

The Green New Deal—Energy and the Stimulus Bill

American Recovery and Reinvestment Act of 2009

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The ARRA Commitment is a Down Payment

“The country that harnesses the power of clean, renewable energy will lead the 21st century.”

-President Barack Obama, Speech to Congress, Feb. 24, 2009

General Services Administration

- **Federal Buildings Fund**
 - **\$5.55 billion**
 - **\$750 million** for Federal Buildings and courthouses
 - **\$450 million** for a new headquarters for the Department of Homeland Security
 - **\$300 million** for border stations and land ports of entry
 - Not less than **\$4.5 billion** to convert GSA facilities to High-Performance Green buildings
 - **\$4 million** for the Office of Federal High-Performance Green Buildings
 - **\$3 million** for a training and apprenticeship program for construction, repair and alteration of Federal buildings

General Services Administration

- **Federal Buildings Fund**
 - **Federal Green Buildings**
 - Funds are in addition to rent revenue to the GSA Federal Building Fund
 - H.R. 1 required that the General Services Administration (GSA) submit a detailed plan, by project, to the Committees on Appropriations of the House of Representatives and the Senate describing the planned use of the Stimulus funds within 45 days of enactment of this Act
 - On March 31, 2009, GSA issued a report to congress detailing the cities, states and federal buildings which they plan to fund they plan to spend the Stimulus funds

Green Building System Elements

- Building Automation and Controls
 - Integration of lighting, HVAC, appliances, security, street lighting, remote monitoring, etc.
 - No new wire systems offer cost effective solutions
 - Power line communications
 - Green buildings are about efficiency, materials, etc.
 - Smart buildings' core is integrated building technology systems for operational efficiencies and enhanced management
 - Smart grid, intelligent buildings
 - Optimize energy flows and enhanced 2-way communication
 - Building automation key to demand responses programs

Automation and Controls Part of GSA's SFO

- The GSA lease SFO includes various sustainable performance requirements
- Including...
 - The Lessor shall provide occupancy sensors and/or scheduling controls through building automation system to reduce the hours the lights are on when the space is unoccupied. Daylight dimming controls shall be used in atriums or other space where daylight can contribute to energy savings.
 - By FY2010 all new federal leases will need to be in energy state building

The Case for Building Retrofits

- Federal government owns 445,000 facilities and lease an additional 57,000 buildings, includes DoD buildings
- GSA owns or operates more than 8,300 buildings with 330 million sq ft
 - 50 percent of which is lease
- Department of Defense consumes 58% of the energy used by the government
- Federal government is the nation's single largest energy consumer and matches the energy consumed by Austria
- Federal buildings consume 1.6 quadrillion Btu of energy at a cost of \$17.4 billion
- American taxpayers contribute about \$4 billion annually to heat, cool and power the 445,000 federal buildings and facilities
- Lighting, heating and cooling represent 65% of energy consumed in buildings

It is the right time for commercial real estate owners to develop a sustainability plan for current and future projects

Reasons Landlords Go Green

- Reduced energy consumption and waste production means costs savings
- State and local incentives to fast track permits for green projects
- Enhanced image for public relations
- Grants that help pay for LEED certification process
- Cities now requiring LEED certification
- Ability to charge higher rents
- Tax credits and incentives for green buildings and retrofits
- Lower vacancy rates

Older, inefficient buildings are already becoming less appealing to potential tenants and landlords need to reduce their carbon footprint in order to stay viable.

Green Opportunities for Leased Buildings

- Introduction of green concepts should be made during earliest stages of building selection and lease negotiation
- Implementation of O&M procedures
- Negotiating green leases
- LEED for Commercial Interiors and Renovations
- Selection of high performance buildings
- Identification of strategies to green the facility
- Built to suit lease solicitations can contain criteria for sustainable design, energy efficiency, building performance
- Requirement for Energy Star building label
- Energy Savings Performance Contracts and utility energy efficiency service contracts
- Lease concerns of IAQ, energy consumption, water, materials, recycling programs and access to public transportation

How Big Is the ARRA Commitment to Renewable Energy?

- Energy-related direct appropriations = \$35 billion; with additional funds available for energy from other baskets
- Stimulus impact of certain tax credit changes falls outside the dollar totals
- The appropriation for the Loan Guaranty program is \$6 billion but that translates into capacity to guarantee \$60 billion in loans
- Clean Renewable Energy Bonds and Energy Conservation Bonds provide \$4 billion for energy projects
- The Treasury grant in lieu of tax credits program is unlimited, and while not perfect, could be very widely used

What Else Does ARRA Do for Renewables and Sustainable Energy?

- Energy efficiency programs flow mostly through existing state programs
- Municipal bond rules are revised to unlock credit, with potential large benefit for renewables projects
- Clean Tech research gets a boost
- Utilities are pushed towards efficiency and renewables
- New appropriations reinforce Department of Defense initiatives for renewables

Impact on Energy Project Developers

- The financial and banking crisis of 2008 was debilitating for developers and tax investors
 - All sources of capital shut off
 - No IPO capital, no lenders, no tax equity
- When Obama won the election, industry participants quickly organized
- Unprecedented bipartisan support for the industry
- Immediate industry reaction is very positive
- But the “devil is in the details”

Extension of Production Tax Credit

- Extend § 45 Production Tax Credit
 - Wind projects extended through Dec. 31, 2012
 - Biomass, geothermal, landfill gas, waste-to-energy, hydropower, and marine renewables projects extended through Dec. 31, 2013.

Election to Claim Energy Investment Tax Credit

- Project investors in projects previously qualifying for section 45 production tax credits **may elect to take section 48 investment tax credits**
 - Current law allows **section 45 PTC** to be taken over a 5 or 10 year period (10 years for wind).
 - Current law allows **section 48 ITC** to be taken in the year the project is placed in service (30% credit for solar, fuel cell, small wind property; 10% credit for other qualifying technologies).
 - **ARRA provides that technologies previously qualifying for the PTC** (including wind, biomass, geothermal, landfill gas, waste-to-energy, hydropower, and marine facilities) **may now claim a credit equivalent to the 30% ITC.**

Treasury Grant in Lieu of Tax Credit

- Treasury will provide grants in lieu of section 48 investment tax credits.
- Projects eligible for section 45 production tax credits can be converted to ITC to qualify for grant program.
 - Construction must begin prior to 12/31/2010
 - Projects must be placed in service before:
 - 2013 for wind (30% credit)
 - 2014 for biomass, geothermal, landfill gas, waste-to-energy, hydropower & marine renewables (30% credit)
 - 2017 for fuel cell, solar, small wind (30% credit)
 - 2017 for geothermal, microturbine, combined heat & power and geothermal heat pump property (10% credit)

Extension of Bonus Depreciation

- Extension of 50% first-year Bonus Depreciation
 - In 2008, Congress allowed businesses to recover the cost of capital expenditures faster than the ordinary depreciation schedule.
 - As in 2008, businesses may immediately write-off 50% of the cost of depreciable property.
 - Investment must be made by Dec. 31, 2009.

Elimination of Subsidized Energy ITC Penalty

- Currently, section 48 investment tax credit (ITC) must be reduced if the property is financed with tax-exempt financing or other subsidized energy financing
- ARRA eliminates this limitation
- Broadens the possible public-private financing options

DOE Loan Guarantees

- Renewable energy loan guarantees
 - \$6 billion in appropriated funds should support at least \$60 billion in loans
 - “Rapid Deployment” loan guarantees for renewable energy power generation using current commercial technology, including:
 - Renewable energy systems that generate electricity or thermal energy, and facilities that manufacture related components; and
 - Demonstration or pilot projects using leading-edge biofuel technology that is likely to become commercialized and reduce life-cycle greenhouse gas emissions
 - Transmission projects also covered
 - Loan guarantees for biofuel projects limited to \$500 million
 - Construction must commence by Sept. 30, 2011

Impact on Energy Project Developers

- Did ARRA address the problems and will it be effective?
 - Tax Benefits are clearly more valuable
 - Does not increase the market for tax equity
 - Individuals cannot use tax credits
 - Complicated tax partnerships and leases remain the only means to monetize tax attributes
 - Cash Grant and Government Guarantee program should increase capital availability
 - Widespread concern that the programs will be difficult to implement
 - Also concern about technical rules
 - “Stranded depreciation” widely debated

Impact on State & Local Governments

- ARRA flows \$11.3 billion dollars through State and Local Governments for renewable energy and energy efficiency.
- How will Federal dollars flow through State programs into projects? Are the governments ready for the money?
- Municipal bond rules were heavily rewritten – will it make a difference?
- How fast can new bond authority be deployed? How much will be dedicated to energy projects?

Energy Efficiency Grants

- Energy efficiency grants
 - \$5 billion to fund grants to states under the existing Weatherization Assistance Program to assist low-income families in reducing energy costs
 - \$4.5 billion to fund construction, repair, and alteration of Federal buildings for projects focused on increasing energy efficiency and conservation

Energy Efficiency & Renewable Energy Grants

- Energy efficiency and renewable energy grants
 - \$3.2 billion to fund the Energy Efficiency and Conservation Block Grants program (\$400 million of which is awarded on a competitive basis to grant applicants) to assist states, local governments and Indian tribes, and private entities in implementing strategies to reduce fossil fuel emissions and total energy use.
 - Funded activities include:
 - financial incentive programs for energy efficiency improvements;
 - grants to non-profit organizations to perform energy efficiency retrofits;
 - programs to conserve energy used in transportation;
 - energy efficiency building codes and inspections;
 - installing light emitting diodes (“LEDs”).

Energy Efficiency & Renewable Energy Grants

- Energy efficiency and renewable energy grants
 - **State Energy Program** - \$3.1 billion to the states and state energy offices to address energy priorities and adopt emerging energy efficiency technologies. Includes residential, commercial and governmental building energy efficiency retrofits.
 - **Additional grants available** if state Governor has “obtained necessary assurances” that its state utility commission will seek to implement a general policy for its retail utilities, ensuring that utility financial incentives are aligned with helping their customers use energy more efficiently, and provide timely cost recovery and timely earnings opportunity for utilities associated with cost-effective efficiency savings

Energy Efficiency Grants/Loans

- Energy efficiency grants/loans
 - \$250 million for grants or loans to property owners to upgrade HUD-sponsored low-income housing to increase energy efficiency, including new insulation, windows, and furnaces

New Markets Tax Credit Expansion

- New Market Tax Credit (NMTC) authorizations of \$3.5 billion for 2008 and 2009 are increased to \$5 billion for both years.
 - Additional authorizations for 2008 must be allocated to qualified community development entity (CDE) that submitted an allocation application for 2008 and either did not receive an allocation or received less than requested
- To qualify for NMTC, a qualified equity investment must be made into qualified CDE, which must make equity investment or lend funds to a qualifying low-income business (QALICB)

Build America Bonds

- Governmental bonds issued as taxable bonds
- Bondholder receives federal income tax credit equal to 35% of interest payable each year for life of bonds
- May only be issued in 2009 and 2010
- A special version of Build America bonds, the Recovery Zone Bonds, can be deployed as Private Activity Bonds

Clean Renewable Energy Bonds (CREBs)

- New CREBs created in 2008 with allocation of \$800 million
- ARRA authorizes additional \$1.6 billion
 - 1/3 to state, local & tribal governments
 - 1/3 to public power providers
 - 1/3 for electric cooperatives
- Must be used for capital expenditures on qualified renewable energy facilities

Qualified Energy Conservation Bonds

- Last year, new bonds similar to New CREBs were created - Qualified Energy Conservation Bonds (ECBs) with \$800 million authorized.
- ARRA authorizes a total of \$3.2 billion (including last year's \$800 million)
- May be issued only by state and local governments
- May be issued for qualified conservation purposes. Includes:
 - Reducing energy use in publicly-owned buildings
 - Implementing green community programs

Private Activity Bond AMT Exemption

- Interest on tax-exempt private activity bonds (PABs) currently subject to the alternative minimum tax (AMT).
 - Last year, one category of PABs, tax-exempt housing bonds, were exempted from AMT
 - Under ARRA, remaining categories of PABs are exempted
 - Applies to life of bonds if issued in 2009 or 2010
 - Also applies to some bond refundings

Impact on State & Local Governments

What is the bottom line?

- for energy efficiency projects, will the funds get disbursed quickly?
- Do most states and local governments really have “shovel ready” programs or projects to fund?
- Is there near-term demand for all the new bonding authority?
- Do renewable energy project developers know how to partner with governments? Do governments know how to find and team with renewables developers?

Impact on Clean Tech Companies

- Although global Clean Tech investment in 2008 increased dramatically from 2007, the outlook for 2009 is less optimistic.
- \$9 billion dollars flows from ARRA to Clean Tech Companies.
- Does ARRA do enough for Clean Tech to have a jobs impact within two years?
- What problems were left for later?

Advanced Energy Manufacturing Credits

- **30% Investment Tax Credit for Investments in Advanced Energy Manufacturing Equipment** includes manufacturing facilities and related equipment for:
 - Solar
 - Wind
 - Geothermal
 - Fuel Cells
 - Microturbines
 - Electric/hybrid Cars, Batteries & Equipment
 - Renewable Grids / Smart Grids
 - Carbon Capture & Sequestration
 - Renewable Fuels Refining or Blending
 - Energy Conservation Technologies

Grants for Advanced Battery R&D

- Advanced battery research, development, demonstration, deployment
 - \$2 billion for grants to DOE for the manufacturing of advanced batteries and components and facility funding awards to manufacturers of advanced battery systems and vehicle batteries
 - \$4.5 billion to DOE for electricity delivery and energy reliability activities including energy storage research, development, demonstration and deployment.

Renewable energy and energy efficiency R&D

- Renewable energy and energy efficiency R&D
 - \$2.5 billion funding to DOE's Energy Efficiency and Renewable Energy Research Development, Demonstration and Deployment program.
 - Includes \$800 million for biomass, \$400 million for geothermal energy, and \$1.3 billion for other technologies such as water power, solar energy, and energy efficiency

5-year Carry Back of Net Operating Losses

- Extends Carry Back from 2 to 5 years
- Only applies to small businesses
 - Small businesses defined as those with gross annual receipts of \$15 million or less
- Substantially narrowed from the House version

Impact on Clean Tech Companies

- Will the Clean Tech-related programs be implemented quickly enough to make a short-term difference to the sector?
- What is the Clean Tech agenda going forward for government help?

Impacts on Electric Utilities

- Utilities can benefit from the same incentives as other renewable energy developers
- Transmission and smart grid get a major boost (\$11 billion)
- Fossil fuels not left out
- Decoupling: A regulatory paradigm shift impending?

Utilities and the Section 48 Investment Tax Credit

- In October 2008, as part of the Emergency Economic Stabilization Act of 2008:
 - The definition of energy property in Internal Revenue Code section 48 was modified to allow renewable energy property owned by utilities to qualify for the energy investment tax credit (ITC)
 - Eligible property includes solar (electric and hot water), fuel cells, microturbines, small wind property, geothermal heat pumps, and combined heat and power systems
 - The extensions of the ITC and the Treasury grant program in lieu of ITC and PTC are thus relevant for utilities

DOE Loan Guarantees for Transmission

- “Rapid deployment” DOE loan guarantees
 - \$6 billion in appropriated funds should support over \$60 billion in loans
 - Renewable energy competes for these loan guarantees (as noted above)
 - Eligible projects include upgrades and reconductoring
 - Factors to be considered by DOE
 - Construction must commence by Sept. 30, 2011

Smart Grid Demonstration Grants

- DOE grants for smart grid demonstration projects, R&D
 - Financial assistance equal to 50% of the cost of qualifying advanced grid technology investments made by qualifying entities to carry out a demonstration project
 - Includes smart grid demonstration projects in urban, suburban, and rural areas, including areas where electric system assets are controlled by tax-exempt entities and areas where electric system assets are controlled by investor-owned utilities
 - Up and running within 60 days