
Federal Government as Angel Investor for Environment & Energy Projects?

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The financial meltdown of the real estate and subprime mortgage-backed securities market led to passage of two of the most sweeping financial rescue bills in our nation's history: the Emergency Economic Stabilization Act of 2008 (2008 Stimulus Bill), and the American Recovery and Reinvestment Act of 2009 (2009 Stimulus Bill). See Pub. L. No. 110-343; see also Pub. L. No. 111-5. These bills may provide just the sort of angel funding necessary to get certain environmental and energy projects off the ground or help maintain development velocity. Practitioners with a clear understanding of the financial incentives and benefits offered by the bills can help shepherd clients through these difficult financial times. This article provides an overview of those portions of the 2008 and 2009 Stimulus Bills that provide significant benefits to environmental, energy, and natural resources clients.

The 2008 Stimulus Bill provides numerous incentives for clients in developing and fielding clean and renewable forms of energy technology, by ensuring liquidity and vitality through preferential tax treatment. It is, in essence, a proactive program established by Congress to ensure that these vulnerable emerging technologies are not killed off by the lack of liquidity in the marketplace.

The 2009 Stimulus Bill, on the other hand, was passed with the goal of stimulating the economy, creating jobs, and promoting economic recovery by pushing federal funding to the citizens through state and local governments and investing in transportation, environmental protection, and other infrastructure development. The 2009 Stimulus Bill contains several significant supplemental appropriations related to the environment, energy, and resources. Practitioners can help their clients utilize this additional funding for environmental, energy, and infrastructure projects and remediation of contaminated sites, including environmental contamination at formerly utilized defense sites (FUDS).

The 2008 Stimulus Bill was passed to infuse \$700 billion of capital into distressed banks; ensure that credit facilities protect home values, college funds, retirement accounts, and life savings; preserve homeownership; promote job and economic

growth; and provide transparency and public accountability in financial markets. Pub. L. No. 110-343 § 2. This portion of the bill is commonly referred to as the Troubled Assets Relief Program (TARP).

In addition to the much publicized TARP, the Energy Improvement and Extension Act of 2008 (Act) was attached to the 2008 Stimulus Bill. Important to this analysis, the Act includes more than 100 tax provisions, 290 amendments to the Internal Revenue Code (Tax Code), and over \$150 billion in separate tax incentives. These tax incentives are directed at ensuring that the current lack of liquidity in the financial markets will not slow ongoing research, development, and implementation of renewable or clean energy sources and emerging carbon-sequestration efforts nor the development of alternative fuel and transportation technologies.

These emerging environmental and clean energy technologies, and the companies and individuals developing them, are particularly vulnerable to interruptions in venture capital, private equity, and institutional funding. The significant upfront costs associated with these enterprises, coupled with the lack of early-stage profitability, make the research, development, and full-scale implementation of emerging clean and renewable energy technologies prohibitive without government assistance and funding. Accordingly, Congress has historically provided firms pursuing development of these alternative technologies tax credits and incentives to encourage success. This particular vulnerability is even more pronounced when the emerging technology must compete against already established energy sources, such as coal, oil, and natural gas, which remain available in relatively abundant amounts without a dramatic increase in price. The increase in commodity prices that accompanied the shift of funding away from the dollar and into commodities and the resulting increased cost of finished products, such as electricity and fuel, have acted as incentive to sway consumer opinion and promote the development of alternative energy sources. The recent market collapse and paralysis in the credit markets, as well as the decrease in the cost of established energy sources, however, have dampened the development of renewable and clean energy technologies, just as they were beginning to gain market traction.

Focused on ensuring the continued momentum in the development of these next-generation technologies, the Act contains amendments and additions that are generally categorized into (1) tax credits and incentives for renewable energy,

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carbon mitigation, and coal power and (2) transportation and domestic fuel security provisions.

Renewable Energy Incentives in the 2008 Stimulus Bill

The Energy Improvement and Extension Act of 2008 attached to the 2008 Stimulus Bill Act contains several significant benefits and incentives for renewable energy projects. Title 1 of the Act amends certain energy-production tax incentives impacting renewable energy. Specifically, it amends Section 45 of the Tax Code, which allows a production tax credit of up to 1.5 cents (adjusted for inflation) for each kilowatt hour (kWh) of electricity that is produced by the taxpayer from qualified energy resources. Qualified energy resources include wind, biomass, geothermal, solar, small irrigation power, municipal solid waste, qualified hydropower production, and marine and hydrokinetic renewable energy. The Act extends the placed-in-service date for the production tax credit through December 31, 2009, in the case of wind and refined coal, as these production tax credits were set to expire on January 1, 2009. The Act also increases the potential for refined coal to qualify as an energy resource for purposes of utilizing the production tax credit. As it pertains to refined coal, the Act eliminated the market value test for refined coal, which required that it be produced in such a manner as to result in an increase of at least 50 percent in the market value

The Act extends the 30 percent investment tax credit to “qualified fuel cell property” and “qualified small wind energy property” through December 31, 2016.

of the refined coal as compared to the value of feedstock coal. However, to qualify for the new production tax credit, refined coal producers must achieve greater emissions reductions—at least a 20 percent reduction of nitrogen oxide emissions and at least a 40 percent reduction of either sulfur dioxide or mercury emissions.

The Act clarifies the definition of a trash facility to include facilities that merely “use” municipal solid waste to produce electricity, as opposed to facilities that burn municipal solid waste to produce electricity. The Act also extends the definition of an eligible biomass facility to include new units. Production tax credits are allowed for certain nonhydroelectric dams.

The Act also expands the types of facilities qualifying for the production tax credits to those facilities that generate electricity from marine and hydrokinetic renewable energy sources. Marine and hydrokinetic renewable energy sources include waves, tides, and currents in oceans, estuaries, and tidal areas; free-flowing water in rivers, lakes, and streams; and water in irrigation systems, canals, or other man-made channels, including projects that utilize nonmechanical structures to accelerate the flow of water for electric-power production purposes. The Act also contemplates the production of electricity through the process of ocean thermal conversion. A facility producing electricity from marine and hydrokinetic renewable energy is allowed to take the production tax credit if the facility’s capacity is at least 150 kilowatts and is placed in service before January 1, 2012. Taxpayers are not entitled to this credit with respect to geothermal or solar-energy property or wind facilities if they utilize investment tax credits available under certain other provisions of the Tax Code.

Title I Section 103 of the Act allows a nonrefundable, business energy credit for the cost of new property used to produce alternative energy. The Act extends the 30 percent investment tax credit to “qualified fuel cell property” and “qualified small wind energy property” through December 31, 2016. With respect to fuel cell property, the Act increases the credit limitation on the property from \$500 to \$1,500. The Act also extends the investment tax credit through January 1, 2017, for equipment using solar energy to generate electricity, provide hot water, or illuminate the inside of structures. Other energy property qualifying for a 10 percent investment tax credit through January 1, 2017, includes equipment using thermal energy sources, such as ground or ground water, to heat or cool a structure. Qualified microturbine property qualifies for a 10 percent investment tax credit through December 31, 2016. However, no investment tax credits are available for any property utilizing the production tax credits discussed above.

Sections 104 and 105 of the Act amend Section 48 of the Tax Code to allow two new tax credits. Section 104 creates a new 30 percent tax credit for qualified small wind-energy property. Section 105 of the Act allows an energy credit for geothermal heat-pump systems. Qualified small wind-energy properties are those that use small wind turbines to generate electricity. A qualifying small wind turbine must have a nameplate capacity of no more than 100 kilowatts. The investment tax credit for qualified small wind-energy property cannot exceed \$4,000.

Section 106 of the Act extends through 2016 credits for residential energy-efficiency property. It also eliminates the limitation on the tax credit for solar-electric property and allows a residential-energy tax credit for 30 percent of small wind-energy and geothermal heat-pump property expenditures. Each of these tax credits is limited to certain maximum allowable dollar amounts. The maximum allowable tax credit for small wind energy is \$500 for each half kilowatt of capacity with a not-to-exceed amount of \$4,000. The maximum allowable credit for qualified geothermal heat-pump property expenditures is \$2,000.

Section 107 of the Act creates Section 54C of the Tax

Code, which provides new clean renewable-energy bonds through December 31, 2009. These bonds allow 100 percent of project proceeds to be used for capital expenditures incurred by government bodies, public power providers, or cooperative electric companies for one or more qualified renewable energy facilities. Government bodies include any state or Indian tribal government or a political subdivision of these bodies. Public power providers include state utilities that provide electric service to end users or to a distribution utility. A cooperative electric company is defined under Section 54C of the Tax Code as "a mutual or cooperative electric company described in section 501(c)(12) or section 1381(a)(2)(C) [of the Tax Code]." 26 U.S.C. § 54C(d)(4). Section 501(c)(12) of the Tax Code describes a cooperative electric company as a company where 85 percent or more of its income is derived from amounts collected from members for the sole purpose of meeting losses and expenses. These amounts are applied without taking into account any income received or accrued from (1) qualified pole rentals; (2) any provision or sale of electric-energy transmission; (3) electric-energy-distribution services to distribute electric energy not owned by the mutual or electric cooperative company to end users who are served by distribution facilities not owned by the company or any of its members; or (4) a generation facility that is not owned or leased by the company or any of its members and that is directly connected to distribution facilities owned by the company or any of its members. These amounts are also applied without taking into account any income derived from any nuclear decommissioning transaction or from any asset exchange or conversion transaction.

A national limit on the amount of designated bonds that can be issued is set at \$800 million. This amount of bond funding is allocated equally between public power providers, governmental bodies, and cooperative electric producers. The entities are also deemed to be qualified issuers of the new clean renewable-energy bonds. Other qualified issuers of the new clean renewable-energy bonds include renewable-energy bond lenders or not-for-profit electric utilities that have received a loan or loan guarantee under the Rural Electrification Act.

Carbon Dioxide Mitigation Incentives in the 2008 Stimulus Bill

The Act encourages measures taken to reduce carbon dioxide (CO₂) emissions. In so doing, it provides financial benefits to the steel industry by amending Section 45 of the Tax Code to allow steel-industry fuel to be characterized as a renewable-energy resource. Steel-industry fuel includes fuel produced through a process of liquefying coal-waste sludge, distributing it on coal, and using it as a feedstock for the manufacture of coke, as well as refined coal.

A producer of steel-industry fuel is allowed a tax credit equal to \$2 per barrel of oil equivalent, which is steel-industry fuel with a content of 5.8 million Btus. The tax credit period, as applied to steel industry fuel, begins on the later of the date the facility was originally placed in service, the date of any

modifications to an existing facility that allows the facility to produce steel industry fuel, or October 1, 2008. The period ends on the later of December 31, 2009, or one year after the date the facility or the modifications were placed in service.

Subtitle B of Title I of the Act sets forth stimulus provisions to continue the support and encouragement of "clean coal" technologies and carbon sequestration activities. Subtitle B also clarifies that certain gasification projects producing transportation-grade liquid fuels are eligible for investment tax credits under Section 48B of the Tax Code. Specifically, Section 111 of Subtitle B expands and modifies the advanced coal project investment credit. The Act modifies Section 48A to allow a qualifying advanced coal project credit equal to 30 percent of the qualified investment for particular projects qualifying for the credit. The aggregate credit of \$2.55 billion allowed under Section 111 is allocated among the following: (1) \$800 million for integrated gasification combined cycle projects; (2) \$500 million for projects that use other advanced coal-based generation technologies; and (3) \$1.25 billion for advanced coal-based generation technology projects.

An integrated gasification combined cycle is an electric generation unit that produces electricity by converting coal to syngas, which fuels a combined cycle plant that produces electricity from both combustion and steam turbines. Qualifying advanced coal projects use advanced coal-based generation technology to power new or retrofitted electric generation units. The fuel input for such projects must be at least 75 percent coal, have a total generating capacity of at least 400 megawatts, be located in the United States, and include equipment separating and sequestering at least 65 percent of the project's total CO₂ emissions. Applicants must also certify that the project has complied with all federal and state environmental laws and that they have purchased the main steam turbine(s) for the project. Projects separating and sequestering the greatest percentage of total CO₂ emissions are given highest priority.

Section 112 of the Act expands and modifies the coal gasification investment credit through amendment of Section 48B of the Tax Code. Section 112 of the Act increases the investment tax credit to 30 percent for qualifying gasification projects with equipment that separates and sequesters at least 75 percent of the project's total CO₂ emissions. Projects qualifying for this investment tax credit must employ gasification technology. Gasification technology is any process that converts solid or liquid coal, petroleum residue, biomass, or other materials into syngas composed primarily of carbon monoxide and hydrogen. Biomass includes agricultural or plant waste, byproducts of wood or paper-mill operations, and other forestry products. Biomass does not include, however, recycled-paper products. The total amount of the credit for such projects is \$250 million. Similar to the advanced coal project investment credit, projects with the greatest percentage of separation and sequestration of CO₂ will be given highest priority.

Section 115 of the Act creates a new tax credit for CO₂ sequestration. The CO₂ sequestration credit is

equal to the sum of (1) \$20 per metric ton of qualified carbon dioxide which is (A) captured by the taxpayer at a qualified facility, and (B) disposed of by the taxpayer in secure geological storage, and (2) \$ 10 per metric ton of qualified carbon dioxide which is (A) captured by the taxpayer at a qualified facility, and (B) used by the taxpayer as a tertiary injectant in a qualified enhanced oil or natural gas recovery project.

26 U.S.C. § 45Q(a).

The CO₂ must be captured from an industrial source that would otherwise have been emitted into the atmosphere. The emissions are measured at the source of capture and verified at the point of disposal or injection. The credit is limited to CO₂ captured and sequestered within the United States. In order to qualify for the credit, a facility must capture at least 500,000 metric tons of CO₂ during the taxable year. Only persons actually capturing and ensuring sequestration of the CO₂ qualify for the credit. Section 115 of the Act also authorizes the establishment of regulations to ensure that sequestered CO₂ does not subsequently escape into the atmosphere.

Section 116 of the Act provides that certain income and gains relating to industrial-source CO₂ will be treated as qualifying income for publicly traded partnerships. A partnership will not be treated as a corporation under the “publicly traded partnership rules” for any tax year if 90 percent or more of the gross income of the partnership for the tax year consists of “qualifying income.” The Act permits publicly traded partnerships to treat income derived from the transportation or storage of certain alternative fuels and anthropogenic CO₂ as qualifying income for purposes of the publicly traded partnership rules.

Alternative Fuel and Transportation Incentives in the 2008 Stimulus Bill

Finally, the 2008 Stimulus Bill offers several financial incentives to develop alternative fuels. Title II of the Act promotes the continued development and use of biofuels. Specifically, Sections 201 through 203 of the Act (1) expand the category of cellulosic biomass ethanol to the broader category of cellulosic biofuel for the calculation of bonus depreciation for ethanol plant property; (2) increase the income tax credit and excise tax credits for biodiesel and renewable diesel; and (3) with the exception of renewable diesel co-produced with petroleum feedstock, broaden the definition of “renewable diesel.” Renewable diesel is currently defined as a diesel fuel produced by a thermal depolymerization process. The expanded definition of renewable diesel now also includes aviation fuel produced from biomass that meets Department of Defense specifications for military jet fuel or ASTM specifications for aviation turbine fuel. The definition disqualifies foreign-produced fuel that is used or sold for use outside the United States from the income and excise tax credits for alcohol, biodiesel, and alternative fuel production.

Section 202 of the Act extends the \$1.00 per gallon production tax credit for biodiesel and the 10 cents per gallon credit for small biodiesel producers through 2009. The Act

also extends the \$1.00 per gallon production tax credit for diesel fuel created from biomass. The Act eliminates the disparity in credit for biodiesel and agri-biodiesel, and eliminates the requirement that renewable diesel fuel must be produced using a thermal depolymerization process. Diesel fuel created by co-processing biomass with other feedstocks (e.g., petroleum) will be eligible for the 50 cents per gallon tax credit for alternative fuels.

Section 204 of the Act extends and modifies the alternative fuel excise tax credit. It extends the tax credit through December 31, 2009, for all fuels except hydrogen, which maintains its current-law expiration date of September 30, 2014. It further provides that biomass gas versions of liquefied petroleum gas, liquefied or compressed natural gas, and aviation fuels qualify for the credit. Credit is now also allowed for aviation use of qualifying alternative fuel. To be eligible for credits under this section, coal-to-liquids fuels must be produced by a gasification facility that captures and stores at least 50 percent of the CO₂ emissions up to December 30, 2009, and 75 percent for fuel produced after December 30, 2009.

Section 205 allows a tax credit for new, qualified plug-in electric drive motor vehicles. The amount of the credit is based upon the gross vehicle weight rating of such vehicles. The credit is a base \$2,500 plus \$417 for each kWh of battery pack capacity in excess of 4 kWh, to a maximum of \$7,500 for light-duty vehicles; \$10,000 for vehicles with gross vehicle weights (GVWs) of more than 10,000 but less than 14,000 pounds; \$12,500 for vehicles with a GVW of more than 14,000 but less than 26,000 pounds; and \$15,000 for any vehicle with a GVW of more than 26,000 pounds. The credit terminates after 2014.

Section 206 of the Act provides an exclusion from the heavy truck excise tax for idling-reduction devices and advanced insulation used in certain heavy trucks and trailers.

Sections 207 through 211 the Act (1) extend through 2010 the tax credit for alternative fuel vehicle refueling property expenditures and include electricity as a clean burning fuel for purposes of such credit; (2) provide for the treatment of certain income and gains from alcohol, biodiesel, and alternative fuels and mixtures as qualifying income for publicly traded partnerships; (3) extend through 2013 the taxpayer election to expense costs of certain refinery property; (4) extend the suspension of the taxable income limit on percentage depletion for oil and natural gas produced from marginal properties; and (5) allow employees to exclude reimbursements for bicycle commuting expenses from gross income.

Other Incentives in the 2008 Stimulus Bill

In addition to the financial benefits given to renewable energy, CO₂ mitigation, and alternative-fuel transportation projects, the Act grants tax incentives to a variety of projects intended to reduce impacts to the environment. The Act creates a new category of tax credit bonds to finance state and local government initiatives designed to reduce greenhouse gas emissions. A national limitation of \$800 million is allocated

among states, municipalities, and tribal governments.

Also, the Act extends the energy-efficient commercial buildings deduction for five years, through December 31, 2013. Furthermore, the Act provides accelerated depreciation for smart electric meters and smart electric grid equipment. It allows taxpayers to recover the cost of these investments over a ten-year period, unless they already qualify under a shorter recovery schedule. Finally, the Act allows taxpayers to claim accelerated depreciation for purchases of equipment used to collect, distribute, or recycle a variety of commodities. To help ensure continued momentum in developing these next-generation technologies during the recent economic downturn, the 2008 Stimulus Act contains tax credits and incentives for renewable energy, carbon mitigation and coal power, and transportation and domestic fuel security provisions.

Incentives in the 2009 Stimulus Bill

The 2009 Stimulus Bill was passed with the goal of stimulating the economy, creating jobs, and promoting economic recovery. In this regard, the 2009 Stimulus Bill contains several significant supplemental appropriations related to the environment, energy, and resources that may be utilized for energy and civil infrastructure projects, as well as environmental remediation of contaminated sites.

Titles IV and VII of the 2009 Stimulus Bill contain the supplemental appropriations most relevant to the environment, energy, and resources practitioner, and the availability of additional funding may assist practitioners involved in these types of projects.

Title IV of the 2009 Stimulus Bill funds several unique energy- and water-development projects. First, the U.S. Army Corps of Engineers received funding to investigate energy and water development, construct water-related environmental infrastructure, including flood-control projects, and operate regulatory programs related to the FUDS Remedial Action Program. Second, the Department of Interior's Bureau of Land Reclamation received supplemental appropriations for the following: (1) water and related resources, including water-reclamation and reuse projects; (2) programs, projects, and activities authorized by the Central Utah Project; and (3) the California Bay-Delta Restoration Act rural water projects to update water intake and treatment facilities and to inspect canals in urbanized areas. Third, the Department of Energy (DOE) was awarded supplemental appropriations for certain energy programs, including programs related to the Energy Efficiency and Conservation Block Grants, the Weatherization Assistance Program under the Energy Conservation and Production Act, and the State Energy Program authorized by the Energy Policy and Conservation Act.

DOE was also awarded supplemental appropriations for programs associated with electrical delivery and energy reliability. These funds include expenses necessary for electricity delivery and energy reliability activities to modernize the electric grid, including demand responsive equipment; enhanced security and reliability of energy infrastructure; energy storage research,

development, demonstration, and deployment; recovery from disruptions to the energy supply; and implementation of programs authorized under the Energy Independence and Security Act of 2007.

Appropriations to DOE also include funds for the following unique programs: fossil-fuel energy research and development; nondefense environmental cleanup; uranium enrichment decontamination and decommissioning; advanced research projects; the Innovative Technology and Loan Guarantee Program, as authorized by the Energy Policy Act of 2005; and other environmental and defense activities.

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The 2009 Stimulus Bill also makes corrections and amendments to the Energy Independence and Security Act of 2007 directed, in part, at providing financial support to smart grid or other advanced grid technology investments and demonstration projects, including establishing and maintaining a smart grid information clearinghouse.

The 2009 Stimulus Bill amends the Energy Policy Act of 2005 to enhance the Renewable Energy and Electric Power Transmission Loan Guarantee Program to encourage the "rapid deployment of renewable energy and electric power transmission projects." These renewable-energy projects include those related to hydropower, generation of electricity or thermal energy, facilities that manufacture related components, upgrading and reconditioning projects, and certain biofuel projects that will reduce greenhouse gas emissions as compared to other transportation fuels.

Title VII of the 2009 Stimulus Bill grants general appropriations related to the interior, environment, and related agencies. These appropriations include directing funds to the Department of Interior's Bureau of Land Management for the management of lands and resources. Additionally, appropriations to the U.S. Fish and Wildlife Service include funds for resource management related to the maintenance, construction, and capital improvement projects on national wildlife refuges and national

fish hatcheries; high-priority habitat restoration projects; construction, reconstruction, and repair of roads, bridges, property, and facilities; and energy-efficient retrofits of existing facilities.

The National Park Service received supplemental appropriations for the operation of the National Park System, including funds for maintenance of facilities and trails; other critical repair and rehabilitation projects; construction related to the repair and restoration of roads; construction of facilities, including energy-efficient retrofits of existing facilities equipment replacement; preservation and repair of historical resources within the National Park System; cleanup of abandoned mine sites on park lands; and other critical infrastructure projects.

The U.S. Environmental Protection Agency was appropriated supplemental funds under the 2009 Stimulus Bill for the Superfund Remedial Program and the Leaking Underground Storage Tank Trust Fund.

The 2009 Stimulus Bill funded State and Tribal Assistance Grants for capitalization grants for the Clean Water State Revolving Funds under the Clean Water Act and the Safe Drinking Water Act.

Appropriations to the Department of Agriculture's Forest Service are for capital improvement and maintenance for priority road, bridge, and trail maintenance and decommissioning, including related watershed restoration and ecosystem enhancement projects, facilities improvement, maintenance and renovation, remediation

of abandoned mine sites, and costs necessary to carry out this work. Funds are also available for wildland fire management and rehabilitation and hazard-mitigation activities on federal lands.

Finally, Division B of the 2009 Stimulus Bill includes incentives such as new or enhanced tax credits, as well as bonds for electricity produced from renewable resources and qualified energy-conservation activities. Division B also includes monitoring requirements for CO₂ captured after the day of the enactment of the 2009 Stimulus Bill that is either used as a tertiary injectant in oil and gas production or injected into unminable coal seams.

In summary, both Stimulus Bills provide incentives that environmental and energy practitioners may utilize to assist their clients. The 2008 Stimulus Bill is valuable to either early- or late-stage development of clean and renewable energy technology because it ensures liquidity and vitality through preferential tax treatment. The 2009 Stimulus Bill, on the other hand, serves our clients' interests by directing federal funds through state and local governments for the renewable energy development and environmental protection.

Outside of the 2008 and 2009 Stimulus Bills, credit or funding for environmental and energy-related projects has largely been unavailable and may have left your clients' projects lying dormant. Given the current economic recession, the key to success for environmental and energy law practitioners may lie in identifying and securing this project funding. 