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Global Climate Change: The Energy Tax Incentives in the President's FY2001 Budget

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Summary

The President's FY2001 budget includes several energy tax incentives intended to reduce greenhouse gases linked to possible global warming. The incentives subsidize energy conservation and promote energy efficiency in each of the energy end-use sectors — residential and commercial, industrial, and transportation — and encourage substitution toward alternative energy technologies such as solar and wind power and electricity produced from alternative energy resources such as biomass. The conservation and efficiency tax incentives are in the form of nonrefundable tax credits for energy-saving capital goods. In addition, some of the tax credits are intended to directly reduce the quantity of harmful greenhouse gases linked to possible global climate change. Some are versions of energy tax incentives that were enacted under President Carter's Energy Tax Act of 1978 (as amended), but have since expired. Two provisions of the FY2001 budget constitute a liberalization of current law energy tax subsidies, while others are new subsidies.

The President's FY2001 budget, submitted in February of 2000 includes several energy tax proposals, all favoring energy efficiency and renewable fuels technologies. These energy tax initiatives, which were first proposed as part of the FY1999 budget and modified for the FY2000 budget, are targeted toward energy efficiency and alternative fuels to reduce fossil fuel combustion, improve air quality, and reduce greenhouse gases. There are no tax incentives for oil and gas; and in fact the budget proposes to reinstate several expired environmental excise taxes on oil, including the Superfund energy taxes.

Energy Efficiency in Residential and Commercial Buildings

Two tax credits are proposed in the FY2001 budget to improve the energy efficiency of both new and existing residential and commercial buildings: (1) a tax credit for the purchase of energy-efficient, new homes; and (2) a tax credit for purchases of energy-efficient building equipment, and materials.

Tax Credit for New Energy Efficient Homes. Some federal laws and certain states require energy-using home appliances, heating and cooling equipment, and insulation to meet certain energy efficiency standards. There are also voluntary federal guidelines for energy efficient building design. But there are otherwise no special tax incentives to encourage either the demand for, or the supply of, more energy efficient homes. The President's FY2001 budget proposes a tax credit for purchasers of a new home that would meet certain specified and stringent energy efficiency standards. The tax credit would be $1,000 for new homes that are at least 30% more efficient than the 1998 IECC (International Energy Conservation Code) standard and purchased between January 1, 2001, and December 31, 2003. The tax credit would be $2,000 for new homes that are at least 50% more energy efficient than the IECC standard and purchased in the 5-year period between January 1, 2001, and December 31, 2005.

Tax Credit for Energy-Efficient Building Equipment. The second of the two tax credits to reduce fossil fuel use in residential and commercial buildings is a 20% tax credit for the cost of specified types of advanced energy-efficient equipment for space heating and cooling and hot water heaters. The maximum credit varies by type of eligible equipment, as indicated below. The tax credit would be provided for the purchase, on or after January 1, 2001, and before January 1, 2005, for the following three types of energy-efficient equipment:

- *Fuel cells* with a minimum generating capacity of 5Kw, and a generation efficiency of at least 35%. (The maximum credit would be $500 per kilowatt of capacity.)

- *Energy efficient electric heat pump water heaters*. A maximum tax credit of $500 per unit for heaters with an energy factor rating of at least 1.7 in the Department of Energy test procedure;

- *More energy efficient natural gas heat pumps*. Those with an energy factor of at least 1.25 for heating and at least 0.70 for cooling would qualify for a maximum tax credit of $1,000 per unit;

Under current law, no tax credits or other tax incentives are provided for equipment to make residential or business structures more energy efficient. The 1978 Energy Tax Act provided for a system of business energy investment tax credits for several categories of energy conservation property — called "specially defined energy property" — but these were essentially equipment used in manufacturing or industrial processes rather than in buildings. These energy equipment tax credits generally expired at the end of 1982.

Energy Efficiency in Transportation

To encourage greater energy efficiency of vehicles, and reduce petroleum used in transportation, the FY2001 proposes the following new tax credit for a relatively new technology in fuel-efficient vehicles: the hybrid-vehicle.

Tax Credit for Fuel Efficient Hybrid Vehicles. A tax credit would be available for the purchase of cars and light trucks (including minivans, sport utility vehicles, and pickups) that utilize a hybrid drivetrain. Hybrid vehicles combine an electric motor and battery pack with a gasoline or diesel engine in various configurations. In some cases, the

combustion engine provides primary power to the wheels, while the electric motor adds supplemental power for acceleration and climbing. In others, the motor provides primary power, while the combustion engine simply recharges the batteries. In any case, one of the key features of these vehicles is regenerative braking, which returns energy to the batteries, instead of dissipating it as heat (as happens with conventional braking). These vehicles tend to be very efficient, with higher fuel economy and range than conventional vehicles.

The FY2001 budget proposes a credit that would range from $500 to $3,000 per vehicle depending on 1) how much additional power is provided by the auxiliary rechargeable energy storage system, and 2) how much additional energy is provided by the regenerative braking system. This credit would be available for vehicles purchased between December 31, 2002, and January 1, 2007. While the proposal is intended to improve a vehicle's energy efficiency, there is no explicit numerical efficiency standard for the credits. In the FY2000 budget proposal, the tax credit was a function of the percentage improvement in energy efficiency. Such a qualifying vehicle would have to satisfy all emission requirements applicable to gasoline vehicles.

Current tax law contains several tax incentives — and some nontax disincentives — to conserve conventional, petroleum-based motor fuels, particularly gasoline and diesel fuel. First, gasoline and diesel fuel are taxed at the rates of 18.4¢ and 24.4¢ per gallon. Second, an excise tax is imposed on the sale of domestically produced or imported "gas guzzlers" that do not meet the fuel economy standards (the CAFÉ standards) established by the Environmental Protection Agency. The tax rate is graduated, ranging from $1,000 for vehicles rated between 21.5 and 22.5 miles per gallon (MPG) and $7,700 for vehicles rated at less than 12.5 MPG.

In addition to taxes on conventional fuels and "gas guzzlers," federal tax law has provided, since 1992, a tax deduction for the purchase, by individuals or businesses, of vehicles that run on alternative fuels. Taxpayers can deduct, from adjusted gross income, a portion of the cost associated with the purchase of dedicated alternative fuel vehicles (AFVs), or the cost of converting vehicles so that they can operate on clean-burning alternative fuels (dual fuel AFVs) in addition to gasoline. Dedicated AFVs are new vehicles designed to run on an alternative fuel only.

For dedicated AFVs, costs up to $2,000 for qualified property can be deducted for a vehicle up to 10,000 lbs., up to $5,000 for a truck or van of 10,000 to 26,000 lbs., and up to $50,000 for a truck or van weighing more than 26,000 lbs. Qualified property for a dedicated AFV includes the full cost of the engine, the fuel delivery system, and the exhaust system. For a dual-fuel vehicle, the qualified cost is limited to the incremental cost of the same components compared with the systems for conventional fuels. Alternative fuels are defined as compressed natural gas, liquefied petroleum gas, liquefied natural gas, hydrogen, electricity, and fuels that include 85% alcohol, ether, or any combination of these. In addition, all of the property that qualifies for the deduction — the new vehicle, or the conversion equipment — must be new. Qualifying vehicles must meet any applicable federal and state environmental standards. For business taxpayers, the basis of the property for purposes of the depreciation deduction is reduced by the amount of clean-fuel-vehicle deduction. In general, each of these deductions terminates at the end of 2004. But there is a phase-out provision in the case of new clean-fuel burning vehicles or retrofit

equipment. The deduction is phased-out evenly over a 3-year period beginning in January 2002.

Alternative Energy: Technology Incentives and Production Tax Credits

Several tax incentives are proposed to encourage greater production and use of alternative forms of energy and investment in alternative energy technologies in residential and commercial buildings (a tax credit for solar energy equipment), for the transportation sector (tax credit for electric cars), and to encourage small-scale self-generation and storage of electricity (so called "distributed power"). Also, existing tax incentives are expanded for technologies for producing electricity from alternative fuels.

Tax Credits for Solar Energy Equipment. The Administration proposes a tax credit for two types of solar energy equipment: (1) a 15% tax credit for up to $13,334 in investments in rooftop solar equipment that uses photovoltaic cells to generate electricity, for a maximum tax credit of $2,000; and (2) a 15% tax credit for up to $6,667 in investments in solar water heating equipment (other than swimming pools), for a maximum tax credit of $1,000. Solar equipment installed in either a personal residence or a business would qualify for this tax credit, which would be nonrefundable, i.e., limited by the amount of tax otherwise owed. Both credits would be available beginning on January 1, 2001, but the credit for photovoltaic systems would last for seven years, terminating on January 1, 2008, while the credit for water heating systems would last for five years, terminating on January 1, 2006. Photovoltaic systems use solar cells made of semiconductor material that convert sunlight directly into electricity. A photovoltaic solar system combines individual cells into an interconnected panel used as part of a sunlight-absorbing roof or as separate self-contained electricity generating system.

Current law provides for a 10% tax credit for investment in solar photovoltaic systems or for solar equipment used to heat or cool a structure or for solar process heat. Only businesses qualify for this credit, which also applies to geothermal systems. The equivalent credit for residential solar systems expired at the end of 1985. The business solar credit is the remnant of the more extensive system of residential and business tax credits for conservation and renewable energy that were part of President Carter's National Energy Plan of 1978, but which largely expired at the end of 1985. Only the business energy tax credits were extended several times beyond 1985, and for gradually fewer and fewer types of energy equipment. Under President Clinton's FY2001 proposal, businesses that invest in qualifying solar equipment would have to choose between the current 10% tax credit and, if enacted, the new 15% tax credit.

Tax Credit for Electric Vehicles. Under current law, consumers that purchase an electric vehicle can claim a 10% nonrefundable tax credit for the cost of the vehicle placed in service prior to 2005. The tax credit is in lieu of the current law tax deduction, or the new tax credit for hybrid vehicles should it become enacted. The maximum credit is $4,000 but only for purchases made through 2001. For vehicles purchased between 2002 and 2004, the credit is reduced by 25% each year. Also, for businesses that purchase electric vehicles, the maximum amount that may be deducted annually for depreciation is three times larger than the depreciation limit for other types of automobiles. In general, the amount that businesses may deduct annually for depreciation of an automobile is limited to $2,560 the first year, $4,100 the second year, $2,450 the third year, and $1,475 in any subsequent year in the recovery period. Each of these amounts is adjusted annually

for inflation that has occurred since 1987 so that the amounts for 1997 (for most cars) were $3,160, $5,000, $3,050, and $1,775. For electric vehicles, however, the base amounts are $7,680, $12,300, $7,350, and $4,425, respectively. The higher depreciation limits for electric vehicles, which are also adjusted for inflation after 1997, were part of the Taxpayer Relief Act of 1997.

The President's FY2001 budget proposes to repeal the phase-out of the credit, and the credit would be extended through 2006. Thus, the maximum $4,000 tax credit would be available through 2006.

Accelerated Depreciation for Distributed Power. The President's FY2001 budget proposes to accelerate depreciation deductions for small electricity generating and storage systems (self-generated power) and for co-generation systems, which the budget calls distributed power technologies. Such technologies allow industrial, commercial, and even residential users (such as apartment buildings) to generate or store their own electricity and thus either be completely independent power producers or rely less on electric utilities. The proposal covers technologies that are defined more by size and by the on-site feature, and thus could include small diesel engines, internal combustion engines, and microturbines. The intent is to encourage small alternative technologies (to the traditional electricity generating technologies) such as fuel cells.

Under the President's proposal, such equipment would all be depreciated over a 15 year recovery period, thus reducing the recovery period for many types of equipment used in commercial and rental buildings, which were depreciated over much longer time periods. This reclassification to shorter recovery periods also allows distributed power systems and combined heat and power systems to qualify for a more accelerated method of depreciation (150% declining balance rather than straight line depreciation) which basically means that more of the equipment costs can be written off in the early years, thus increasing the present value of the depreciation deduction, and reducing effective tax rates. Distributed power equipment would be used in manufacturing plants would have to have a rated capacity of at least 500 kilowatts.

Current tax law provides no tax credit for this type of industrial energy equipment, generally treated as structural components for purposes of depreciation, which means a much longer write-off period. Co-generation equipment was added in 1980 to the list of property qualifying for the 10% business energy investment tax credits under the original Energy Tax Act of 1978. These expired at the end of 1982, three years before the expiration of the residential energy tax credits and the other business energy tax credits.

Tax Credit for Electricity Produced from Wind and Biomass. Finally, the President's FY2001 budget also proposes a liberalization of the current law tax credit for electricity produced from wind systems and biomass. Under current law, an income tax credit is provided, as part of tax code section 45, in the amount of 1.5¢/kWh (in real, 1992 dollars) for electricity generated from wind or from closed-loop biomass systems and from poultry waste. The credit for 1997 was 1.6¢/kWh. The credit is available to facilities that are placed in service after 1992 (for biomass) and 1993 (for wind) but before January 1, 2002. Any qualified facility that opens and begins generating electricity prior to January 1, 2002, can earn the tax credit for its first 10 years of operation. Closed loop biomass systems use plants grown exclusively for electricity production. Poultry waste was added as a qualifying fuel by the Tax Relief Extension Act of 1999 (P.L. 106-170), but only for

facilities placed in service from January 1, 2000, through December 31, 2001. Under current law, any plant used exclusively for electrical generation, except standing timber, which is specifically disqualified, qualifies for the credit. Thus, the credit is not available for the use of waste and most other types of biomass (except poultry waste) to generate electricity.

Also under current law, the production tax credit is phased out, proportionately, when and if the reference price — the average price of renewable electricity sold by qualified wind and biomass facilities — rises from 8¢/kWh to 11¢/kWh. Both the credit amount and the phase-out limit are adjusted annually for inflation. The credit is also reduced during any taxable year for which the project has received grants, proceeds from tax-exempt bonds, subsidized energy financing, and any other credit allowable for property that is part of the project. For 1994, the reference prices were 5.4¢/kWh for facilities producing electricity from wind, and 0.0¢/kWh for facilities producing electricity from closed-loop biomass systems. For 1997, the reference prices were 6.4¢ and 0¢, respectively; for 1999 (the latest year available) reference prices were 4.836¢ and 0¢. Since both reference prices were less than the threshold prices for the credit phase-out, (about 9¢/kWh) the renewable electricity credit was not phased-out and remained at 1.7¢/kWh (1.5¢ times the inflation adjustment factor). In calender year 1996, there were no sales of electricity produced from closed-loop biomass energy resources under contracts signed after December 31, 1989.

The President's proposal would make several important amendments to the renewable electricity tax credit:

- The placed-in-service deadline for wind and closed-loop biomass would be extended by 2½ years from January 1, 2002 (present law) to July 1, 2004 (the credit would continue to be available for up to 10 years after that);

- The definition of eligible biomass sources would be substantially expanded to include solid, nonhazardous, cellulosic waste material that is segregated from other waste materials, and that is derived from one of several qualifying types of forest-related resources. The credit for electricity produced from these would be reduced to 1.0¢/kWh;

- Powerplants that can co-fire biomass and coal to generate electricity would qualify for the tax credit but at a reduced rate of 0.5¢ per kWh hour adjusted for post-2000 inflation; and

- Output of electricity generated from facilities that use methane from landfills (bio-gas) would be eligible for a tax credit of either 1.5¢ or 1.0¢/kWh depending on whether the facilities meet the Environmental Protection Agency's New Source Performance Standards.