

Client Alert

Latham & Watkins
Corporate Department

American Recovery and Reinvestment Act of 2009—Implications for Cleantech Companies and Investment

The cleantech industry is a major benefactor of the economic stimulus package signed into law on February 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.

Generally, 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 of and investors in renewable energy-based power projects, and incentives for consumers who purchase plug-in electric drive vehicles and residential renewable energy systems.

Cleantech Spending Provisions

Smart Grid

The economic stimulus package provides \$4.5 billion to the US Department of Energy 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."

A smart energy grid would feature a variety of technologies, including intelligent meters and software to support remote monitoring and demand-side management, advanced batteries to store energy produced from renewable sources, advanced sensors to report line conditions in real time, wireless technology to improve communication, superconducting power cables and improved software to support grid operators. Together, these technologies are meant to promote reliability and

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efficiency, drive energy costs down, increase security and help integrate renewable energy sources.

Industry analysts have noted that \$4.5 billion is only a small percentage of what is needed to transform the electricity grid in a real way. Nevertheless, it is clear that modernization of the existing grid is on the agenda of the Obama Administration and the current Congress. In the short term, the stimulus package will encourage greater adoption of smart grid technologies, leading to startup formation and job creation. A growing number of entrepreneurs and investors with experience-building companies in industries such as software, wireless technology and other existing technologies necessary for a smart grid are creating business plans to seize this opportunity.

Advanced Batteries

The economic stimulus package provides \$2 billion in grants to support US manufacturers of advanced batteries and related components, including advanced vehicle batteries and battery systems.

Supporters of the grants hope the money will help spark the development of a major industry in the United States to manufacture batteries to power hybrid and electric vehicles and to store energy in a distributed manner throughout the grid. Given the expected growth in demand for battery-powered vehicles and distributed power storage, investors and entrepreneurs are increasingly interested in advanced battery technology. Unfortunately, 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 economic stimulus package could help address this problem. In addition to the \$2 billion in grants to support US

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, \$500 million to prepare workers for green jobs, and other funds for the cleantech industry that will likely be funneled to battery research that could help drive down costs. 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 (as discussed previously) will likely be spent on advanced battery systems for storing energy produced from renewable sources.

Overall, the \$2 billion in grants to support US manufacturers of advanced batteries, combined with other relevant provisions in the economic stimulus package, is expected to facilitate a more substantial battery manufacturing industry in the United States. The growth of domestic battery manufacturing is, in turn, expected to contribute to the formation of and investment in startups advancing the state of the art in battery technology and energy storage.

Energy Efficiency of Federal Buildings

The economic 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, reduce pollution and waste generation, increase the use of environmentally preferable products, and increase reuse and recycling opportunities. Money spent to convert federal buildings will be managed by

the recently created Office of High-Performance Green Buildings in the General Services Administration. This investment is expected to contribute to the burgeoning green building and sustainable building materials sector. In addition, it is expected to spur spending on distributed renewable energy generation, including photovoltaic solar panels.

Department of Energy Science Research

The economic stimulus package provides \$1.6 billion for energy research and development programs at the Department of Energy 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 when he headed the Lawrence Berkeley National Lab.

ARPA-E is specifically designed to develop technologies that result in reduced foreign imports of energy, reduced energy-related emissions and improvements in energy efficiency. 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 purpose of the Energy Efficiency and Conservation Block Grant Program (created by the Energy Independence and Security Act of 2007) is to assist 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 authorized the appropriation of \$2 billion for each fiscal year 2008 through 2012; the economic stimulus package provides \$3.2 billion in additional funding.

According to a publication by the US Conference of Mayors, activities eligible to receive grants include residential and commercial building energy audits, financial incentive programs for energy efficiency improvements, grants to nonprofit organizations to perform energy efficiency retrofits, programs to conserve energy used in transportation (*e.g.*, flex time for employees and the promotion of energy-efficient zoning requirements), building codes and inspection services to promote building energy efficiency, public education programs to increase participation and efficiency rates for recycling programs, the installation of light emitting diodes (LEDs), and the development, implementation and installation on government buildings of technology to generate electricity from renewable sources (*e.g.*, solar and wind energy, fuel cells and biomass).

Loan Guarantees for Renewable Energy and Electric Transmission Projects

The economic stimulus package provides \$6 billion to the Department of Energy 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. It does not include loan guarantees for nuclear power plants and "coal to liquid fuel" projects. 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 Department of Energy is streamlining the processes for distributing loans and grants, and he expects the Department to release the first loan guarantees for renewables projects by the beginning of May, at the latest.

Research and Development for Fossil Energy

The economic 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 potentially in startups creating advanced clean coal technology.

State Energy Program

The economic 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. The

nationwide distribution of the funding may lead to startup formation in areas without a history of venture capital activity, though certainly the Silicon Valley, the Route 128 region near Boston, Massachusetts, Austin, Texas, and a handful of similar geographic areas will continue to lead the way.

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 electricity production tax credit, the increased availability of energy tax credits in lieu of production tax credits and grants for specified energy property in lieu of energy tax credits. 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. Together, the package of incentives is expected to revitalize the flow of project finance to renewable energy projects and renewed investment in related emerging growth companies.

Extension of Renewable Electricity Production Tax Credit

The stimulus package extends the placed-in-service date for the renewable electricity production tax credit (PTC). The PTC is a per-kilowatt-hour credit on renewable electricity production for eligible renewable energy projects. 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

December 31, 2012. For other eligible renewable technologies, including biomass, geothermal, landfill gas, trash combustion, qualified hydropower and marine and hydrokinetic facilities, the stimulus package extends the placed-in-service date to December 31, 2013.

Availability of Investment Tax Credits In Lieu of Production Tax Credits

The economic stimulus package allows renewable energy producers to elect to receive an energy tax credit (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 (through 2012 for wind, and through 2013 for other energy facilities).

Grants for Specified Energy Property In Lieu of Investment Tax Credits

The stimulus also allows renewable energy producers to receive grants from the Department of Energy in lieu of the PTC or ETC. If producers select this option, the Department of Energy 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. If a grant is paid, the receipt may not subsequently claim the PTC or ETC. This provision and the two provisions summarized previously are expected to cost about \$14 billion.

Renewable Energy and Energy Conservation Bonds

The stimulus also strengthens a creative source of funding called "new clean renewable energy bonds" (new CREBs), first authorized by the Emergency Economic Stabilization Act of 2008. 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. Under current law, there is a national limitation of \$800 million on new CREBs. The economic stimulus package authorizes the issuance of up to an additional \$1.6 billion of new CREBs.

The economic stimulus package also authorizes the issuance of additional "qualified energy conservation bonds." Like new CREBs, these are tax credit bonds in which interest on the bond is paid in the form of federal tax credits by the US government. Qualified energy conservation bonds are designed to finance certain conservation purposes, including capital expenditures to reduce energy consumption in publicly owned buildings and to implement green community programs. Under current law, there is a national limitation of \$800 million on qualified energy conservation bonds. The economic stimulus package authorizes the issuance of up to an additional \$2.4 billion of these bonds.

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. These credits have been welcomed by entrepreneurs and investors in next generation fuels and next generation automotive technology.

Credits for Consumers

The stimulus is expected to increase demand for renewable energy systems and plug-in electric drive vehicles by providing significant tax incentives for consumers.

Credits for Residential Renewable Energy Systems

Current law provides a 30 percent personal tax credit for residential solar systems and solar water heaters used to generate electricity. There is no cap on the credit for solar systems, but there is a \$2,000 cap for solar water heaters. Current law also provides a 30 percent tax credit for 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.

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 economic stimulus package increases this tax credit from 10 percent to 30 percent. It also extends the tax

credit for one year, through December 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 economic 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 package 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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