularly true of the §199 deduction, as explained below. In general, for reasons explained more fully below, none of the oil and gas tax increase provisions proposed in the bills mentioned above are expected to have significant price effects, either on crude oil or natural gas prices, or refined petroleum product prices, such as pump prices. The market price of crude oil and natural gas, or even of refined petroleum products, such as gasoline, would not be expected to increase very much, if at all. In general, also, the income tax increases are not expected to have real output effects in the short run, although they will cause resources to flow to other industries in the long run as long as these other industries are allowed the manufacturing deduction, which is equivalent to a lower marginal tax rate.

Neutrality of the Corporate Income Tax. Two of the provisions in both the W&MC and SFC energy tax bills constitute increases in the corporate income tax and would raise a substantial fraction of the revenues from increased taxation of the oil and gas industry. The larger of the two would rescind an income tax cut enacted nearly three years ago; the second would raise U.S. tax on foreign-source oil and gas income by limiting the foreign tax credit.

One of the biggest revenue raisers in both bills is the provision that cuts back the §199 manufacturing deduction to domestic oil and gas producers. First enacted in 2004, this provision in IRC §199 allows a deduction, as a business expense, for a

specified percentage of the qualified production activity's income subject to a limit of 50% of the wages paid that are allocable to the domestic production during the taxable year. The deduction was 3% of income for 2006, is currently 6%, and is scheduled to increase to 9% when fully phased in by 2010. For the domestic oil and gas industry, the deduction applies to oil and gas or any primary product thereof, provided that such product was "manufactured, produced, or extracted in whole or in significant part in the United States." Note that extraction is considered to be manufacturing for purposes of this deduction, which means that domestic firms in the business of extracting oil and gas from underground reservoirs or deposits qualify for the deduction. This deduction was enacted under the American Jobs Creation Act of 2004 (P.L. 108-357, also known as the "JOBS" bill). It was originally a substitute for repeal of the export tax benefits under the extra-territorial income tax exclusion, which was ruled to be in violation of trade laws.[9]

To understand why repealing this deduction, whether for oil and gas or any other industry, would not likely have price effects, note that the deduction is effectively equivalent to a reduction in the marginal income tax rate. For example, at the marginal corporate tax rate of 35%, which typically applies to large corporations such as oil and gas producers and refiners, the current deduction of 6% is equivalent to a marginal corporate income tax rate of 32.9% (35% x 0.94) rather than 35%.[10] The proposed elimination of this deduction is, thus, equivalent to an increase in the marginal tax rate from 32.9% to 35% for those major oil companies to which this would apply. All other large corporations would continue to face a top marginal tax rate of 32.9%, with the exception of non-manufacturing enterprises (services, for example), which do not qualify for the §199 deduction.

From an economic perspective, that is to say, in theory, increasing marginal tax rates on corporate income would be relatively neutral in the short run — it would have no (or few) price effects and other economic effects. The reason for this is that a firm maximizes profit at the point at which market prices are equal to marginal production costs, and neither are affected by an increase in marginal tax rates — the profit maximizing level of output and price are unaffected by the tax. Thus, while eliminating the deduction — that is to say, raising the corporate tax rate — would increase total (or average) business costs and therefore reduce profitability among the major oil and gas producers, as long as marginal production costs are unaffected, there would be no price effects *in the short run*. Note also that while the current corporate income tax is not a pure corporate profits (or cash-flow) tax, a surtax for oil companies would arguably be an administratively simple and economically effective way to capture any oil windfalls in the short run.

In the long run, however, all taxes distort resource allocation, and even a corporate profit tax (either of the pure type or the surtax on the existing rates) would reduce the rate of return and reduce the flow of capital into the industry. In the long

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[9] CRS Report RL32652, *The 2004 Corporate Tax and FSC/ETI Bill: The American Jobs Creation Act of 2004*, by David L. Brumbaugh.

[10] Corporations are currently taxed at 15% of the first $50,000 of taxable income, 25% of the taxable income from $50,001 to $75,000, 34% of the taxable income from $75,001 to $10 million, and 35% of taxable income above $10 million.

run, eliminating the deduction for the domestic oil and gas industry will raise average production costs, adversely affecting the economics of domestic oil and gas projects as compared to domestic non-oil and gas projects. Generally, rates of return to investments in oil and gas would decline, causing a decline in capital flows to this industry, and an increase in capital flowing to other industries, including foreign industries. This would tend to adversely affect domestic production and increase imports: Domestic oil and gas output would be lower, and imports would be higher than they otherwise would be without the tax increase. However, because of the structure of the world oil market, market oil prices are exogenous to U.S. producers (and gas prices tend to follow market oil prices), even these longer term effects are not likely to affect oil and gas prices. Also, the retail price of refined petroleum products, such as gasoline, to consumers is determined by a complex interplay of world supply and demand market variables rather than a domestic corporate tax increase.

Even in the long run, however, it is important to keep the proposed tax increase in perspective. According to the JCT, repealing the §199 deduction for all oil and gas producers would increase revenues, i.e., the industry tax burden, by over $300 million in FY2008, with an average annual increase of $1.1 billion from FY2008-FY2017. By virtually any standard of comparison these increases are small. For example, the Energy Information Administration estimates that the industry earned over $123 billion in profits in 2006.[11] A proposed tax increase of $300 million is negligible in relation to this profit level. Even the estimated $1.1 billion average annual tax increase represents only 1.4% of the industry's average profit from 2001 to 2006.

Of course business profits are highly variable in the long run, and a reduction in petroleum prices would commensurately reduce industry profits — it could also result in losses — which implies that the relative burden of §199 repeal might grow. But also keep in mind that EPACT05 reduced taxes on the industry by an average of about $250 million per year (see **Table 1**), and that the industry benefits from numerous tax subsidies (see **Table 2**).

As to the proposed restrictions to the foreign tax credits, this proposal would also be effectively an increase in the corporate income tax on domestic oil and gas producers operating abroad. Again, owing to the structure of the world oil market and how crude prices are determined in this market, there are likely to be few price effects either in the short or long run. However, raising domestic income taxes by restricting the industry's ability to claim credits against the income taxes imposed by foreign countries might negatively affect the competitiveness of the domestic U.S. oil producers operating abroad and competing with foreign firms that would not have such restrictions.

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[11] Energy Information Administration. *Oil and Natural Gas Market Supply and Renewable Portfolio Standard Impacts of Selected Provisions of H.R. 3221*. December 2007.

For Additional Reading

U.S. Congress, Senate Budget Committee, *Tax Expenditures: Compendium of Background Material on Individual Provision*, Committee Print, December 2006, 109th Cong., 2nd sess.

U.S. Congress, Joint Tax Committee, *"Description of the Tax Provisions in H.R. 2776, The Renewable Energy and Energy Conservation Tax Act of 2007,"* June 19, 2007 (JCX-35-07).

U.S. Congress, Joint Tax Committee, *"Description of the Chairman's Modification to the Provisions of the Energy Advancement and Investment Act of 2007,"* June 19, 2007 (JCX-33-07).

U.S. Congress, Joint Tax Committee, *Description And Technical Explanation of the Conference Agreement of H.R. 6, Title XIII, "Energy Tax Policy Tax Incentives Act of 2005,"* July 27, 2005.

CRS Report RS21935, *The Black Lung Excise Tax on Coal*, by Salvatore Lazzari.

CRS Report RL33302, *Energy Policy Act of 2005: Summary and Analysis of Enacted Provisions*, by Mark Holt and Carol Glover.

CRS Report RL30406, *Energy Tax Policy: An Economic Analysis*, by Salvatore Lazzari.

CRS Report RS22344, *The Gulf Opportunity Zone Act of 2005*, by Erika Lunder.

CRS Report RL33763, *Oil and Gas Tax Subsidies: Current Status and Analysis*, by Salvatore Lazzari.

CRS Report RS22558, *Tax Credits for Hybrid Vehicles*, by Salvatore Lazzari.

CRS Report RS22322, *Taxes and Fiscal Year 2006 Reconciliation: A Brief Summary*, by David L. Brumbaugh.

Table 1. Comparison of Energy Tax Provisions the House, Senate, and Enacted Versions of H.R. 6 (P.L. 109-58): 11-Year Estimated Revenue Loss by Type of Incentive

(in millions of dollars; percentage of total revenue losses)

	House H.R. 6		Senate H.R. 6		P.L. 109-58	
	$	%	$	%	$	%
INCENTIVES FOR FOSSIL FUELS SUPPLY						
(1) Oil & Gas Production	-1,525	18.9%	-1,416	7.6%	-1,132	7.8%
(2) Oil & Gas Refining and Distribution	-1,663	20.6%	-1,399	7.5%	-1,501	10.4%
(3) Coal	-1,490	18.4%	-3,003	16.2%	-2,948	20.3%
(4) Subtotal	-4,678	57.8%	-5,818	31.3%	-5,581	38.6%
ELECTRICITY RESTRUCTURING PROVISIONS						
(5) Nuclear	-1,313	16.2%	-278	1.5%	-1,571	10.9%
(6) Other	-1,529	18.9%	-475	2.6%	-1,549	10.7%
(7) Subtotal	-2,842	35.1%	-753	4.1%	-3,120	21.6%
INCENTIVES FOR EFFICIENCY, RENEWABLES, AND ALTERNATIVE FUELS						
(8) Energy Efficiency	-570	7.0%	-3,987	21.4%	-1,260	8.7%
(9) Renewable Energy & Alternative Fuels	0	0%	-8,031	43.2%	-4,500	31.1%
(10) Subtotal	-570	7.0%	-12,018	64.6%	-5,760	39.8%
(11) Net Energy Tax Cuts	-8,010	100%	-18,589	100%	-14,461	100.0%
(12) Non Energy Tax Cuts[a]	0		-213		-92	
(13) Total Energy and Non-Energy Tax Cuts	0		-18,802		-14,553	
(14) Energy Tax Increases[b]	0		0		+2,857	
(15) Other Tax Increases			+ 4,705		171	
(16) NET TAX CUTS	-8,010		-14,055		-11,525	

Source: CRS estimates based on Joint Tax Committee reports.

a. The conference report includes a provision to expand R&D for all energy activities. This provision is listed as a nonenergy tax cut to simplify the table.

b. Energy tax increases comprise the oil spill liability tax and the Leaking Underground Storage Tank financing rate, both of which are imposed on oil refineries. If these taxes are subtracted from the tax subsidies (row 2), the oil and gas refinery and distribution sector suffered a net tax increase of $1,356 ($2,857-$1501); if the taxes are subtracted from all of the industry's tax subsidies (rows 1 and 2), the industry experienced a net tax increase of $224 million ($2,857-$2,633). Also, the Tax Increase Prevention and Reconciliation Bill of 2006 (P.L. 109-222), enacted on May 17, 2006, increased taxes on the oil industry by about $189 million.

Table 2. Current Energy Tax Incentives and Taxes: Estimated Revenue Effects FY2007

(in millions of dollars)

Category	Provision	Major Limitations	Revenue Effects FY2007
CONVENTIONAL FOSSIL FUELS SUPPLY (bpd = barrels per day; < indicates less than)			
Targeted Tax Subsidies			
% depletion — oil, gas, and coal	15% of sales (higher for marginal wells); 10% for coal	only for independents, up to 1,000 or equiv. bpd	- 1,200
expensing of intangible drilling costs (IDCs) and exploration and development costs — oil/gas and other fuels	IDCs 100% deductible in first year	corporations expense only 70% of IDCs; remaining 30% are amortized over 5 years	- 1,100[a]
amortization of geological and geophysical costs for oil and gas	costs amortized over 2 years for both dry holes and successful wells	major integrated oil companies must amortize such costs (for both abandoned and successful properties) over 5 years	- 100
expensing of refinery investments	deduction of 50% of the cost of qualified refinery property, in the taxable year in which the refinery is placed in service	must increase the capacity of an existing refinery by 5%; remaining 50% is depreciated; must be placed in service before January 1, 2012	- 26
incentives for small refiners to comply with EPA sulfur regulations	$2.10 credit per barrel of low-sulfur diesel, plus expensing of 75% of capital costs	credit limited to 25% of capital costs; expensing phases out for refining capacity of 155,000-205,000 barrels per day.	- < 50

Category	Provision	Major Limitations	Revenue Effects FY2007
Tax Credits for Enhanced Oil Recovery Costs (EOR)	IRC §43 provides for a 15% income tax credit for the costs of recovering domestic oil by qualified "enhanced-oil-recovery" (EOR) methods, to extract oil that is too viscous to be extracted by conventional primary and secondary water-flooding techniques.	The EOR credit is non refundable, and is allowable provided that the average wellhead price of crude oil (using West Texas Intermediate as the reference), in the year before credit is claimed, is below the statutorily established threshold price of $28 (as adjusted for inflation since 1990), in the year the credit is claimed. With average wellhead oil prices for 2005 (about $65) well above the reference price (about $38) the EOR credit was not available.	- 200
Marginal Production Tax Credit	A $3 tax credit is provided per barrel of oil ($0.50 per thousand cubic feet (mcf)) of gas from marginal wells, and for heavy oil.	The credit phases out as oil prices rise from $15 to $18 per barrel (and as gas prices rise from $1.67 to $2.00/thousand cubic feet), adjusted for inflation. The credit is limited to 25 bpd or equivalent amount of gas and to 1,095 barrels per year or equivalent. Credit may be carried back up to 5 years. At 2005 oil and gas prices, the marginal production tax credit was not available.	0
nuclear decommissioning	liberalizes tax deductible contributions to a fund in advance of actual decommissioning	in general, the IRS sets limits on the annual amounts made to a nuclear decommissioning fund	- 600

Category	Provision	Major Limitations	Revenue Effects FY2007
electric utilities	allows net-operating losses (NOLs) to be carried back 5 years, as compared with 2 years for all other industries	only 20% of the NOLs in 2003-2005 qualify	- < 50
disposition of electricity transmission property to implement FERC policy	capital gain recognized evenly over 8 years	proceeds must be reinvested in other electricity generating assets	- < 50
tax credit for advanced nuclear power facilities	1.8¢/kWh tax credit	limited to 6,000 megawatts of aggregate capacity; each taxpayer's credit also has a per kWh or power limitation and an aggregate limitation	- < 50
credit for clean-coal technologies	20% for integrated gasification combined cycle (IGCC) systems; 15% for other advanced coal technologies	each system has maximum aggregate dollar limits	- 100
Targeted Taxes			
black-lung coal excise taxes and abandoned mineland reclamation (AML) fees	$1.25/ton for underground coal ($0.90 for surface coal)	coal tax not to exceed 4.4% of sales price (2.2% for the AML fee)	900
oil spill liability trust fund excise tax	$0.05/barrel tax on every barrel of crude oil refined	moneys are allocated into a fund for cleaning up oil spills	150
ALTERNATIVE, UNCONVENTIONAL, AND RENEWABLE FUELS			
Targeted Tax Subsidies			
§29, production tax credit	$6.40/bar. of oil or ($1.13/mcf of gas)	biogas, coal synfuels, coalbed methane, etc.	- 4,500
credits for fuel ethanol and biodiesel	$0.51 blender's credit plus $0.10/gal small producer credit	for biomass ethanol only (e.g., from corn)	- 3,000
tax credit for clean-fuel refueling property	$30,000 tax credit for alternative fuel equipment	per location, per taxpayer (replaces a deduction)	- < 50

Category	Provision	Major Limitations	Revenue Effects FY2007
§45 credit for renewable electricity	1.8¢/kWh. (0.9¢ in some cases; $4.375/ton of refined coal	wind, closed-loop biomass, poultry waste, solar, geothermal, etc.	- 1,100
alternative fuel motor vehicle (AFV) tax credits	$400-$40,000 credit for each fuel cell, hybrid, lean burn and other AFVs	tax credit is function of vehicle weight, fuel economy, and lifetime fuel savings	- 300
exclusion of interest on state and local bonds	interest income exempt from tax	for hydroelectric or biomass facilities used to produce electricity	- 100
credits for biodiesel	$0.50/gal. of recycled biodiesel; $1.00/gal. for virgin biodiesel	sold at retail or used in a trade or business; applies to oils from vegetables or animal fats	- 122
credit for business solar and geothermal technologies	10% investment tax credit for businesses	utilities excluded	- < 100
tax credit for renewable energy bonds	credit equals the credit rate times by the bond's face amount	proceeds must be used for renewable electricity projects. national limit of $1.2 billion in bonds	- < 50
ENERGY CONSERVATION			
Targeted Subsidies			
mass transit subsidies	exclusion of $105/month		- 192
manufacturer's credit for energy efficient appliances	max credit is $50 for dishwashers, $175 for refrigerators, and $200 for clothes washers	amount of credit depends on energy efficiency, energy savings, and varies by year; total annual credit is also limited	- 100
deduction for the cost of energy efficient property in commercial buildings	tax deduction of cost of envelope components, heating cooling systems, and lighting	total deductions cannot exceed $1.80/sq.ft.	- < 50
credit for energy efficiency improvements to existing homes	10% tax credit ($500/home) on up to $5,000 of costs; $50-$300 credit for other items	max credit on windows is $200	- 300

Category	Provision	Major Limitations	Revenue Effects FY2007
exclusion for utility conservation subsidies	subsidies not taxable as income	any energy conservation measure	- < 50
Targeted Taxes			
fuels taxes (FY2006)	18.4¢/gal. on gasoline	4.4¢-24.4¢ for other fuels	35,000
gas-guzzler tax (FY2006)	$1,000-$7,700/ vehicle weighing 6,000 lbs. or less	trucks and SUVs are exempt	201

Source: Joint Tax Committee estimates and Internal Revenue Service data.

Notes: A negative sign indicates a tax subsidy or incentive; no negative sign indicates an energy tax. NA denotes not available.

a. The revenue loss estimate excludes the benefit of expensing costs of dry tracts and dry holes, which includes expensing some things that would otherwise be capitalized. This is a normal feature of the tax code but confers special benefits on an industry where the cost of finding producing wells includes spending money on a lot that turn out dry. This is probably more important than IDCs or percentage depletion.