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Stimulus Potential For Cleantech

Law360, New York (April 02, 2009) -- The cleantech industry is a major benefactor of the economic stimulus package signed into law on Feb. 17, 2009. The bill is intended to double the amount of renewable energy produced over the next three years, transforming the way energy is used and produced in the United States.

The stimulus package includes three types of incentives for the cleantech industry: direct grants, tax incentives and loan guarantees. Estimates of the potential value of these incentives range from approximately $50 billion to $80 billion.

The stimulus contains elements with long-term impact, but additional initiatives with potentially even greater impact, such as comprehensive energy legislation and climate change regulations and legislation, are still in the works.

In the meantime, the stimulus is expected to revitalize public and private investment in the industry, which has suffered like the rest of the economy from the credit collapse and scarcity of private capital.

However, if cleantech companies in urgent need of capital are to survive or avoid damaging layoffs this year, it is critical that funds intended for cleantech projects be distributed swiftly.

Specifically, the stimulus targets a variety of cleantech sectors including smart grid technologies, advanced batteries, fundamental renewable energy research and a host of energy efficiency projects. The stimulus package also includes incentives for sponsors and consumers of cleantech innovation.

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Cleantech Spending Provisions

Smart Grid

The stimulus package provides $4.5 billion to the U.S. Department of Energy (DOE) for research and development, pilot projects and federal matching funds to support the modernization of the electric grid, including the development of the “Smart Grid.”

Industry analysts have noted that $4.5 billion is only a small percentage of what is needed to transform the electricity grid. Nevertheless, it is clear that modernization of the existing grid is on the agenda of the Obama Administration and Congress.

In the short term, the stimulus package will encourage greater adoption of smart grid technologies, leading to startup formation and job creation.

Entrepreneurs and investors with experience-building companies in industries such as software and wireless technology necessary for a smart grid are creating business plans to seize this opportunity.

Advanced Batteries

The stimulus package provides $2 billion in grants to support US manufacturers of advanced batteries and related components.

Supporters of the grants hope the money will spark the development of a major industry in the United States to manufacture advanced batteries.

While the United States has emerging growth companies creating advanced battery technology, the actual manufacturing of batteries remains concentrated in low-cost overseas production centers, particularly in Asia.

The stimulus package could help address this problem. In addition to the $2 billion in grants to support U.S. manufacturers of advanced batteries, the stimulus package also provides up to $2.3 billion in investment tax credits for the manufacture of “advanced energy property,” including technologies for energy storage and $500 million to prepare workers for green jobs.

On the demand side, the economic stimulus package provides tax credits of up to $7,500 for plug-in electric drive vehicles, smaller incentives for converting cars into plug-in electric drive vehicles and $300 million for federal agencies to buy hybrid and electric vehicles. In addition, some of the $4.5 billion earmarked for smart grid technologies will likely be spent on advanced battery systems.

Energy Efficiency of Federal Buildings

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The stimulus package provides $4.5 billion to convert federal buildings into High-Performance Green Buildings, as defined in the Energy Independence and Security Act of 2007.

These buildings reduce energy and water use, improve indoor environmental quality, and reduce pollution.

This investment is expected to contribute to the burgeoning green building and sustainable building materials sector and spur spending on distributed renewable energy generation, including photovoltaic solar panels.

Department of Energy Science Research

The stimulus package provides $1.6 billion for energy research and development programs at the DOE Office of Science, and $400 million to establish the Advanced Research Projects Agency-Energy (ARPA-E).

The funds provided to the Office of Science will support research and development in materials science, climate science, carbon sequestration, biofuels and other energy-related areas.

ARPA-E will support “transformational energy research that industry by itself cannot or will not support due to its high risk,” as Secretary of Energy Steven Chu told Congress in 2006.

Although current funding levels will necessarily limit the scale and effect of the ARPA-E initiative, its investment is expected to have a long-term impact on the development of the cleantech industry.

Energy Efficiency and Conservation Block Grants

The Energy Efficiency and Conservation Block Grant Program assists states, local governments and Indian tribes in implementing energy efficiency and conservation strategies.

Federal regulators intend for these local authorities to reduce fossil fuel emissions created by activities within their jurisdictions, to reduce total energy consumption and to improve energy efficiency in the transportation, building and other energy-consuming sectors of their economies.

The 2007 legislation which created the program authorized the appropriation of $2 billion for each fiscal year 2008 through 2012; the economic stimulus package provides $3.2 billion in additional funding.

Loan Guarantees for Renewable Energy and Electric Transmission Projects

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The stimulus package provides $6 billion to the DOE to cover the cost of loan guarantees for renewable energy and electric transmission projects.

The loan guarantees are intended to accelerate the deployment of renewable energy systems that generate electricity or thermal energy, electric power transmission systems, and pilot or demonstration biofuel projects that will produce transportation fuels.

To date, cleantech companies have complained about the rate of release of these loan guarantees, which in many cases are critical for their survival, given the decrease in availability of private capital.

Secretary of Energy Chu has stated that the DOE is streamlining the processes for distributing loans and grants, and he expects the DOE to release the first loan guarantees by the beginning of May, at the latest.

Research and Development for Fossil Energy

The stimulus package provides $3.4 billion for “fossil energy research and development,” including $1 billion for fossil energy research and development programs, $800 million for the Clean Coal Power Initiative and $1.52 billion for carbon capture and energy efficiency improvement projects.

The Clean Coal Power Initiative, created in 2002, is a technology demonstration program that fosters more efficient clean coal technologies for use in new and existing electric power generating facilities.

Notwithstanding the “fossil energy research and development” moniker, the investment of these funds is also expected to lead to additional investment in entrepreneurial carbon capture and sequestration companies, and advanced clean coal technology.

State Energy Program

The stimulus package provides $3.1 billion in additional funding for the State Energy Program.

This program provides grants and funding to state energy offices for energy efficiency and renewable energy programs. The additional funds will be managed by individual state energy offices and, accordingly, will be spent on a wide variety of programs.

Cleantech Tax Incentives

Production Tax Credit, Energy Tax Credits and Grants In Lieu of Tax Credits

Startups requiring large amounts of capital to build solar thermal power plants or similar projects have been particularly enthusiastic about the extension of the renewable

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electricity production tax credit (PTC), the increased availability of energy tax credits (ETCs) and grants for specified energy property.

Renewable energy power projects, which have particularly large capital needs, have been starving for funding since the collapse of the credit markets, the drastic reduction in the number of companies with profits and the subsequent evaporation of the tax equity market.

Extension of Renewable Electricity Production Tax Credit

The stimulus package extends the placed-in-service date for the renewable electricity PTC.

Under current law, wind projects must be placed in service by the end of 2009 in order to claim the credit, and other PTC-eligible projects must be placed in service by the end of 2010.

The stimulus extends the placed-in-service date for wind projects to Dec. 31, 2012 and extends the date for other eligible renewable technologies to Dec. 31, 2013.

Availability of Energy Tax Credits In Lieu of Production Tax Credits

The stimulus package allows renewable energy producers to elect to receive an ETC on renewable facility expenditures rather than the PTC. Under current law, only certain solar, fuel cell, cogeneration and micro turbines facilities are eligible to receive the ETC.

This list is expanded in the stimulus to provide a 30 percent ETC to wind, biomass, geothermal, landfill gas, trash combustion, qualified hydropower, and marine and hydrokinetic facilities placed into service during the expiration periods described previously.

Grants for Specified Energy Property In Lieu of Investment Tax Credits

The stimulus also allows renewable energy producers to receive grants from the DOE in lieu of the PTC or ETC.

If producers select this option, the DOE will reimburse a certain percentage of investments in eligible renewable energy properties if they are placed into service in 2009 or 2010 (or if construction begins in those years and is completed prior to the termination of the PTC).

The grant amount is 30 percent of the tax basis of eligible solar, fuel cell, wind, biomass, geothermal landfill gas, trash combustion, hydropower, and marine and hydrokinetic energy projects. The grant amount is 10 percent for micro turbines and cogeneration units.

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Renewable Energy and Energy Conservation Bonds

New clean renewable energy bonds (new CREBs) are tax credit bonds in which interest on the bond is paid in the form of federal tax credits by the US government in lieu of interest paid by the issuer.

They are designed for public power providers, electric cooperatives and state, local and tribal governments to develop renewable electric-generating facilities.

The stimulus package raises the current national limitation on new CREBs from $800 million to $2.4 billion.

The stimulus package also authorizes the issuance of additional “qualified energy conservation bonds” (QECBs).

QECBs are tax credit bonds designed to finance certain conservation purposes, including capital expenditures to reduce energy consumption in publicly owned buildings and to implement green community programs. The stimulus package raises the current national limitation on QECBs from $800 million to $3.2 billion.

Credits for Alternative Fuel Pumps and Refueling Stations

The lack of a nationwide infrastructure to support alternative energy-powered vehicles is one impediment to the growth of a 21st century transportation system.

The stimulus temporarily increases the business and personal tax credits for alternative fuel pumps and refueling systems from 30 to 50 percent of qualifying costs for 2009 and 2010, with the exception of hydrogen fueling pumps.

Credits for Residential Renewable Energy Systems

Current law provides a 30 percent personal tax credit for residential solar systems, solar water heaters used to generate electricity (with a $2,000 cap), and certain geothermal heat pumps, wind turbines and fuel cells (each with their own respective caps).

The stimulus package eliminates all caps on these tax credits and permits taxpayers to receive the credits even if they are purchasing the renewable energy systems with financing provided by a federal, state or local program.

This could make a significant difference in states such as California that offer rebates to homeowners who install solar systems.

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Credits for Energy-Efficient Home Improvements

Current law provides a 10 percent personal tax credit for certain energy efficiency home improvements, including insulation materials, exterior windows and doors, and metal or asphalt roofs designed to reduce heat gain.

The stimulus package increases this tax credit from 10 percent to 30 percent. It also extends the credit for one year, through Dec. 31, 2010, and modifies the current cap on eligible expenses. This incentive is also expected to spur additional green building and sustainable building materials investment.

Credits for Plug-in Electric Drive Vehicles

The stimulus package increases the personal tax credit for the purchase of plug-in electric drive vehicles, allowing credits up to $7,500 per vehicle depending on the size of the battery.

The stimulus also replaces the current limitation of 250,000 total vehicles that may qualify for the credit with a limitation of 200,000 vehicles per manufacturer.

In addition, the stimulus package creates a new 10 percent tax credit, up to $4,000, for the cost of converting any motor vehicle into a plug-in electric drive vehicle.

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