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Energy Policy: Setting the Stage for the Current Debate

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CONTENTS

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SUMMARY

The Bush Administration issued its plan for a national energy policy on May 16, 2001. The plan was controversial, characterized by some as leaner on conservation and renewables than Democratic proposals, and predisposed to trade off environmental considerations to increase supply. Comprehensive energy legislation was introduced in the Senate by both parties by late March (S. 388, S. 389, S. 596, S. 597). Bills reported by several House committees (H.R. 2436, H.R. 2460, H.R. 2511, and H.R. 2587) were combined in a single bill, H.R. 4, passed by the House, August 1, 2001. The bill would require a 5 billion gallon reduction in light-duty truck and SUV fuel consumption and would open the Arctic National Wildlife Refuge (ANWR) to leasing.

Debate on comprehensive energy legislation, Amendment No. 2917 to S. 517, began in the Senate in late February. Amendments approved during the first days of the debate included language: [1] designating a southern route for the proposed Alaskan natural gas pipeline; [2] reauthorization of the nuclear liability insurance provisions known as the Price-Anderson Act; [3] authorization of a study of the effect on drinking water of a hydraulic fracturing process used in both natural gas and coal methane production; and [4] adding the text of S. 235, pipeline safety reform legislation, previously approved by the Senate last year. A vote is pending on an amendment to give the Commodity Futures Trading Commission authority to regulate energy derivatives trading.

On March 13, the Senate approved an amendment to allow the National Highway Traffic Safety Administration (NHTSA) to go through the sort of rulemaking process used in the past to set CAFÉ standards. The Senate also approved language to freeze "pickup trucks" – yet to be defined – at the current light truck standard of 20.7 miles per gallon.

On March 14, the Senate rejected a proposal to require that 20% of the nation's electricity generation come from renewable energy sources. Pending is an amendment to eliminate the 10% requirement in the Democratic proposal being debated. A package of amendments eliminated or scaled back language that would have extended Federal Energy Regulatory Commission (FERC) authorities to guarantee reliability of the transmission system. Critics of the language in Amendment No. 2917 argued that the proposed new FERC authorities threatened to usurp state authority. Supporters argued that recent electricity shortages revealed a need for FERC to be able to address interstate transmission problems.

Another major issue yet to be debated is leasing in ANWR. Opponents of opening ANWR have threatened to filibuster. It is possible that ANWR will be resolved in conference and not on the Senate floor.

The crafting of energy policy is complicated by the tradeoffs between equally worthy policy goals – how to provide adequate low-cost supplies of energy without jeopardizing other public values, including health, the environment, and the economy. A review of the periodic shocks that have occurred since the initial oil crisis of 1973 suggests that the last three decades have been characterized by long periods of general price and supply stability, broken by shorter episodes of volatility in energy markets, each with its own story of cause and consequence. Against such a backdrop, it is a challenge to develop a consistent and unified energy policy.

MOST RECENT DEVELOPMENTS

The Senate began debate in late February on Amendment No. 2917, comprehensive energy legislation proposed for insertion into S. 517. Following the release of the Bush Administration energy plan on May 16, 2001, energy legislation reported by several House committees (H.R. 2436, H.R. 2460, H.R. 2511, and H.R. 2587) was combined in a single bill, H.R. 4, passed by the House, August 1, 2001. The bill includes provisions that would require – compared to the Senate bill – a modest reduction in light-duty truck and SUV fuel consumption. The House bill would open the Arctic National Wildlife Refuge (ANWR) to leasing.

Debate on Amendment No. 2917, comprehensive energy policy provisions to be added to S. 517, began in the Senate in late February. On March 13, the Senate approved an amendment to allow the National Highway Traffic Safety Administration (NHTSA) to go through the sort of rulemaking process used in the past to set CAFÉ standards. The Senate also approved language to freeze "pickup trucks" – yet to be defined – at the current light truck standard of 20.7 miles per gallon. Amendment No. 2917 includes language to require that 20% of the nation's electricity generation come from renewable energy sources.
On March 14, the Senate rejected a proposal to increase that requirement. Pending is an amendment to eliminate the 10% requirement in the Democratic proposal being debated. A package of amendments eliminated or scaled back language that would have extended Federal Energy Regulatory Commission (FERC) authorities to guarantee reliability of the transmission system. Critics of the language in Amendment No. 2917 argued that the proposed new FERC authorities threatened to usurp state authority. Supporters argued that recent electricity shortages revealed a need for FERC to be able to address interstate transmission problems.

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BACKGROUND AND ANALYSIS

Energy policy has been a major issue during the first session of the 107th Congress. The challenge to craft an integrated balance of energy policies – to reconcile legitimate but competing policy objectives – is formidable. Addressing that challenge is proving to be one of the major debates in the 107th Congress. It has also been re-focused and diverted by the terrorist attacks upon the nation on September 11, 2001. Fresh and very broad concerns are being raised about national energy security in both the short- and long-term. Economic conditions are also likely to depress energy demand during the coming year, making the supply problem less critical. At the same time, U.S. military actions and the fragile politics among Arab, Muslim, and oil-exporting nations in the Middle East might also present unanticipated complications affecting crude production and supply.

The House passed comprehensive energy legislation (H.R. 4) on August 1, 2001. Markup had begun in the Senate when Congress, and the nation's, attention was diverted by

the terrorist attacks. Comment by the Democratic leadership that new priorities would postpone final action on a comprehensive bill during the session provoked Republican criticism. Senator Inhofe proposed to amend a pending defense authorization by adding provisions from H.R. 4, notably those to authorize opening the Arctic National Wildlife Refuge to leasing. A unanimous cloture vote ruled out amendments to the bill; the apprehension was that amending the defense authorization would likely stall the bill at a time when the nation was preparing for possible military action. A further attempt in early December 2001 to amend energy provisions to railroad retirement legislation (H.R. 10) also failed.

Later on October 9, 2001, Senate Energy Committee Chairman Bingaman announced that committee action would be suspended on all energy legislation and that any decisions on major energy legislation to be considered prior to the end of the session would be vested with the Democratic leadership of the Senate. Bingaman noted potential jurisdictional issues among Senate committees and the prospect that any attempt to rush the legislation through the committee process prior to adjournment would prove divisive. Bingaman was charged with developing comprehensive legislation that the majority leader could schedule prior to adjournment if legislation and economic stimulus packages triggered by the September attacks did not consume the time that remains.

Senator Murkowski was highly critical of Bingaman's announcement, arguing that there were sufficient votes in the committee to include provisions authorizing exploration in the Arctic National Wildlife Refuge (ANWR) in any comprehensive bill that would be reported to the floor. He argued that the Democratic leadership believed it might be more possible to defeat an ANWR amendment on the Senate floor than to expunge an ANWR section from the reported bill. The Republicans continued to criticize the Democrats for not expediting Senate consideration of energy legislation. Though the Democratic leadership promised consideration of energy legislation by mid-February, the Republicans proposed to amend a railroad retirement bill (H.R. 10), scheduled for consideration on December 3 with provisions from House-passed energy legislation, H.R. 4. A motion to invoke cloture on the energy amendment was defeated 94-1, on December 3, 2001. Debate on the Senate legislation began in late February 2002; ill feelings continue to be raised about the sequence of events and delay in bringing legislation to the Senate floor.

Roots of the Current Debate

The renewed focus upon energy policy was initially triggered by a rise in oil prices that began in the late spring of 1999. A crisis in some Asian and other economies in 1998, and the resumption of oil exports from Iraq, brought crude oil prices to levels below $10/bbl in early 1999. In March 1999, OPEC agreed to reduce production. In the past, OPEC has had difficulty adhering to its quotas, but this time there was greater cooperation, at the same time that world economic recovery was shoring up demand. The price of crude oil began to rise sharply in the spring of 1999 to levels that even OPEC had not foreseen.

Mistakenly expecting that oil prices would fall, refiners drew down existing, lower-cost inventories of refined products and crude, postponing replenishment of inventories until prices softened. Problems in the Northeast during the winter of 1999-2000 put fresh pressures on supply systems. Unexpectedly severe weather disrupted waterborne transport of home

heating oil to New England, leading to sharp increases in the price of home heating oil that spread to diesel fuel as well. Then, in the summer of 2000, inadequate supplies of blending components used in the manufacture of reformulated gasoline to meet clean-air objectives, among other problems, led to shortages of gasoline in the Midwest with some prices exceeding, for a time, $2.00/gallon.

As the nation headed into the winter of 2000-2001, anxiety remained about home heating oil price and supply until early 2001 when stocks approached and then exceeded year-earlier levels. Additionally, natural gas prices, which were relatively unaffected during the winter of 1999-2000, were 30% or more higher during the winter of 2000-2001 as the result of low inventories, limited extra production capability, and strong demand. The unfolding of California's restructuring program, its painful and complicated consequences, and the subsequent difficulty in crafting a solution agreeable to the greatest number of parties, have drawn renewed attention to this issue.

Some Historical Perspective

The shakeup in fuel supplies and prices was the fourth significant episode since 1973 to jog American awareness of the extent to which the economy and our lifestyle is dependent upon inexpensive and plentiful energy. When the United States experiences a period marked by sharp increases in the price for energy and concern about the adequacy of essential supplies – there is widespread belief that the nation has no energy policy. However, not only does the nation have an energy policy, it has also adopted several distinct policy approaches over the years.

In the aftermath of the Arab oil embargo in 1973, many looked to government to solve the problem, for both the short- and long-term. By 1975, refiner acquisition costs for imported crude oil had roughly tripled, rising from an average cost of $4/bbl (barrel) in 1973 to $12.50/barrel in 1974. However, refiner acquisition costs for domestic crude did not even double – from $4/bbl to $7/bbl – owing to a system of federal price controls that kept the price of domestic production below the market price. This insulated consumers from some of the price increase, but had the companion effect of discouraging domestic production and encouraging imports. Automobile fuel economy standards were enacted to reduce gasoline consumption in the transportation sector. Hopes were invested in government-funded research and development in conservation technologies and alternative fuels.

A second oil interruption and shortage was triggered in 1979 by the fall of the Shah of Iran and the loss of Iranian oil to world markets for several months. Refiner acquisition costs for imported oil surged from $14.50 in 1978 to $37.00 in 1981. In late 1975, Congress enacted a phased deregulation for oil in the Energy Policy and Conservation Act (P.L. 94-163). Some policymakers contended that lingering price controls on oil carried greater liabilities than benefits. Letting the market set prices, many began to argue, would encourage the development of additional domestic supplies of oil as well as the development of alternative energy supply. Shortly after assuming office in 1981, President Reagan accelerated the schedule for price decontrol. Energy policy, in general, became more market-oriented. The government role was lessened.

Sustained high crude oil prices contributed to a reduction in U.S. petroleum consumption from 18.8 to 15.2 million barrels per day (mbd) from 1978 to 1982; there was more fuel substitution, more efficient consumption of oil, and price-induced conservation. Higher prices drew new oil production from outside the OPEC nations; the United States and other nations diversified their sources of supply. Faced with a loss of market share and revenue, OPEC sharply lowered the price for crude oil in the mid-1980s. In the course of the year from 1985 to 1986, refiner acquisition cost for imported oil fell from $27/barrel to $14/barrel.

Prices remained depressed until a fresh round of sharp spikes in oil prices occurred in 1990-91 following Iraq's invasion of Kuwait in early August 1990, cutting off 4.3 mbd from world markets. The price of oil, which had averaged $16/bbl at the end of July 1990, exceeded $28 by late August, and reached $36/bbl in September 1990. In the face of the Iraqi threat, Western and Middle Eastern nations found common ground that would have been unimaginable even a decade earlier. By the late 1980s, recognition had grown of the mutual interdependence of oil-producing and oil-consuming nations; the OPEC nations had come to recognize that long-term demand for their oil was jeopardized by any prolonged period of high oil prices. Most did not wish to repeat the cycle of the early- to mid-1980s and boosted their production to make up for some of the lost supply. Consuming nations also coordinated the release of strategic stocks of crude and products. Prices began to fall in mid-October when the U.N. approved the use of force against Iraq. Prices fell more sharply after the United States and a consortium of nations conducted an air strike on Iraq in mid-January 1991. During 1999-2000, the Clinton Administration would also underscore the mutual interests of producing and consuming nations as it urged OPEC to boost its production quotas.

During all of these episodes, importance was placed on conservation, more efficient use of energy, and development of alternative energy sources. The oil shocks of the mid- and late-1970s spurred considerable spending on alternative fuels – including solar, geothermal, wind, clean coal, synthetic fuels, alcohol-based fuels – and technologies to improve the efficiency of energy use. Regulations were developed to improve the efficiency of home appliances and to incorporate more energy-efficient designs in buildings. In the early 1980s, states and utilities promoted energy efficiency as one form of "demand-side management" to reduce the need for construction of new power plants. Conservation and efficiency were championed by some as a lower-cost and more appealing way of achieving greater energy security than policies to boost supply. Increasing efficiency was seen as a way of mitigating air pollution and generation of greenhouse gases without penalty to quality of life.

As suggested earlier, each episode of short supply and higher prices spurs talk that the nation lacks an energy policy and has ignored past lessons. However, it is apparent from a review of the years since the time of the Arab oil embargo and first oil price shock in 1973 that it is more accurate to see this nearly thirty-year period as one of general price and supply stability that is periodically broken with shorter episodes when price became volatile and supplies of fuel less certain. It isn't that energy policy has failed to be responsive to crises; rather, it is hard in the face of lengthy periods of stability and declining prices for conventional fuels to sustain certain policy courses that will shield the nation from the occasional episodes of instability.

An energy policy that would most effectively shield the nation and the economy from the worst effects of supply shortages would be a policy that might well deny the nation the full benefits of cheap and plentiful energy when markets are stable. The periods of relative calm and stability result in a markedly uncertain environment for investment in alternative fuels, energy efficiency technologies, and in boosting the production of conventional fuels in regions where production costs are significantly higher than in the Middle East. State and local regulations and codes further cloud the climate for investment. Many agree that certain regions of the country will need more power plants, new refineries and pipelines, but local citizens often do not want to see these facilities in their communities and challenge their necessity until shortages actually occur.

At the same time, awareness has grown about the complexity of constructing a balanced energy policy that will not undermine other competing and equally legitimate policy goals. How to boost energy supply without exacting a toll on the environment that some find unacceptable? How, then, to reduce gasoline consumption, a commodity central to the nation's economy and lifestyle, when raising its price to achieve a meaningful reduction in demand could be economically disruptive and politically unappealing? How, then, to encourage the use of more expensive alternative fuels and technologies that heighten efficiency, when OPEC has the capacity to adjust the price of oil to keep it cheaper than its substitutes?

An Energy Policy Schematic

Debate over energy policy has produced an enormous range of proposals, many of which have been adopted at one point or another over the years. In general, however, it is helpful to recognize the broad categories into which most proposals fall: Most energy policies are designed to affect either the supply or the demand for energy products and they are, at the same time, designed to have an effect either in the near-term or the longer-term.

Traditionally, debate has been the most vigorous over the balance struck between increasing supply and support for conservation, but it became apparent in the weeks preceding release of the Administration plan in mid-May that there was also concern about the degree to which policymakers were addressing current energy problems in the short-term. President Bush had advised weeks before its release that the report from the Energy Policy Development Group (EPDG) would address long-term remedies for the nation's energy problems and that there would be no immediate relief for consumers paying higher prices for gasoline, electricity, and other fuels.

This prompted criticism from those who contended that the plan offered no short-term relief. Others, including the President, suggested that by setting out an action-oriented and actionable comprehensive policy, markets and consumers should feel some short-term reassurance. The President remarked on May 16, 2001, "My plan helps people in the short term and long term by recognizing the problem and by expediting energy development." The various reactions to the plan underscored the difficulty of developing comprehensive energy policy during a period of tight supply and high prices.

It is useful to clarify the differences between short-term and long-term policy initiatives. For example, drawdown of oil from the Strategic Petroleum Reserve (which one Democratic

initiative calls for) affects crude oil supply in the near-term. However, enactment of tax incentives for investment in new oil drilling technologies might add to domestic crude supply in the future. Proponents of drilling in the Arctic National Wildlife Refuge (ANWR) argue that region might yield anywhere from 300,000 to 1.4 mbd b/d to U.S. domestic supply, but this, too, is a longer-term policy initiative.

Turning to the consumption side of the ledger, boosting the gasoline tax by $1.00/gallon might be expected to reduce gasoline consumption in the short-term, but a rise in the corporate average fuel economy (CAFE) standards on new vehicles will not begin to introduce fuel savings until these more efficient cars are meaningfully introduced into the motor vehicle fleet, a process that would take more than a decade.

The table below suggests a way in which many energy policies may be visualized along these lines:

A Schematic of Energy Policies

	Affecting Supply	Affecting Demand
Short-term to Mid-term	Strategic Petroleum Reserve (SPR) Allowing high prices to allocate and price scarce energy	High energy prices due to unfettered market forces or taxation "Green" policies promoting conservation and more energy-efficient choices
Mid- to Long-term	Tax incentives to promote production Open new areas to leasing and exploration Research and development Market pricing of energy	Corporate Average Fuel Economy Standards (CAFE) Tax incentives to encourage less, or more-efficient consumption Efficiency standards Efficiency labeling Research and development in efficiency technologies

The axis of long-term/short-term, supply/demand does not capture all policy options. For example, one of the major issues in energy policy is the price for fuels. Energy policy generally is designed to affect price indirectly – by having price follow, or reflect current demand or supply for energy. There are a few exceptions. Tax policy may address energy price directly to the extent that excise taxes on fuel products can be raised or lowered

(recognizing that these tax boosts or cuts may not be reflected penny-for-penny in the "pump" price for fuels).

Short-term policies to affect supply, such as calls for the use of strategic reserves, have been sometimes very controversial because, in the absence of a very clear-cut and widely-acknowledged physical shortage, such initiatives are perceived to be thinly disguised efforts to grant price relief. Some suggest at times that high prices – left uninterfered with – are the best policy of all, encouraging markets to provide more supply in due course, and that policy should address those most adversely affected by sharply higher prices. The Low Income Home Energy Assistance Program (LIHEAP) is one such program that provides direct assistance to families whose quality of life is especially burdened by high energy prices. LIHEAP is a short-term policy for addressing the impact of high prices for energy.

Supply and demand may also be affected by external events including political and diplomatic dynamics between or among the producing nations. Weather, seasonal or otherwise, will affect supply and demand; policy cannot affect the weather, only its consequences. Lastly, Congress always has the option to require study and analysis of a problem before settling on a policy course. Appropriations legislation passed by the 106th Congress required the National Academy of Sciences (NAS) to analyze and recommend an optimum new car fuel economy standard (this study was released at the end of July, 2001). Oil pipeline safety legislation passed by the Senate in early February would charge NAS with studying the causes for the rapid escalation in natural gas prices, and to evaluate the feasibility of establishing a strategic natural gas reserve.

The Current Context: What's Different?

This is the fourth time since 1973 that energy policy will be debated broadly. One question is a constant: How extensive a federal role is appropriate in energy policy? Even prior to the terrorist attacks upon the nation on September 11, 2001, the context for this latest debate was distinctly different from previous episodes.

- U.S. energy policy has been primarily market-based for nearly 20 years, but policy makers are weighing whether problems in some sectors and with some fuels are attributable to lingering inefficiencies interfering with markets, or whether government intervention may be necessary to protect consumers and the economy from problems to which markets cannot flexibly respond.

- Strong economic growth during the mid- and late 1990s at a time of declining real energy prices has resulted in a growth in consumption even though efficiency of energy use is dramatically better than it was during the 1970s and 1980s. Growth in petroleum consumption in the United States as domestic production declines has meant a commensurate increase in oil imports.

- There is recognition of the interdependence of producing and consuming nations; however, the political balance among the OPEC nations is delicate and can influence oil production decisions and whether OPEC is able to exert market control at all.

- There is growing recognition that the difficulties this time were, in large measure, caused by, or compounded by, insufficiencies in the nation's energy infrastructure – refining capacity, gas and oil pipelines, transmission lines, and electric generating facilities. This has drawn major attention.

- Problems with gasoline supply and home heating oil stocks during 2000-2001 imply some need to develop additional refining capacity and transport systems that will add both capacity and flexibility to distribution. However, national and local environmental regulation and requirements, and local community sentiment, affect the speed and ease with which such facilities can be sited and built. Concerns about greenhouse gas emissions add an additional measure of uncertainty, as does the depth of the economic slowdown that carried into the second half of 2001.

- The experience with deregulation of the California electric utility industry appeared to stall and certainly added uncertainty to the policy debate over restructuring. The House did not include electricity provisions in H.R. 4. The Senate bill does.

Looking now in some additional detail at a few of these developments:

Petroleum and Natural Gas. Demand for petroleum products in the United States approaches 20 mbd. Increases in demand, as well as declining domestic production, have been offset by increased crude and product imports, which now approach an average of 10 mbd. Cuts in world crude production in March 1999 by OPEC sent domestic refiner acquisition costs for crude oil on a sharp ascent from less than $11/bbl in February 1999 to $24.50/bbl by December of the same year. These costs peaked at over $31/bbl in the latter part of 2000. Subsequently, after intense lobbying by the United States, the OPEC oil ministers boosted crude production and settled upon $22-$28 per barrel (bbl) as a desirable "price band." In the wake of the terrorist attacks in September 2001, OPEC chose not to defend crude prices too aggressively lest OPEC appear to be tipping the global economy into recession. By late November 2001, prices had fallen below $20/bbl, and OPEC was seeking production cuts from outside the cartel to bolster price.

The ability of the OPEC cartel to exert influence upon oil prices at critical times underscores that – with respect to petroleum – the problem is less that the world supply of oil is tight, than that so much of it is concentrated in a single part of the globe. U.S. dependence upon imported oil exceeds 50% of total consumption. On the one hand, absent some presently illusive technical "fix," there is little that can be done to significantly reduce that figure without incurring great economic hardship and lifestyle compromises. On the other hand, oil prices can take wide swings on the basis of modest gains or losses in total world production or from changes in demand in response to economic conditions.

Attention has also focused Clean Air Act standards that regulate the oxygen content, volatility, benzene and the sulfur content of gasoline. Refineries face state and local standards on how to achieve compliance with federal requirements. The result is a multiplicity of gasoline formulations, some using methyl tertiary butyl ether (MTBE) as an oxygenate and octane booster, while other regions require ethanol. One consequence of these regional

variations is that gasoline supply has lost its fungibility; one region experiencing a shortage may no longer be able to secure additional supply from a refiner servicing a nearby locality with a different blend of gasoline. Distribution becomes more complicated because different blends sharing the same pipeline must be carefully batched to avoid contamination. Additionally, most foreign refineries have not made the investment to supply any but the most general U.S. gasoline market. Some have urged a relaxation of Clean Air Act standards that would permit a "harmonization" of U.S. gasoline standards. This would introduce flexibility into the gasoline manufacture and distribution system that would bring prices down. It would mean, however, temporarily compromising clean air objectives and, depending upon where the harmonized standard is set, might actually raise prices for fuel in regions that do not require the more exacting formulations. H.R. 4, as passed by the House, would require EPA and DOE to study the effects of local fuel requirements and report to Congress by the end of 2001.

The greater the nation's ability to produce its own fuels, the less vulnerable it is to unanticipated international developments that can reduce or threaten supply. But, the policy options on the supply side are mostly long-term. The most controversial to be freshly debated in the 107th Congress will likely be proposals to open up the Arctic National Wildlife Refuge (ANWR) for exploration. Alaskan oil production, which once touched 2 mbd, has now fallen below 1 mbd and, without new production, will continue to decline until production levels can no longer support the fixed costs of transporting it through the Trans-Alaskan Pipeline.

Proponents of exploring ANWR point to advances in exploration and drilling technology and methods that have significantly reduced the extent of surface disturbance. While opponents concede this may be so, they argue that these advances are limited to exploration and extraction, and that considerable risk to the environment remains during the production and transportation phases. Opponents also suggest that the risks are not worth bearing, especially if the resources in ANWR turn out to be at the lower range of estimates, providing only an additional 300,000 b/d of supply. Some respond to this argument by noting that the nation has experienced periods of tight supply when even an additional few hundred thousand barrels of crude oil would have made for significantly lower prices at the pump, and for home heating oil.

It should be noted that there are some environmentalists for whom any weighing of risks and benefits are pointless because, citing the area's pristine character; they argue that its ecology and habitat should not be disturbed under any circumstances. In its *Blueprint For New Beginnings*, the Bush Administration indicated that the FY2002 budget would show a projected $1.2 billion in bonus bids, from the leasing of tracts in ANWR, to be applied toward R&D in alternative fuels and energy technologies. On March 21, 2000, the House Budget Committee adopted the framework of the Administration's proposed budget, but did not include revenues from ANWR leasing. H.R. 4, as passed by the House, would open ANWR to leasing. A filibuster has been threatened in the Senate to prevent passage of any legislation that includes ANWR. (For additional information, see CRS Issue Brief IB10073, *The Arctic National Wildlife Refuge: The Next Chapter*.)

The broader issue raised by ANWR – that of access to public lands for energy exploration and development – was the subject of hearings early in the 107th Congress, largely in response to former President Clinton's designation of 19 new national monuments, and the expansion of 3 others. There is considerable disagreement about the potential resources on

federal lands, and some assessments are underway. The EPDG recommends an examination of "land status and lease stipulation impediments" with the objective to "consider modifications where appropriate." (For additional information and background, see CRS Report RS20902, *National Monument Issues*.)

For the past decade in the United States, natural gas consumption was encouraged, in part to fuel efficient, gas-fired combined-cycle generation plants that could provide supplemental electricity to the nation's power grid at highly competitive prices and with few environmental constraints. Plentiful supplies, and relatively low prices for several years, discouraged additions to natural gas reserves. With surges in demand for electricity and a colder winter in 2000-2001, residential and other consumers of natural gas suddenly faced sharply higher prices as competition grew for gas supplies. Natural gas prices declined sharply during the fall of 2001, underscoring the difficulty of crafting policy in volatile times.

Expansion and refurbishment of facilities to accommodate liquified natural gas (LNG) imports is underway. Additionally, there are a number of proposals for new facilities – some, offshore in Mexico and the Bahamas – which would receive LNG produced abroad for consumption in the United States. (For further information, See CRS Report RL30815, "Natural Gas Prices: Overview of Market Factors and Policy Options.") Both oil and gas interests are hopeful of congressional action to ease environmental regulations on refiners, lift prohibitions on leasing of certain federal lands, and amend the tax code to benefit domestic producers. H.R. 4 includes provisions to liberalize certain deductions for oil and gas production. (For additional information and background, see CRS Report RL30781, *U.S. Home Heating Oil Price and Supply During Winter 2000-2001: Policy Options*, CRS Issue Brief 87050, *The Strategic Petroleum Reserve*, and CRS Issue Brief IB10054, *Energy Tax Policy*.)

Electricity restructuring. The Enron debacle has raised new questions and has slowed the momentum of the electricity restructuring debate. However, it was the electric utility crisis in California in early 2001 that shifted the focus of electricity restructuring legislation away from comprehensive bills that dominated the electric utility restructuring debate in the 106th Congress. In the 107 Congress, the majority of electric utility legislation introduced relates to reliability. Regulatory functions are currently divided between the states and the federal government, and there has been considerable argument not only about which controls need to be retained, but how to redraw the respective roles of the federal government and the states to assure reliability. The House did not include language affecting electricity in its comprehensive energy bill, H.R. 4, but indicated the issue would be addressed separately; H.R. 3406 appears to be the primary legislative vehicle. It would provide for an Electric Reliability Organization (ERO) to prescribe and enforce mandatory reliability standards.

A reliable electric system depends on adequate transmission capacity. The regulatory regime has shifted in the electricity industry to encourage competition in the generation sector but investment in transmission infrastructure has not kept up with increases in bulk power transfers and electricity demand. Additionally, transmission lines are congested in several regions of the United States. Difficulty in siting the lines and the regulatory uncertainty have dampened investor interest in the transmission system. FERC has approved one Regional Transmission Organization (RTO) and is in the process of evaluating others. H.R. 3406

would codify FERC's authority to order participation in an RTO. H. R. 2814 would give FERC authority to develop voluntary RTOs.

Some have argued that transmission and wholesale power markets cannot be competitive without additional market transparency, or access to market information. S. 1231 and Amendment No. 2917 to S. 517 proposed to require FERC to issue rules establishing an electronic information system to provide information about the availability and price of wholesale electric energy and transmission services to FERC, state commissions, buyers and sellers of wholesale electric energy, users of transmission services, and the public. During the first full week of debate in the Senate, these proposals were significantly weakened out of concern that they usurped too much authority from the states.

Even though no comprehensive electric utility restructuring legislation has been introduced in the House or Senate, many bills would repeal the Public Utility Holding Company Act of 1935 (PUHCA). One argument for additional PUHCA reform has been made by electric utilities that want to further diversify their assets. The Securities and Exchange Commission (SEC) supports legislation to repeal those provisions of PUHCA that either duplicate laws administered by other regulators or that are no longer necessary. State regulators have expressed concerns that increased diversification could lead to abuses, including cross-subsidization: a regulated company subsidizing an unregulated affiliate. S. 206, S. 388, S. 1766, Amendment No. 2917 to S. 517, H. R. 1101 and H. R. 3406 would repeal PUHCA and give FERC additional authority.

The Senate has also been debating language in Amendment No. 2917 to establish a renewable portfolio standard that would require that 10% of electricity generation come from non-hydro renewable energy resources by 2020. An amendment to boost this proposal to 20% was defeated on March 14, and an amendment is pending that would strike the language altogether.

Concern over electricity supply has also led to some reassessment of the relative roles that natural gas, coal and nuclear energy may have in future electricity generation. As noted earlier, price and supplies of natural gas, the current fuel of choice for new generating facilities, have eased after reaching unprecedented peaks. This may alter the dynamics for a shifting emphasis toward coal. In its energy policy plan, the Bush Administration indicates its objectives to remove barriers to the use of coal in electric power generation, though no new coal-fired generating capacity is currently planned. The Administration proposes establishing a consortium of companies to direct the research, and H.R. 4 would provide $2 billion in funding over a 10-year period.

Prior to the release of the its plan, the Administration indicated interest in nuclear options. On March 21, 2001, Vice President Cheney described nuclear power as a preferable means to meeting clean air goals than what he described as a "seriously flawed" Kyoto global warming treaty. (A few days later, March 27, 2001, Environmental Protection Agency Administrator Christine Todd Whitman indicated that the Bush Administration had "no interest" in any further negotiations on implementing the Kyoto Protocol.) The EPDG recommends an assessment of the potential of nuclear energy to contribute to cleaner air, and that the NRC expedite nuclear re-licensing procedures. Nuclear, however, remains very capital intensive, and it is not apparent that nuclear is poised for any immediate renaissance. The terrorist attacks in September 2001 have also added fresh concerns about security. (For

additional information, see CRS Electronic Briefing Book: Electric Utility Restructuring [http://www.congress.gov/brbk/html/ebele1.shtml].

Conservation, Alternative Fuels, and Improvements in Efficiency. As has been noted, the energy policy debate has turned partly on perceptions of the balance between supply-oriented and conservation-oriented policies that make up an appropriate energy policy to address the current matrix of energy problems. While any final package enacted by Congress will include a range of policies, some in the debate will likely posit choices to be made between policies; e.g., why open ANWR to leasing if comparable savings can be achieved by raising fuel economy?

The Energy Policy and Conservation Act (P.L. 94-163) established new car corporate average fuel economy (CAFE) standards, beginning with model year 1978. Currently, the standards are 27.5 miles per gallon (mpg) for cars and 20.7 mpg for light-duty trucks. Proposals to stiffen the CAFE standards have been controversial. Beginning with enactment of the FY1996 Department of Transportation Appropriations, Congress forbid the expenditure of appropriated funds to make any change in the current CAFE requirements. This rider was included in the appropriation for the current year (P.L. 106-346); however, Senate conferees insisted on authorization of a study to be conducted by the National Academy of Science (NAS) to recommend "appropriate" CAFE standards, subject to approval by a Joint Resolution of Congress. In late June 2001, the Administration was reported to be receptive to an increase in CAFE standards, and a proposal to save 5 billion gallons of gasoline between MY2004-2010 passed the House in H.R. 4. An amendment to set a unified standard of 27.5 mpg for both cars and light-duty trucks was defeated.

Just before the debate on H.R. 4, the NAS study was released on July 30, 2001. While it did not recommend a specific level for CAFE, it did conclude that "significant" reductions in fuel consumption could be achieved within 15 years utilizing existing technologies. Were increases in new car fuel economy achieved by reducing vehicle weight or disproportionately encouraging the sale of small vehicles, the study allows that additional fatalities could result. However, some members of the NAS panel dissented, suggesting that the analysis of the relationship between fuel economy and vehicle safety is extremely complex. In the Senate, Senators John Kerry and John McCain had reached a compromise to call for a fleet average of 36 mpg by MY2015. However, on March 13, the Senate approved an amendment to allow the National Highway Traffic Safety Administration (NHTSA) to go through the sort of rulemaking process used in the past to set CAFÉ standards. The Senate also approved language to freeze "pickup trucks" – yet to be defined – at the current light truck standard of 20.7 miles per gallon.

There is little question that the price hikes during past episodes of tight energy supply spurred many improvements in energy efficiency. Some argue, however, that the easiest and lowest-cost efficiency gains have been achieved, and that expectations should be lowered about the additional efficiency gains that can be captured in the present price framework for energy. When the Reagan Administration redirected energy policy to a more market-oriented framework, it was argued that R&D needed to be carefully focused on areas that were promising, but unlikely to be explored by the private sector.

The Bush Administration energy policy recommended a review of the funding and performance of energy efficiency research and development for the purpose of determining

appropriate funding for performance-based research in public-private partnerships. Recommendations are also made to expand the scope of appliances covered under energy efficiency standards. The Administration also proposed to apply revenue from the leasing of ANWR to development of solar and renewable energy, a proposal approved by the House in H.R. 4. (For additional discussion, see CRS Issue Brief IB10020, *Energy Efficiency: Budget, Climate Change, and Electricity Restructuring Issues*, and CRS Issue Brief IB90122, *Automobile and Light Truck Fuel Economy: Is CAFE Up to Standards?*) Readers seeking current statistics on energy production and consumption in the United States are referred to the Energy Information Administration (EIA) website, [http://www.eia.doe.gov/.]

Energy Policy Legislation in the 107th Congress

Many of the problems described here do not lend themselves to fast or easy fixes. The very volatility of energy prices complicates the investment environment. Modest changes in world economic growth can create overhangs and "bubbles" in supply that can just as quickly evaporate. High prices, on the one hand, should encourage investment in exploration for fossil fuels and development of downstream facilities to refine and transport products. At the same time, if high energy prices are one of many conditions that may contribute to a slowing of economic growth, it is possible that markets will not profitably support new supplies and infrastructure when they become available. Whether public policy at the national level can eliminate some of the uncertainty in energy investment is likely to be an issue in the forthcoming debate.

While a number of narrowly focused bills have been introduced in the 107th Congress, omnibus energy bills were introduced by both parties. A comprehensive proposal backed by several Senate Republicans, the National Energy Security Act of 2001 (S. 388), was introduced on February 26, 2001, as was a companion measure, which also included energy tax provisions (S. 389). A Democratic measure, the Comprehensive and Balanced Energy Policy Act of 2001 (S. 597), was introduced on March 22. The accompanying tax measure was titled the Energy Security and Tax Incentive Policy Act of 2001 (S. 596).

The Republican proposal set as its goal a reduction of U.S. energy dependence to less than 50% by 2011, and would require annual reports on progress toward that goal. The Senate Republican proposal was characterized as having its greatest emphasis on boosting production of conventional fuels. It did propose to lease ANWR, but a portion of bid bonuses would be earmarked toward funding research into renewable energy research and development. The use of coal would be encouraged, with credits available for emissions reductions and efficiency improvements. The legislation would require an improvement of 3 mpg in the fuel efficiency of the federal motor vehicle fleet. Other provisions would provide support for renewable fuels, alternative technologies, residential energy efficiencies, and new nuclear reactor designs.

The Senate Democratic legislation proposed to integrate energy and environmental policy to identify energy policy options consistent with stabilizing greenhouse gas emissions. A commission would be established to study and recommend appropriate measures. The Democratic proposal did not embrace opening up ANWR, but the tax portion of the legislation would establish incentives that would hasten development of pipeline capacity to transport Alaskan natural gas. The Democratic legislation also did not include an increase in

CAFE, but proposed to cap automobile and light truck fuel consumption in 2008 at no more than 5% above consumption in 2000.

In the face of a lessening sense of urgency and flagging momentum for consideration of comprehensive energy legislation, House Majority Whip Tom DeLay established a House energy action team at the end of June 2001 and instructed committees to approve their respective contributions to comprehensive legislation by early July. Four bills emerged from the House committees and provisions from the four were consolidated into H.R. 4, introduced on July 27, 2001, and passed by the House on August 2, 2001.

On July 18, 2001, the House Science Committee reported out the Comprehensive Energy Research and Technology Act (H.R. 2460). It would authorize $6 billion during FY2002 for a number of different programs, including $2 billion over 10 years for the Administration's Clean Coal Initiative. Additional spending ranging from $172-$186 million is authorized during FYs2002-2004 for research in other coal technologies, including integrated gasification combined cycle and pressurized fluidized bed systems. The bill would provide $200 million in grants for the development and demonstration of commercial applications for alternative fuel vehicle (AFV) use. The committee approved $600 million for FY2002 and an additional $1.5 billion for FYs2003-2004 for energy conservation programs within the committee's jurisdiction, including fuel cells, advanced internal combustion engine generators, and combined heat and power systems. Renewable energy programs would receive roughly $1.5 billion over the next three fiscal years as well.

On July 18, 2001 the House Ways and Means Committee approved legislation (H.R.2511) authorizing new energy tax credits and conservation incentives. The oil and gas industry would be able to expense more of the costs associated with marginal wells. Credits would be provided for the use of energy-efficient appliances in homes and commercial buildings, and to promote use of alternative-fueled vehicles, as well as solar and fuel cells. Committee Democrats argued that there was no money in the budget to pay for these credits. Amendments offered to raise the funds by raising income tax brackets, or making the bill's tax benefits contingent upon adequate surpluses outside the Social Security and Medicare trust funds were defeated.

The House Energy and Commerce Committee approved a legislative package (H.R. 2587) on July 19, 2001, that included, among other provisions, language to achieve a 5 billion gallon savings in fuel consumption by light-truck passenger vehicles; to prohibit approval of any natural gas pipeline from Alaska that traverses a route through northern Canada; to improve the energy efficiency of air conditioners by 20%; and to increase annual funding for the Low Income Home Energy Assistance Program (LIHEAP) to $3.4 billion annually through FY2005. The provision to save 5 billion gallons of gasoline over a six-year period does not specify how the savings shall be achieved, though some increase in the corporate average fuel economy (CAFE) for light-duty trucks is presumed. How much of an increase depends, in part, upon how much of the savings is captured at the beginning of the period, or postponed until the end. Critics of the proposal argued that an increase only in the range of 1.0 mpg would be required, though it could be higher if the savings are "backloaded." The full committee rejected two amendments to specifically raise CAFE standards. An amendment to increase light duty truck fuel economy to 29.0 mpg by MY2011 was defeated (43-11) as was a proposal to combine auto and truck standards and boost them to 40 mpg by MY2016.

Lastly, the House Resources Committee, on July 17, 2001, reported the Energy Security Act (H.R. 2436). Its most controversial provision was language that would open the Arctic National Wildlife Refuge (ANWR) to leasing. An amendment that would have banned oil and gas leasing in ANWR was defeated, 30-19. The legislation would also expedite federal action on geothermal energy leases and would expedite a review of barriers to onshore oil and gas leases. The bill would require that an inventory be made of coal and renewable energy resources on federal lands that are not parks or wilderness areas. The legislation also includes royalty incentives for onshore and offshore development.

Major provisions of these bills were included in H.R. 4, introduced on July 27, 2001, and approved by the House on August 1, 2001 (240-189). (For a summary of the provisions of H.R. 4, see "Securing America's Future Energy Act of 2001: Summary of H.R. 4 as Passed by the House," CRS Report RL31153.) The Senate took up comprehensive energy legislation, S. 517, in late February 2002.

Sponsor-provided information and summaries of the Senate proposals may be found at the following sites: [http://www.senate.gov/~murkowski/energy/energysecurity.html] (S. 388, 389); and [http://www.senate.gov/~bingaman/] (S. 596, S. 597, S. 1766). The Report of the EPDG may be found at: [http://www.whitehouse.gov/energy/].

LEGISLATION

H.R. 4 (Tauzin)

Securing America's Future Energy Act. Includes major provisions of H.R. 2436, H.R. 2460, H.R. 2511, H.R. 2587, described below. Introduced July 27, 2001. Approved by the House, August 2, 2001 (240-189).

H.R. 2436 (Hansen)

Energy Security Act. Would open ANWR to leasing, and includes royalty incentives for onshore and offshore development. Requires that an inventory be made of coal and renewable energy resources on federal lands that are not parks or wilderness areas. Introduced July 10, 2001; reported from Committee on Resources July 17, 2001.

H.R. 2460 (Boehlert)

Comprehensive Energy Research and Technology Act. Authorizes $6 billion during FY2002 for a number of different programs, including $2 billion over 10 years for the Administration's Clean Coal Initiative. Authorizes spending for research in other coal technologies, including integrated gasification combined cycle and pressurized fluidized bed systems. Provides $200 million in grants for the development and demonstration of commercial applications for alternative fuel vehicle (AFV) use; renewable energy programs would receive roughly $1.5 billion over the next three fiscal years as well. Introduced July 11, 2001; ordered reported by voice vote, July 18, 2001.

H.R. 2511 (McCrery)

Amends the Internal Revenue Code of 1986 to provide tax incentives to encourage energy conservation, energy reliability, and energy production. Reported (amended) by the Committee on Ways and Means (H.Rept. 107-157).

H.R. 2587 (Tauzin)

Enhances energy conservation, provides for security and diversity in the energy supply for the American people, and for other purposes. Requires the Secretary of Transportation to prescribe fuel economy standards that would require the light-duty truck portion of the new vehicle fleet to achieve an aggregate savings of 5 billion gallons during the period of MYs2004-2010 from the base level of consumption were the standards left unchanged. Introduced July 23, 2001. Reported (amended) by the Committee on Energy and Commerce. H.Rept. 107-162, Part I..

S. 388, S. 389 (Murkowski)

National Energy Security Act of 2001. Decreases America's dependency on foreign oil sources to 50% by the year 2011 by enhancing the use of renewable energy resources conserving energy resources, improving energy efficiencies, and increasing domestic energy supplies; improves environmental quality by reducing emissions of air pollutants and greenhouse gases; mitigates the effect of increases in energy prices on the American consumer, including the poor and the elderly; and for other purposes. Introduced February 26, 2001; referred to Committee on Energy and Natural Resources. (S. 389 also included the Energy Security Tax Policy Act of 2001.) Introduced February 26, 2001; referred to Committee on Finance.

S. 517 (Bingaman)

Originally the National Laboratories Partnership Improvement Act of 2001, it is now the comprehensive energy bill on which debate in the Senate began in late February 2002. Among other provisions, would significantly increase CAFE standards, provide $2 billion in credits for ethanol and other renewable fuels; includes incentives for power generation from clean coal technologies. Would require electric generators to provide 10 percent of output from renewable resources by 2020.Tax provisions expected to be added as an additional amendment.

S. 596 (Bingaman)

Energy Security and Tax Incentive Policy Act of 2001. Amends the Internal Revenue Code of 1986 to provide tax incentives to encourage the production and use of efficient energy sources, and for other purposes. Introduced March 22, 2001; referred to Committee on Energy and Natural Resources.

S. 597 (Bingaman)

Comprehensive and Balanced Energy Policy Act of 2001. Among other provisions, provides incentives to expedite construction of a pipeline to bring natural gas from the North Slope of Alaska (not the Arctic National Wildlife Refuge) to the lower 48 states; streamlines pipeline and dam certification procedures; requires a review by the states of ways to increase oil and gas production on state and private lands and measures to optimize recovery from federal lands currently under production; mandates the Department of Transportation to develop regulations to increase fuel efficiency of all light duty vehicles. Introduced March 22, 2001; referred to Committee on Energy and Natural Resources.

S. 1766 (Bingaman)

Energy Policy Act. Similar to S. 597. Introduced December 5, 2001. Referred to more than one committee.