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Introduction

This memo represents input and recommendations for the Agency Review process compiled by Cleantech & Green Business for Obama (CT4-O) from our network of business leaders and investors in the cleantech, renewable energy, energy efficiency, and green business sectors nationwide.

Our discussion focuses primarily on the Department of Energy (DOE), although we include recommendations that touch on several other agencies, including:

- Environmental Protection Agency (EPA)
- Department of the Interior (DoI)
- Department of Agriculture (USDA)
- Federal Energy Regulatory Commission (FERC)
- Bonneville Power Administration (BPA)
- Tennessee Valley Authority (TVA)
- Department of Housing and Urban Development (HUD)
- Department of Transportation (DoT)
- Department of Commerce (DoC)
- Department of Defense (DoD)
- Department of Health and Human Services (HHS)
- Department of the Treasury

These comments and recommendations represent quick feedback from our network. They do not represent a consensus view but merely the collective input of over two dozen cleantech and green business professionals who interact with these agencies. If there is interest, we would be pleased to develop these ideas (or a subset of them) further.

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- Improving Program Effectiveness Metrics.
- Expand Energy Information Administration (EIA) mission to include providing support tools to industry to help them transition to a new energy infrastructure and to provide information regarding consumer and building occupant behavior.

f. Solar

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- Positive Review of DOE Solar PV program.
- Positive Review of Market Transformation program.
- Create a quarterly option for grant submissions in the solar programs.
- Allow for cost sharing for equipment in the solar grant program.

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- Building Energy Codes: the front line.
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- Provide resources to update and tighten energy standards for building appliances and equipment.
- Have EERE buildings programs look at greenhouse gas reduction and electric grid issues along with energy reduction.

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- Establish an International Coordinating Council.

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- The Home Performance with ENERGY STAR
- The National Action Plan for Energy Efficiency
- Expand the Community Action for a Renewed Environment (CARE) Program.
- Expedite efforts in the Office of Transportation & Air Quality to reduce diesel emissions.

III. <u>Council on Environmental Quality (CEQ)</u>

- Fully tap the potential of NEPA to operationalize sustainable development.
- Complete and Operationalize Environmental Indicators Effort.
- Develop benchmarks to track the Obama administration's progress on environmental goals.

IV. <u>Department of the Interior (DoI</u>

a. Bureau of Land Management (BLM)

- Prioritize renewable energy development on federal lands; have BLM give priority to renewable energy projects.
- Increase staffing in BLM; use land rental revenues to fund increased staffing.
- Have BLM sign memorandums of understanding with state permitting agencies to avoid duplication of effort and to speed up the process.
- Competitive Leasing – clear out queue of applications and prioritize renewable projects
- Implement Renewable Energy Zones

b. General

- Minerals Management Service (MMS) - complete offshore wind regulations.

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- Fund increased staffing for the US Forest Service (USFS), Minerals Management Service (MMS) and Fish and Wildlife Service (USFWS) by using rental revenues.
- Continue U. S. Fish and Wildlife Service's Wind Turbine Guidelines Advisory Committee work and incorporate the final recommendations into federal guidance.
- Improve the NEPA ROW process.
- Resolve grazing conflicts.

V. Department of Agriculture (USDA)

- Expand the scope of the USDA Federal Finance Bank loan guarantee program for renewable energy projects.
- Increase funding for the USDA grants and loan guarantee program provided by Section 9006 for renewable energy projects.
- Phase out the commodity payments in the Commodities Title (Title I) of the Farm Bill.
- Ensure full funding and then expand funding of the Conservation Title (Title II) of the Farm Bill.
- Ensure that the Natural Resource Conservation Service requires states to have environmental requirements in place before granting conservation title funding to them.

VI. Federal Energy Regulatory Commission (FERC)

a. Interstate Electricity Transmission

- Create an overall transmission/interconnection planning process that fosters coordination.
- Promote upfront funding of transmission.

b. Other

- Have FERC encourage better net metering and interconnection standard for distributed generation. Encourage the adoption of net metering for up to 2MW and creating clear interconnection standard for up to 20MW.

VII. Bonneville Power Administration (BPA)

- Increase funding for the Northeast Energy Efficiency Taskforce to provide 50% of funding needed to implement Taskforce recommendations, at a level of $50 million annually for five years.
- Extend BPA's Technology Innovation beyond wind to other technologies.

VIII. Tennessee Valley Authority (TVA)

- Appoint board members to TVA to make it a leader in energy efficiency and renewable energy development.
- Require TVA to implement a Renewable Energy Standard.
- Require TVA and its power distributors to meet an Energy Efficiency Resource Standard.
- Move TVA into a leadership role for Smart Grid.

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IX. Department of Housing and Urban Development (HUD)

- Include energy standards in the $3.92 billion Neighborhood Stabilization Program.
- Improve Energy Efficiency at HUD's Properties by creating an Energy and Utility Office in HUD Headquarters to coordinate energy efficiency operations across HUD's affiliated properties. The Director of this office should be a direct report of the Secretary.
- Enhance HUD Energy Performance Contracting (EPC) Program.
- Additional measures needed for federally assisted housing.
- Apply energy efficiency standards to new construction.
- Amend the Block Grant Program.

X. Department of Transportation (DoT)

- The FAA should receive funding to ensure that it can adequately staff reviews of wind energy development proposals.

XI. Department of Commerce (DoC)

- Increase funding for the National Weather Service to ensure that it can adequately staff reviews of wind energy development proposals.
- Reauthorize the National Marine Sanctuary Program.

XII. Department of Defense (DoD)

- Improve FAA / DoD / DHS Program concerning Wind Power projects and Long Range Radar Interference
- Improved energy efficiency and renewable energy use by U.S. military bases and facilities, beginning with residential housing.

XIII. Department of Health and Human Services (HHS)

- Increase energy efficiency funding within LIHEAP (Low Income Home Energy Assistance Program).

XII. Department of Treasury

- Expand the Green Bond pilot program to attract a larger pool of investment capital and fund a broader range of projects and companies.
- A National Infrastructure Bank (if created) should adopt a comprehensive methodology to maximize impact of investment in Green Infrastructure.

Appendix

- Suggested Organization of the Department of Energy
- Summary of Proposed Cleantech Stimulus, Recovery, and Agency Programs

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I. Department of Energy (DOE)

a. Federal Energy Use:

- **Fully utilize the FEMP**. The Federal Energy Management Program (FEMP) at the Department of Energy and the national laboratories, which it uses as contracting offices need to be held to much higher performance standards. The Obama Administration should direct FEMP and its contracting officers at the national laboratories to clear the existing $1.23 billion project pipeline immediately through a coordinated effort—similar to the 2006 FEMP "Blitz" that pushed more than $400 million in projects into implementation in 6-9 months. Despite enactment of energy legislation in 2005 and 2007, and an increased level of commitment by the Bush Administration to the use of Energy Savings Performance Contracts (ESPCs) to deliver energy efficient investment at federal facilities, DOE acknowledges that the historical record of investment in energy efficiency over the last six years (FY2003-FY 2008) has been one of underperformance. Total investment in energy efficiency {defined as Direct Appropriations, use of the Utility Energy Savings Contracts (UESCs), and use of the ESPCs} has never topped the $720 million recorded in FY 2003, of which $429 million (60%) consisted of ESPCs. Over the last five years, the amount of total investment has declined, hitting an all time low in FY2004, during the period the ESPC program was awaiting Congressional reauthorization.

  There are approximately $1.23 billion of projects currently languishing in the pipeline. These projects have been developed technically and have been priced. The challenge facing the federal government is translating these developed projects into delivery orders that can be implemented at federal facilities. The two largest agencies with projects in the current project pipeline are DOE, which has $820 million in projects (42%) and DOD with $576 million in projects (47%).

  The Deputy Assistant Secretary for Business Administration, Office of Energy Efficiency and Renewable Energy and DOE Contracting located in Golden, Colorado have ended access for federal agencies to initiate new ESPC project development activities under the current Super ESPC contracts. This action has been taken in lieu of raising the existing ESPC contract ceilings; even the DOE has the authority to raise the contract ceilings in order to award the pending task orders where the contractor has previously received a Notice of Intent to Award (NOITA). DOE Golden contracting has decided that all projects in development will be halted when the new ESPC contracts are awarded, even projects where a Notice of Intent to Award (NOITA) has already been issued by the DOE contracting officer. DOE intends to require that all federal agencies go through a new selection process for an ESPC contractor, even in situations where the incumbent contractor has been awarded the New Super ESPC contract instead of letting the project roll over to the new contract as originally planned. Basically the agencies with projects in development will have to start over.

  The pipeline paralysis is particularly troubling when it is considered in the context of overall DOE priorities. The longer the delay and inaction, the more likely it will be that DOE will fail to meet the energy and dollar reductions mandated by the Energy Independence and Security Act of 2007. Project delay means lost energy and dollar savings opportunities that can never be recaptured. Project delay means that the economic stimulus produced by project implementation -- about 12,000 direct jobs, substantial equipment purchases and environmental emissions mitigation – is delayed or squandered.

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Given its importance, the Federal Energy Management Program (FEMP) should be at the Assistant Secretary level. FEMP needs a budget, staff, and commitment from DOE leadership commensurate with its role in providing consistent long-term leadership for reducing federal energy consumption. Without reforming the management and contracting organization or reassigning the business function elsewhere, the ESPC will not achieve the success required to assure that federal agencies meet the energy efficiency and renewable energy goals established by EPACT 2005 and EISA 2007. In addition, the focus needs to be shifted from "dollars spent" to "measurable accomplishments"- as alluded to in the EISA energy reduction targets.

- **Allow procurement of onsite renewable energy, and allow renewable PPA contracts to extend to 20 or 30 years.** The DOD's procurement of solar has been visionary. Unfortunately, the rest of the federal government is limited to 10-year power purchase agreements (PPAs), whereas DOD can do 20 year PPAs. Twenty- or 30-year PPAs should be allowed in all parts of the federal government. In the meantime, we would like to see existing mechanisms for EE and/or green power procurement extended to allow procurement of onsite PV, including the purchase of renewable energy systems and installation services as well as the signing of PPA contracts.

- **Fully fund the procurement of renewable energy for Federal and public buildings.** The Energy Policy Act of 2005 authorized the procurement of solar for Federal and public buildings[1]. To the best of our knowledge this authorization is still intact but has not been funded.

  Section 204 amends subchapter VI of chapter 31 of title 40, United States Code to establish a photovoltaic energy commercialization program for the procurement and installation of photovoltaic systems in public and Federal buildings. It requires the installation of 20,000 solar energy systems in Federal buildings by 2010. Funding this provision and allowing for direct-procurement by Federal, State, County and Municipal governments would put people to work and would put solar modules on rooftops very quickly.

  Accordingly, the federal government should make funding available immediately to the Federal Energy Management Program to invest in front-loaded long-term power purchase agreements to support the construction of solar systems on federal property. As discussed above, all federal agencies should be authorized to enter into 20 to 30 year PPAs. Appropriations should be made to immediately implement the 30 percent solar thermal requirement on federal buildings.

b. Loan Programs

- **Streamline the existing Loan Guarantee Program (LGP) to enable more rapid processing of applications.** A fatal flaw of the existing Loan Guarantee Program is that its administration within DOE is extremely bureaucratic, slow, and costly to the companies that apply. The LGP was first authorized in 2005 (under Title XVII of the Energy Policy Act of 2005) and was first funded in 2007, yet as of the end of 2008 not a single application has been approved. In the meantime, the costs born by applicants have been great and the procedures have been burdensome. The LGP is a very good idea, but its implementation can hardly be said to have done much to help the sector grow. In the meantime, many more companies are beginning to enter the "gap financing" stage in 2009 and 2010 and will need to finance their early commercial projects.

[1] See: www1.eere.energy.gov/femp/about/legislation_epact_05.html

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Some ideas for streamlining the LGP are presented below; we would be pleased to help develop these ideas further.

- **Increase staff levels**. Given the billions of dollars authorized for this program to date, the transaction team is dramatically undersized. A team of bankers, lawyers, financial analysts and modelers are needed. Perhaps one positive aspect of the difficulties on Wall Street is that the available pool of talented candidates is at an all time high.

- **Eliminate application deadlines.** Applications for loan guarantees are required to meet certain deadline dates for application submittal in order to be eligible for consideration. This may be due in part to the belief that procurement rules require that all potential applicants must apply in accordance with equally applied criteria submitted by a date certain. It also may be due to staff limitations and establishing deadline dates is an easy way to limit the applicant pool. The best way to optimize this program is to open up the application process by dispensing with deadline dates.

- **Reduce application fees or cap them.** The fees are a particular problem for start-ups and emerging companies. Fees need to be lowered enough to not exclude potentially viable applicants, but should remain high enough to filter out applicants that are not serious or are unqualified. More funding will need to be available for due diligence.

- **Define the credit subsidy rate up front and cap it.** The cost of the loan guaranty premium charged by the federal government to the requesting project sponsors is difficult to define. The Office of Management and Budget has long debated the criteria and considerations necessary to calculate the premium for the US government guarantee. The predictability of this cost and how it is financed by the applicants is currently creating substantial impediments to processing and closing loan guarantee transactions. Admittedly this is a complex issue, but we nevertheless need to publish, clear, understandable and transparent guidelines on this significant cost element for loan guarantees.

- Other possible measures to consider for streamlining the LGP:
  - Offer technical assistance to applicants from the national labs. This could include providing support for EC&S modeling/validation.
  - Allow more flexibility in program categories and reduce the rigidity of the categories. There are many companies that meet the objectives of the program but don't fit one of the pre-defined technology categories.

- **Create a "Clean Energy Bank" outside of DOE to administer the Loan Guarantee Program.** We favor the creation of an independent government corporation (a "Clean Energy Investment Bank") to house the LGP and related financing programs. While the DOE has diverse centers of excellence and broad experience in program and project development, finance is not one its true competencies, and financing programs will always be hindered if housed within DOE. Models for such a Clean Energy Bank include existing government created finance organizations such as the Overseas Private Investment Corp (OPIC), the Export-Import Bank (Ex-Im Bank), the Federal Financing Bank, and the Millennium Challenge Corporation (MCC).

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- **Once streamlined or spun out, dramatically expand the Loan Guarantee Program.**
    - **Dramatically increase authority to issue guarantees.** Assuming the LGP can be streamlined to function efficiently (as above), the LGP should be made sizable enough to have a major impact. So far, the LGP has issued $10B in solicitations for renewables and efficiency projects.
    - **Allow the LGP to cover fully commercial technologies, such as wind, during this period of frozen credit markets**. Renewable energy project development has slowed drastically due to the lack of available financing in the current credit market. The LGP was created before the credit crisis, when it was believed that fully commercial technologies could get financed and only newly emerging technologies needed government assistance. We propose extending the LGP – or creating a new LGP – for renewable energy and energy efficiency projects utilizing fully commercial technologies. During the crisis, Federal loan guarantee support may be need. The level of guarantee authority for such a program would be an order of magnitude greater than that for the existing LGP (e.g., $100B instead of $10B).
    - **Expand the definition of "innovative"**. Currently, projects must be innovative in order to be eligible for a loan a guarantee. If an applicant's technology is already being used in 5 or more commercial applications in the United States at the time of application, then the technology is not eligible for a guarantee under the current program. The rule should be changed and the definition of innovation expanded to include not only innovation in technology, but also innovation in integration of existing technologies, changes in project sponsors and offtakers, contractual and financial modifications, and innovations in program development and project construction, all of which typically make financing more difficult.
    - **Allow the LGP to cover distributed energy efficiency projects, distributed renewable energy projects, and Energy Performance Contract financing.** Allow the LGP to cover bundled distributed commercial projects, not just large scale centralized projects. In addition, the LGP could be used to backstop the existing federal and state Energy Performance Contracting programs with loan guarantees to restore 20-year terms and acceptable rates for performance contracts to public and institutional buildings. Long (20-year) terms have been unavailable due to the current crisis in the financial markets.
    - **Create a default pool and take more risk.** Allocate funds for first-of-a-kind pre-commercial demonstration plants for promising technologies even if they incur more technical risk. Use the national labs to define or potentially minimize these risks.

c. Commercialization

- **Expand EERE commercialization efforts**. While the DOE has long conducted R&D programs, it has only relatively recently undertaken efforts to support the commercialization of its technologies and their deployment in commercial use. Scientific research in the labs will not benefit society fully until the technologies are successfully commercialized and deployed. We recommend continued and increased commercialization efforts within EERE, and we believe that commercialization should be seen as a top priority.

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While EERE is currently underfunded in all areas of research, development, commercialization and deployment, we believe that commercialization is a critical tool that helps ensure that EERE's limited resources are deployed in the most productive manner possible. It helps scientists in the Labs stay connected with the outside world and vice versa, creating a connectivity with product development and manufacturing mindsets. Commercialization efforts also help resolve key obstacles, such as the rules governing technology transfer.

EERE launched its commercialization effort in October 2006. These efforts were a good start, especially in getting EERE connected with the venture capital community. Since October 2006, there have been several notable achievements:

1. The launch of an Entrepreneur-in-Residence program at several national labs. This program allows leading venture capital firms to place seasoned entrepreneurs at a national lab to identify and commercialize promising technologies. The program was launched at NREL, Sandia and Oak Ridge and has recently been expanded to include five more labs.
2. The creation of the Technology Commercialization and Deployment Fund. This $10M fund was designed to give the DOE flexibility to partner with industry to rapidly bring the most promising renewable energy technologies into the marketplace.
3. Department of Energy Venture Capital Day. This annual event brings together over 60 leading venture capital firms and the DOE's leading researchers to discuss hundreds of technologies that are ready for commercialization.

These programs were well received both within the department and the private sector they are intended to reach; however, much more can and should be done.

Recommendation: To increase commercialization efforts, each of EERE's ten program areas (biomass, solar, wind, etc) should have an embedded commercialization member who assists in creating the connectivity with the private sector so that the research in the Labs has a higher likelihood of resulting in successful deployment in the commercial marketplace. With limited research funding, this will help insure each dollar is used in the most effective manner.

d. Research & Development

A National Academy of Sciences study from a few years ago showed that properly targeted and implemented R&D leads to benefits that are 1000 times the original investment.

- **Double funding for NREL**. Just as Congress doubled the budget of NIH which now stands at $24 billion a year, the Administration should take as a goal the doubling of the NREL budget over the next four years from $300 million to $600 million per year.

- **Fund R&D on a long-term basis.** The support for R&D historically has been mainly short term—this is not the way to encourage the best scientists to devote careers to this field, and it generates inefficiencies in the process since the research participants spend a significant amount of time chasing the next increment of support to maintain their R&D team. Since much of the work at the

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National Labs is both experimental and team based, the cost of maintaining interdisciplinary teams with supporting lab national user facilities is high with respect to typical current DOE funding levels. Increased and sustained support of national user facilities, with supporting core scientific staff, would generate a positive response from Industry researchers who cannot make the investments needed to individually support such efforts.

- **Provide long-term, discretionary budgets to the labs.** This would allow completion of existing research programs and encourage research into breakthrough and disruptive long-term applications.

- **Coordinate the work of national labs, Office of Science, and EERE around "national priority" areas**. OS and EERE fund separate labs for similar or related programs (e.g., batteries, biofuels, etc.). They should coordinate and integrate their separate activities and align their priorities around "national imperatives" such as energy storage or national transmission grid. Better coordination and integration between basic and applied research programs is also required.

  In the Building Energy Sciences area of DOE, the national labs are key participants, partners and planners over the full range of the DOE programs on a multiyear basis. Much of the funding goes to labs as block grants for multiyear periods, with extensive external review to determine objectives, goals, etc. and additional review to ensure that progress justifies renewed funding. By contrast, in EERE/Buildings the lab roles are not as clear in either R&D or support, and the funding is typically for small, short term projects. At various times in the past DOE has convened discussion groups on this issue, but there has been little change over time. Some labs provide varying degrees of tech support for some EERE programs but there is no overall strategy or plan. The recently formulated National Laboratory Collaborative on Building Technology (NLCBT) has yet to act, but may begin to address these issues. Buildings R&D have been and will continue to be a long term undertaking. Labs are well positioned to provide continuity and institutional memory for projects that may take 5-15 years from lab invention to mainstream industry use.

- **Create a balanced portfolio of basic research, applied research, and demonstration and deployment within DOE.** If one looks at DOE broadly across the full spectrum of RD&D, there is a big divide between basic research programs and deployment programs. For example, basic science programs are often focused on addressing grand scientific challenges, often without direct connection to applications. The big gap that exists today in DOE is how to translate science into practical impact. That is, applied research is largely missing. This is a systemic problem.

  The DOE buildings technology (BT) program serves as a case example. Given tight budgets in the past, the DOE BT program did a remarkable job in showing impact through demonstration projects. However, looking ahead, it is critical that the DOE BT program create a balanced portfolio spanning basic R&D through to applied research and demonstration and deployment. This would balance short-term success with long-term depth and continuity in innovations. Without this balance, the US will be out-innovated by other countries that focus on balanced portfolios.

  In general, while the DOE BT goals are long term (e.g., zero emission buildings in 2025), the programs lack a balanced portfolio of integrated projects that would deliver on those goals. This could include a mix of short-, mid-, and long-term projects, with varying risk/benefit investment ratios. It is difficult to discern an underlying comprehensive plan behind the current set of activities.

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There are programs in deployment, standards, emerging technology, residential integration and commercial integration, but there has not been a strong unifying rationale that ties them all together or drives them forward in a coherent manner. Some of this is a function of the lack of funding in years past.

Within specific project areas the activity is highly unbalanced with respect to time frame and impact. Example: The current DOE ET lighting program is entirely focused on solid-state lighting. It has grown from $0 to more than $20M per year in the last 5 years, but all other lighting R&D has been abandoned. While LEDs show great promise to begin reducing energy costs for general lighting applications within the next 5 years, the DOE has abandoned the effort to impact lighting sooner through development of advanced lighting controls or other technologies and strategies.

- **Reinstate and expand R&D programs for existing buildings.** For the past eight years, DOE's buildings R&D has focused on new construction, for both residential and commercial sectors. One exception is the recent work on demonstration projects with National Accounts that includes both new construction and retrofit of existing commercial buildings. There is a large need for R&D on existing buildings, and DOE should reinstate and expand its previous R&D programs for existing buildings, including studies of the impact of energy retrofits on occupant health and productivity.

- **Expand the DOE's Building Technology program to include R&D for disaster relief housing.** DOE's Building Technology program had a long-standing program to support R&D for low-income, affordable and public housing. In addition to reinstating research for these areas, there is need for R&D on disaster relief housing (for flood, hurricane, earthquake, fire, etc.) for both U.S. and abroad.

- **Support R&D for individual and institutional behavior related to energy use.** DOE's R&D focus is primarily on technology development, with little support for R&D on individual and institutional behavior related to energy use. DOE should support basic and applied social science R&D to improve the delivery of technology and other energy strategies.

- **Expand R&D activity in whole building integration.** To achieve zero net energy buildings cost-effectively, it is necessary to look at buildings holistically rather than simply as the sum of many efficient parts. How buildings are integrated is critical to energy consumption, since poor integration can lead to higher energy consumption where the building essentially "fights itself" and wastes energy. A systems approach to integration, where building components and occupants cooperate and reduce energy consumption is key to achieving large, cost-effective reductions in energy consumption. For large commercial buildings, this systems integration challenge is non-trivial. DOE-BT should further expand its crosscutting R&D activity in whole building integration to assure that the knowledge, skills, and tools are developed and disseminated widely.

- **Fund the national labs to provide technical support to industry.** Allocate a portion of new EERE budget to covering overhead at DOE labs for industry support functions. One of the main barriers for DOE labs to work with industry is cost structure and deviation from mission. If there is a budget allocated to supporting work with start-ups and large companies, then the DOE labs would immediately provide a needed service in helping accelerate the development of new renewable energy and energy efficiency applications. This would lower the cost of delivering applications to market, reduce risk, and leverage the institutional knowledge of labs such as NREL.

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- **Fully fund the Advanced Research Projects Agency - Energy (ARPA-E).** This program is currently authorized but not funded. This would provide direct funding to entities that are working on leading-edge technologies that can have a disruptive impact on our nation's energy future. This could also help bridge efforts between OS and EERE.

  Background: In August 2007, Congress authorized the establishment of the Advanced Research Projects Agency - Energy (ARPA-E) within the Department of Energy (DOE) as part of the America COMPETES Act (P.L. 110-69). Modeled on the Defense Advanced Research Projects Agency (DARPA), ARPA-E would support transformational energy technology research projects with the goal of enhancing the nation's economic and energy security. Proponents of ARPA-E contend that additional science and technology would help respond to the nation's need for clean, affordable, and reliable energy. Opponents question whether ARPA-E is necessary to develop new technologies, when existing energy technologies are not fully utilized due to insufficient policies to encourage their implementation. ARPA-E proponents counter that ARPA-E is needed to catalyze the energy marketplace by accelerating research that will bridge the gap between basic research and industrial product development. The Bush Administration questions whether the DARPA model can be used for the energy sector and is concerned that it might redirect funds away from current DOE research activities, particularly the DOE Office of Science. Instead, the President's FY2009 budget requests funding for six new technology transfer collaborations. ARPA-E proponents doubt that DOE can achieve ARPA-E's goals with its existing structure and personnel, as opposed to the ARPA-E's innovative R&D management design. Congress authorized $300 million for ARPA-E in FY2008 and "such sums as are necessary" for FY2009 and FY2010. Congress subsequently appropriated no funds for FY2008.

- **Fully fund the smart electricity grid grants and demonstration program**. The 2007 energy act authorized matching grants and demonstration programs to encourage investment in a "smart" electricity grid. However, no funding was appropriated for these programs. These programs should be fully funded and expanded so more consumers have the opportunity to better monitor and control their electricity use and reduce their bills.

  Our massive electric power grid-- "the most significant engineering achievement of the 20th century"--is aging rapidly and threatens to disrupt the comfort and safety of our daily lives. Because traditional power plants, transmission lines and distribution networks cannot keep up with demand, we need to optimize the use of our electric power assets. Although our grid is 99.97% reliable, even those brief power interruptions cost nearly $100 billion each year. We need an even more reliable network that can reduce these outages and prevent major blackouts. With rising energy costs, we must increase energy efficiency and use excess capacity to offset high demand. The impact of global warming dictates increased used of renewable energy resources which need to be integrated into the grid. To protect our communities from natural disasters and potential terrorist threats, our system should be able to identify and isolate problems on the electric grid.

e. General Comments on Coordination and Metrics

- **DOE should make EERE one of its highest priorities**. EERE is always competing for resources within an agency that is primarily supply centric and has a conventional energy focus.

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- **Rebuild the regional energy offices**. After the complete dismantling of those offices, the states have little support for their work. As there is a shift in resources it would be helpful to have regional staff to support the state's efforts. State Energy Offices (SEOs) need more resources to do the state-by-state analysis and be vehicles for deployment.

- **Coordinate research and programmatic activities across other departments (DOD, DOT, DOC, EPA, HUD, etc. -- see Intergovernmental).** There are ongoing turf issues re: areas of responsibility between DOE and EPA, and to a lesser extent, with other agencies. There is a proliferation of "national programs" to address carbon/energy, e.g., NAPEE, making it difficult at times to see where and how DOE fits in this spectrum. Solving the nation's energy and carbon problems will take a large scale, coordinated effort by many groups -DOE should have a clearly defined leadership role with other state and federal partner organizations as part of a clear national strategy.

- **Coordinate policy initiatives and procurement implementation.** DOE has a disconnect between its policy directives and its implementation, specifically around how it does its procurement processes – which are often outsourced. The disconnect results in delays and/or little implementation of policy initiatives. The DOE needs an insertion of creative thinking across all of the DOE silos to get them working together.

- **Improve dialogue among State, Regional and Federal players and create a national strategy.** DOE's programs are national by default, but often do not effectively link to regional and state activities, which recently have exceeded DOE in program funding and size. A great deal of the current activity in carbon and energy reduction in many of the areas noted above, e.g. public buildings, equipment standards, is happening at the state level. There needs to be a vehicle for improved two-way communication between state and federal programs which we expect would lead to further state-regional-federal collaborative efforts.

  DOE needs to have a greater emphasis on deployment and outreach. The states and regional organizations like the Midwest Energy Efficiency Alliance (MEEA), the Northeast Energy Efficiency Partnership (NEEP), the Northwest Energy Efficiency Alliance (NEEA), the Southwest Energy Efficiency Project (SWEEP) and the Southeast Energy Efficiency Alliance (SEEA) can play a big role. The State Energy Program is an underfunded, established program that can have a big and quick impact on deployment of energy efficiency and renewable energy technologies. The Wind Powering America program has been very effective in working with states and other stakeholders.

- **Improve Program Effectiveness Metrics.** The President' Program Assessment Rating Tool (PART) and other scores (like Congress's GPRA) align expenditures with savings on a same-year basis, which often forces shorter activities than optimal. These ratings, while useful in many regards, also favor activities that can be easily counted, e.g., measures installed, vs. institutional and behavioral change. There is a need for performance tools that have the flexibility to account for many of the accomplishments broader than BTUs saved.

- **Expand the Energy Information Administration's (EIA's) mission to include providing support tools to industry.** DOE's EIA does an outstanding job in collecting data on energy use and building characteristics. Where they could expand their effort is in conducting longitudinal studies on consumer and occupant behavior to understand the changes in energy consumption in both the residential and commercial sector and to not just report existing energy numbers and forecasts, but

to provide real-time decision support tools to industry to help them transition to a new energy infrastructure. These tools should be available with real-time energy market data, natural resource availability, carbon impacts, and economic returns to the broader economy in terms of build-out. This should support other climate change initiatives including integrating to most recent carbon and climate models and inherent feedback loops. This could also help DOE understand how much it will cost to transition to new technologies as well as understanding their broader benefits. This also means that EIA will need to take the many tools that were developed to generate DOE EERE reports into application services that the entire US can use.

f. Solar

- **Positive Review of DOE Solar PV program.** The DOE PV program has been quite successful over the last several years. The technology pathway partnerships (the value chain cost reduction efforts) are well-aimed and valuable from our perspective – directly contributing to improved product designs that lowers manufacturing, transportation, installation and maintenance costs.

- **Positive Review of Market Transformation program.** The DOE's Market Transformation program is also a successful framework, but could use more promotion. The team has some great people ,and they've been extremely responsive and considerate of the full group of stakeholders working on improving solar market design.

- **Create a quarterly option for grant submissions in the solar programs.** Allow for more frequent submission/grant dates, *i.e.* quarterly instead of annually. Small organizations need more windows of opportunity and scheduling flexibility.

g. Buildings Energy Efficiency

According to the U.S. Department of Energy[2], building operations directly account for 40% (100 quads) of primary energy use in the U.S., and 72% of all electricity use. U.S. buildings account for 2,325 million metric tons in 2008, or 39% of total U.S. carbon emissions—accounting for 8% of total world carbon emissions. (Additional energy is used for construction and to create building materials)

- **Expand DOE's Weatherization Assistance Program (WAP).** Significantly increase funding for weatherization programs, and expand its application beyond just low income. This directly translates into green jobs as well as lower monthly energy expenditures by families ,alleviating some of the mortgage cost burdens on homeowners. This would also stimulate the construction industry.

  In terms of expanding beyond just low income, from the standpoint of long term economic stimulus, the middle market for home retrofitting is dramatically larger and can be self sustaining without subsidies. The new energy economy ultimately has to be based on markets that are sustainable not just subsidized.

  Funding should be increased for the Weatherization program immediately. The program can be expanded along two fronts: (a)fixing more homes each year, and (b)taking advantage of furnace and boiler replacements within each home – only ENERGY STAR-labeled equipment should be permitted

[2] US DOE *2008 Buildings Energy Data Book:* http://buildingsdatabook.eren.doe.gov/

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(but not necessarily for low income homes). This would provide immediate activity for the HVAC and construction industries. It also will lock in efficiency savings and help reduce the need for emergency fuel assistance and LIHEAP funding in future years. Reducing the energy bills of low-income households has the added benefit of allowing these household to increase spending in other areas, essentially on an immediate, dollar-for-dollar basis.

On a pilot basis initially, DOE should expand the reach and depth the program for low income households using a combination of on-bill utility financing and loan guarantees to supplement grants for community- and region-based programs.

- **Reinstate and expand the *Rebuild America* program.** DOE had a very successful retrofit deployment program in the 1990s aimed at communities: the *Rebuild America* program. It was a terrific model of technical, financial, and institutional assistance. This program should be reinstated and expanded, and should serve as a deployment program for communities, including commercial, municipal, educational, multifamily and other building types.

- **Building Energy Codes: the front line.** The current code process, operated by the International Code Council (ICC) is broken. It is a body that is held captive by homebuilder stakeholders. In the last two code cycles, considerable effort has been expended by a cross-section of consumer advocates to improve building energy codes but failed due to homebuilder opposition. DOE needs to be responsible for code development, deployment and enforcement, with clear goals and priorities that integrate with their voluntary beyond code market activities. DOE needs the authority to enforce state-based code adoption and needs corresponding resources dedicated to the implementation and enforcement of those state and locally adopted building energy codes. Currently, due to DOE's unclear mission in codes, there is confusion in the marketplace, among advocates and in the home building community, that leads to sporadic code adoption and massive failure to comply with codes once they are adopted.

- **Support and/or implement energy labels and benchmarks for buildings, preferably based on actual performance.** Building codes today are based on *designed* energy performance, not actual *measured* energy performance. Because there are no requirements to measure energy performance, it is not generally measured, and often the real issues with inefficiencies are not apparent. We need innovations in policy based on measured performance. When the measured performance is compared to a benchmark or a regional or national standard, financial incentives and disincentives would be critical in motivating relevant stakeholders toward energy efficiency measures. The US should follow leadership set by the EU in mandating energy labels for all buildings, new and existing, commercial and residential, and the recent initiatives in California to implement a similar program. Based on lessons learned from these international and local programs DOE should provide the support and guidelines for how to support and/or implement comprehensive buildings energy labels and benchmarks nationwide. The US metric is either a Home Energy Rating (HERS) or the DOE Build America Energy Smart Home Scale, or e-scale. Thus we should support this program and its expansion.

- **Provide resources to update and tighten energy standards for building appliances and equipment.** Energy standards for building equipment and appliances are one of the most successful strategies for reducing energy use. The standards need to be tightened on a periodic schedule in partnership

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with industry. DOE needs to expand its role in providing resources to update the test procedures for appliance, equipment and lighting.

- **Have EERE buildings programs look primarily at greenhouse gas reduction and electric grid issues along with energy reduction.** Currently, EERE buildings programs look primarily at energy reduction, not carbon reduction or electric grid issues. DOE needs to define strategies, metrics, and policies to address carbon reduction, and implement these throughout the department, and to coordinate more effectively with other DOE offices addressing the interaction of buildings with the electric grid.

h. International Programs

The U.S. Department of Energy has an increasingly important role to play on international climate and energy policies, technology development and deployment strategies, and related financing issues. The Department should be a resource on modeling and planning related to technology evolution and policy frameworks, and it should be the substantive agency lead in international cooperation around climate technology and energy policy. The Department currently has neither financial or staff resources nor structures to effectively fill these increasingly important roles.

- **Reorganize the Office of Policy and International Affairs**

  Background: The Office of Policy and International Affairs has three Deputy Assistant Secretaries, two of whom are covering international matters: policy and cooperation. These titles – policy and cooperation – are not of any particular distinction, and the regional offices are placed not under one coordinating DAS, but split between the DAS for International Energy Policy and the DAS for International Energy Cooperation. Yet functionally the regional DASs play the same role for different specific regions, so the fact that they fall under Policy or under Cooperation is irrelevant to what they do. Finally, the Office of International Science and Technology Cooperation is very small, and reports to the DAS for International Energy Cooperation. This office has a very narrow focus, largely on specific agreements, rather than on global trends, strategic opportunities for American companies, or for needs and interests specific to countries or regions. The office is not staffed adequately to provide the kind of strategic, substantive support it could to the regional offices as they pursue bilateral and regional cooperation on technology transfer, for instance, nor to Office of Climate Change Policy and Technology which reports directly to the Assistant Secretary. Given the importance of climate change and the need for technology deployment and policies and markets that will support accelerated increased efficiency and cleaner generation, the Office of Policy and International Affairs must not only be resourced to conduct the analysis and cooperation needed, but also should be reorganized in recognition of today's urgent challenges and opportunities.
  Recommendation: There should be one DAS for International Policy Analysis and one for International Policy Coordination. The IPA shop will conduct analysis and trend monitoring across regions, technologies, financial matters, finding best practices, comparing them, and helping to support the regional offices in disseminating them and in identifying areas of potential cooperation - including drafting agreements and overseeing their clearances with other agencies such as State.

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There could be four offices, one for International Technology Analysis, International Policy Analysis, International Financing, and of International Agreements. The IPC shop will house the four regional offices, and be in charge of relationships with these on a regional and bilateral basis, working across policy, technology, finance, and specific areas for formal agreements as well as coordinating Departmental participation in the IEA, APEC and other multilateral groupings.

- **Increase international programs of the Technology Offices: Office of Energy Efficiency and Renewable Energy; Office of Fossil Energy; Office of Nuclear Energy**
  Background: Broadly, the technology offices have been insufficiently resourced and staffed to support the development of international markets for cleaner technologies. Their international programs have been zeroed out in some cases, or significantly de-funded. These offices should be the primary experts on the markets, finance, and regulatory needs of their technologies internationally, feeding over to the Office of International Affairs. The lack of capacity and funding in these offices has inhibited the governmental support given to American companies developing these technologies, as well as missed opportunities for American leadership and collaboration to help proliferate the kind of policies and financial mechanisms to accelerate their deployment.
  Recommendation: Within each of the technology offices, there should be a Senior Advisor/Special Assistant for International Affairs reporting to the Assistant Secretary, who will work with the technology offices to coordinate and prioritize areas of international cooperation. There should also be a budget allocation available to each technology office for cooperation programs.

- **Establish an International Coordinating Council.** In the past, DOE's international activities have suffered from an overall lack of vision and coordination. In the program offices, domestic activities will always take precedent because they have the bulk of the budgets and are of most interest to Congress. A senior level International Coordinating Council will keep the international activities in perspective; provide better communication across Departmental elements and allow for improved coordination. Such a Council has already been proposed to oversee international agreements, but is at a less senior level.

  Recommendation: Set up an International Coordinating Council chaired by the Deputy Secretary with all program Assistant Secretaries and Directors as members. The Assistant Secretary for Policy and International Affairs would serve as the secretariat for the Council.

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II. Environmental Protection Agency (EPA)

- EPA should resurrect its past efforts to reduce barriers among program offices and shift aggressively towards integrated, multi-media management.
- EPA and Congress should harmonize EPA's statutes by adopting an "integrating statute" which would authorize and encourage a range of integrated environmental approaches and help consolidate monitoring and reporting requirements.
- EPA should build on its prior experiments to develop performance-based systems, such as the National Environmental Performance Partnership Program, Project XL and other "reinvention" programs that will encourage individual firms and state and local governments to find the most effective, appropriate, innovative and cost-effective ways to meet their public responsibilities.
- EPA and Congress should develop performance measures and the environmental monitoring needed to support them.

a. Program Evaluation

- **Return to reinvention.** EPA focused on "reinvention" of traditional regulatory control measures in the 1990's and experimented more with performance-goal, incentive, and state-federal partnership approaches. The Bush administration preferred deregulation over such rationalization of the environmental management system.

  The transition team, as well as the incoming EPA Administrator and his or her team should review the excellent agency reviews, critiques and recommendations in the National Academy of Public Administration's (NAPA) reports to Congress, including, "*Resolving the Paradox of Environmental Protection – An Agenda for Congress, EPA and the States*" as well as the summary and critique of the later (book by Christopher Klyza), "*American Environmental Policy 1990-2006 – Beyond Gridlock,"* at http://www.issues.org/24.3/br_john.html

- **Improve the New Source Review Program (NSR).** NSR is a pre-construction permitting program that was established as part of the Clean Air Act Amendments of 1977. Its goals are to ensure that air quality is not degraded significantly due to construction for plant expansions and that advances in air pollution control are implemented concurrently with plant expansions.

  The program is in serious and immediate need of improvement, and fixing it could be a quick victory for the Obama administration. The Bush Clean Air Interstate Rule (CAIR) program established tighter cap-and-trade for NOx and SO_2 instead of keeping NSR strong. This approach won support from both the environmental community and industry, with the environmentalists favoring the fact that CAIR set tight caps, and industry appreciating an end to uncertainty. But the courts threw out CAIR in summer 2008 as it was not authorized by the Clean Air Act.

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Industry was looking towards a legislative fix, but with Congressman Waxman now in place, a bipartisan compromise could provide a solution to one of the disasters of Bush administration. The key is to get to ensure that dirty coal plants are either cleaned up or closed down. (Note: Bob Sussman, the first Deputy EPA Administrator under Carol Browner, now at the Center for American Progress and on the Transition team, has been trying to head off business-driven Congressional action. CAIR as a program is probably fine, but in general we need to make sure that businesses focus on carbon and climate as well as SO_2 and NOx.)

- **Double funding for the EPA/DOE ENERGY STAR programs.** Energy Star is an energy-performance rating and labeling program that enables consumers and businesses to know the energy-efficiency of major appliances, and other products including for improving the energy efficiency of homes and businesses in order to inform purchasing choices. EPA has a number of programs under the Energy Star® brand. This voluntary program works.

  The EPA/DOE programs have been very effective and relatively well managed, though DOE and EPA should work better together, or it should just be housed at EPA. The programs should move towards becoming regulatory mandates (codes and standards) versus being only voluntary.

  The programs should also be expanded, with a suggested doubling of the EPA Energy Star budget to $100M. Possible areas for expansion are:

  - Add products
  - Expand commercial building and industrial efforts
  - Increase public outreach,
  - Work with more businesses and more partners
  - Expand state and local programs such as the Home Performance with Energy Star program (see below)

- **Align Home Performance with ENERGY STAR program.** It should be the goal to have all federal existing-home retrofit programs align with this within 3 years. This supports the type of science-based approach we need with deeper energy savings and quality installation, while protecting health and safety. However, the infrastructure is not ready for this high standard in all 50 states. The proposed retrofit initiative would see immediate results in energy reduction and economic activity, complement Home Performance where it exists, and help establish a foundation for the higher standards and benefits of Home Performance in a few years as the infrastructure is able to increase its ability to operate at a higher standard.

- **Expand on the National Action Plan for Energy Efficiency.** This is a private-public initiative begun in the fall of 2005 to create a sustainable, aggressive national commitment to energy efficiency through the collaborative efforts of gas and electric utilities, utility regulators, and other partner organizations. This program should be expanded to (a) encourage more public/private partnerships, (b) obtain more commitments from utilities, government, and private entities to reduce energy consumption – based on more federal leadership, and (c) develop and disseminate more

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information and tools that can assist private and public sector entities analyze and implement programs and projects.

- **Expand the Community Action for a Renewed Environment (CARE) Program.** CARE is a competitive grant and technical assistance program that helps enable communities to take action against toxic pollution in their locales. CARE allots grants of $200-400k to community groups or local governments to organize broad, multi-pollutant efforts to set priorities and implement cleanup in cities, and neighborhoods. It is a small demonstration program, but it is pioneering different ways of doing business. Competent EPA-regional staff people with a commitment to environmental justice and community-based approaches are involved in this program. It produces tangible results, such as partnerships between auto repair shops and other businesses in blue collar neighborhoods and national trade associations in order to change certain procedures. EPA tends to focus on large-scale, "sexier" programs over these community-based ones, but these smaller programs are very effective in terms of real environmental change.

- **Expedite efforts in the Office of Transportation & Air Quality to reduce diesel emissions.** This should include:
    - Accepting California's request for waivers
    - Fully funding the Diesel Emissions Reduction Act
    - Finding additional incentive funds to help get old diesel vehicles off the road

  Reducing diesel emissions can be directly related to reductions in health costs as diesel soot is a toxic air contaminant. In California alone, ambient air quality standards in the San Joaquin and South Coast (Los Angeles) air basins costs approximately $28 billion per year in health care and lost work and school days. The California Air Resources Board estimates that diesel emissions from trucks alone caused 4,500 premature deaths in 2008.

  California should be allowed to continue implementing in-use diesel regulations for construction equipment and on-road trucks.

  The Diesel Emissions Reduction Act needs to be fully funded at $200 million per year, and additional funds need to be found to help states reduce diesel emissions. The Act has never been fully funded; it has always been funded at under $50 million annually. It is an extremely popular program with bipartisan support for which all fifty states have applied for the incentive funding. It would cost $3 billion in additional incentive funds to clean up diesel emissions in the South Coast and $1 billion in the San Joaquin Valley. These incentive funds should be used for such things as developing retrofit technologies, changing out engines or cost-sharing to turn over the diesel fleet which would otherwise take 20 to 30 years.

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III. Council on Environmental Quality (CEQ)

- **Fully tap the potential of NEPA to operationalize sustainable development.** The National Environmental Policy Act of 1969 (NEPA) was a path-blazing statute, implemented over twenty years before the Brundtland Report and the Rio Earth Summit and the sustainability movement that they spawned.

  NEPA is the only federal law that requires all federal agencies to consider the social, economic and environmental consequences of their proposed actions. Unfortunately, the only regulations to implement NEPA are almost exclusively confined to one small portion of the law which calls for environmental impact assessments (EIAs) of federal projects (such as dam building) Thus, NEPA became synonymous with the EIA process.

  However, NEPA is far broader than serving only to analyze project-level impacts of federally-sponsored projects. Its purpose, in fact, is to "declare a national policy which will encourage productive and enjoyable harmony between man and his environment." Not only does NEPA establish sustainable development as national policy, it explicitly includes nearly all of the sustainability provisions inherent in the concept:

  - Integration of human, environmental and economic needs
  - Incorporation of sustainability goals in all federal agency policies
  - Consistency of policies within agencies
  - Cooperation among agencies
  - Public participation in decision making
  - Use of environmental indicators and accounting
  - Cooperation among state and local governments, private entities, and the international community
  - Need for scientific analysis with recognition of its limits (hence need for Precautionary Principle)
  - Recognition of the relationships among population growth, density, technology and other influences on the environment
  - Intergenerational equity

  The incoming administration should read the three-page statute and develop its sustainability efforts based on the existing concise and comprehensive policy that we have.

- **Complete and Operationalize the Environmental Indicators Effort.** Indicators are science based quantitative and qualitative measurements that track environmental conditions over time. Indicators are central to performance management, with respect to both the environmental and the government, and are especially critical in a time when meeting challenges like climate change necessarily need to cut across agency lines. Therefore, CEQ is the logical place to house a environmental performance indicators development and monitoring effort, with involvement by EPA and other agencies.

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A number of agencies have launched environmental indicators efforts in the past, including in both the Clinton and Bush administrations, at EPA, at Interior, and through an interagency process at CEQ. Most recently, during the Bush administration, CEQ asked the National Academy of Public Administration (NAPA) to help design an entity that would develop a set of environmental indicators. NAPA proposed, with CEQ, to set up an interagency working group and invite states to participate, house the leadership in CEQ (or somewhere in the White House) and do a trial. The outcome was a proposal for a collaborative federal-state enterprise involving multiple federal agencies.

However, entities outside government (including one working with an effort called the "State of the USA") wanted to undertake the indicators project. After the CEQ lead person left, a career person in the Forest Service picked it up but got no response from the White House. The Deputy Interior secretary was pushing to make this happen, but it is unclear where this effort stands now.

The US needs a means to track its environmental progress (or lack thereof) for all media – air, water, atmosphere, biodiversity, habitat, etc., and EPA, Interior, Ag and most other federal agencies should be involved. This is a project that should finally be completed in the Obama administration and be fully funded.

- **Develop benchmarks to track the Obama administration's progress on environmental goals.** The administration should set clear goals of what it wants to accomplish in the environmental arena, establish benchmarks as one would do in a business, publish them so that they are available to the public, and periodically and realistically evaluate its progress.

IV. Department of the Interior (DoI)

a. Bureau of Land Management (BLM)

- **Prioritize renewable energy development on federal lands; have BLM give priority to renewable energy projects.** President-elect Obama should issue an Executive Order to prioritize renewable energy development on federal lands. The Obama administration should direct federal lands agencies to proactively engage in dialogue with the wind, solar and geothermal energy industries, consistent with existing federal law, when drafting policies that impact the sitting, construction or operation of facilities to ensure the resulting policies are workable and will not unduly harm deployment.

  New BLM appointees in the Obama administration should offer clear directives to field offices about the importance of the development policy, should provide additional staff training for field staff, and should create staff positions dedicated to processing permits for renewable energy projects.

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- **Increase staffing in BLM; use land rental revenues to fund increased staffing.** Rental revenue from wind and solar projects on BLM and Forest Service lands and offshore areas managed by the Minerals Management Service should be utilized to support staffing levels sufficient to process such applications. BLM should authorize the use of contractors to handle the expected significant growth in the numbers of applications.

- **Have BLM sign memorandums of understanding with state permitting agencies to avoid duplication of effort and to speed up the process.** This was done with California to good effect.

- **Competitive Leasing – clear out the queue of applications, and prioritize renewable projects.** Develop a process for BLM to determine which applications are real and which are speculative. This may include charging non-refundable deposits or higher fess, and instituting new a process for reviewing applicants.

- **Renewable Energy Zones.** Implement expedited permitting on BLM lands that have been identified as "Renewable Energy Zones" (REZs) through either the DOE/BLM Solar Development Programmatic Environmental Impact Study (PEIS) or a similar state or regional process (such as the Western Governor's Association's Renewable Energy Zones program). Institute similar reforms for the US Forest Service, Fish & Wildlife, and Bureau of Reclamation when considering permits for renewable development, including transmission to support such development.

  An expedited and streamlined permitting process is necessary if renewable energy from wind, solar, and geothermal is to meet more than a small fraction of our electric power needs and develop into a major set of industries. It is also needed to allow the construction of new transmission lines to deliver this energy to the population centers where it is needed.

  Note: If helpful, we can present a detailed set of recommendations representing a consensus view from the renewable energy industry on how to streamline the permitting process while meeting environmental goals and other land use goals of state and local governments.

b. General

- **Minerals Management Service (MMS) – complete offshore wind regulations.** MMS should complete offshore wind regulations in a timely manner and should address remaining concerns by amending the regulations rather than delaying them further.

- **Fund increased staffing for the US Forest Service (USFS), Minerals Management Service (MMS) and Fish and Wildlife Service (USFWS) by using rental revenues.** Rental revenue from wind and solar projects on BLM and Forest Service lands and offshore areas managed by the Minerals Management Service should be utilized to support staffing levels sufficient to process such applications. To ensure that each federal agency involved in reviewing renewable energy projects has the staffing level and appropriate expertise to provide timely and appropriate decisions, the

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Obama administration and Congress should increase staffing at FAA, USFWS, the National Weather Service and the Long Range Radar JPO to allow for timely review and response to industry applications.

- **Continue U. S. Fish and Wildlife Service's Wind Turbine Guidelines Advisory Committee work and incorporate the final recommendations into federal guidance**. The U. S. Fish and Wildlife Service should continue its Wind Turbine Guidelines Advisory Committee work and should incorporate the final recommendations into a new federal guidance document.

- **Improve the NEPA ROW process**. The NEPA component of BLM's right-of-way (ROW) permitting process is one of the most significant hurdles to the development of solar and renewable projects on public lands. Improvements would be helpful to streamline the process, facilitate coordination among multiple agencies to minimize delays, and require action within set timelines. Specific recommendations include:
    - BLM should work with environmental groups to streamline and develop expedited NEPA procedures for renewables projects.
    - BLM should develop template EAs for solar, wind and geothermal projects.
    - DoI should develop procedures for a coordinated review process. Coordination is necessary to avoid delay in the NEPA reviews.
    - Currently, BLM's management of NEPA assumes it is a process without timelines. The Secretary of Interior should set a timeline for approval of renewables projects and the transmission projects that enable renewable energy.
    - Additional legislation may be helpful to elevate renewables as a priority for BLM and FERC approvals relative to other agency approvals (e.g. for oil, gas, mining, and grazing).

- **Resolve grazing conflicts.** When renewables ROWs impact on existing grazing privileges, a two year prior notification and appeals process are provided to the grazer. Currently, BLM holds that the two year notice period begins at the end of the permitting process rather than the beginning. Renewables projects could move forward more quickly if the two-year notice[3] could occur at the NEPA scoping stage.

[3] Required by 43 CFR 4110.4-2(b)

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V. Department of Agriculture (USDA)

- **Expand the scope of the USDA Federal Finance Bank loan guarantee program for renewable energy projects.** Currently USDA provides a loan guarantee program for large scale renewable energy projects in rural areas that provide power to rural areas. This program should be expanded to include projects that are developed in rural areas but provide power to urban areas. Additionally the program should allow the loan guarantee to cover smaller commercial projects.

- **Increase funding for the USDA grants and loan guarantee programs.** USDA provides grants up to $500,000 and loan guarantees for small business renewable energy projects in rural areas, as provided by Section 9006. Funding for the program should be increased. There should be state allocations that allow the program managers to know how much funding is available in their state and insure that funds are distributed throughout the U.S. In addition, the Biorefinery Assistance Program's loan guarantee authority should be increased.

- **Phase out the commodity payments in the Commodities Title (Title I) of the Farm Bill**. President-elect Obama recently called for eliminating commodity crop payments as a prime example of how to cut government waste. The commodity program gives guaranteed annual payments to farmers of the five major commodities – corn, wheat, rice, soybeans and cotton – regardless of need. The payments should be cut entirely, or if granted at all, should be tied to environmental performance. As is, the commodities title encourages cultivation on marginal lands, soil erosion, habitat destruction and other negative environmental impacts. By granting automatic payments to commodity crop growers, farmers in states that primarily grow specialty crops, such as vegetables, fruits, nuts and timber, receive almost no funding.

- **Fully fund and then expand funding for the Conservation Title (Title II) of the Farm Bill**. The conservation title provides incentive payments and cost-sharing for farmers who practice environmental stewardship, including protecting and restoring wildlife and habitat, reducing water and pesticide use, reducing air pollution, and conserving energy and water. The program has not been fully funded in a number of years and demand from farmers always exceeds available funds. The 2008 reauthorization of the Farm Bill included under $5 billion for this program. The program should be fully funded and ideally funding should double to $10 billion with the additional funding coming from the re-directed commodity title funds.

- **Ensure that the Natural Resource Conservation Service requires states to have environmental requirements in place before granting conservation title funding to them**. The NRCS is the implementing agency for the Farm Bill's conservation title. The agency should make sure that states require farmers to employ environmentally-sound practices, such as the air, water and pesticide regulations in California. Such environmental protections do not exist in commodity-growing states, yet these states receive as much conservation funding as those with environmental regulations. Granting funds should be prioritized such that money goes first to states with environmental

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protections in place, or that those states get a larger share of funding. This will encourage states to set or raise their environmental performance standards.

This recommendation is at or on its way to the Office of Management and Budget (OMB) but movement on it has stopped. Ensuring that it goes through would be a quick "win" for the incoming administration.

VI. Federal Energy Regulatory Commission (FERC)

a. Interstate Electricity Transmission

- **Create an overall transmission/interconnection planning process that fosters coordination.** FERC should build upon the efforts of the Western Governors Association, Western Electric Coordinating Council, and the Joint Coordinated System Plan for the Eastern Interconnection.

- **Promote upfront funding of transmission.** Further use financing policies such as that approved by FERC for the California grid that use upfront funding of transmission needed to access location-constrained generation.

b. Other

- **Have FERC encourage better net metering and interconnection standards for distributed generation**. Encourage the adoption of net metering for up to 2MW and creating clear interconnection standard for up to 20MW.

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VII. Bonneville Power Administration (BPA)

The BPA owns half the generating resources and most of the transmission in the region, meaning that BPA policy and resource investment decisions have a huge regional impact.

- **Increase funding for the Northeast Energy Efficiency Taskforce to provide 50% of funding needed to implement Taskforce recommendations.** This would be at a level of $50 million annually for five years and would spur increased private utility participation. The BPA Administrator has initiated the Northwest Energy Efficiency Taskforce, which is charged with "significantly advancing the region's energy efficiency achievement through greater regional collaboration, commitment, customer involvement, and pursuit of the most cost-efficient program strategies". Taskforce recommendations are forthcoming in January and the Northwest Energy Efficiency Alliance (a regional non-profit supported by the energy industry, government and public interest groups) is viewed as a primary vehicle for carrying out the recommendations. BPA can take a leadership position by stepping up the public power's share to 50% of the investment needed for follow through.

- **Extend BPA's Technology Innovation beyond wind to other technologies.** The program has played a significant role advancing wind energy development in the region, and should be expanded to do the same for other technologies. BPA can act as an enabler, investing and working with others regionally and nationally to accelerate advances in design and application, demonstration, cost competitiveness and commercialization. BPA's Technology Innovation office has published roadmaps for both energy efficiency and renewable energy technology development in the region. The level of BPA investment here can be expanded to accelerate results and market impacts, and can be replicated with other renewable or clean energy resources, and with new or emerging energy efficient end-use technologies (i.e., solid state lighting, heat pump technology, etc.).

VIII. Tennessee Valley Authority (TVA)

- **Appoint board members to TVA to make it a leader in energy efficiency and renewable energy development**. As a federally owned corporation and the largest public electricity provider in the nation, TVA is in a unique position to provide leadership in bringing about the clean-energy revolution in the United States. Emitting more than 107 million tons of carbon dioxide annually, TVA is one of the leading contributors to global warming pollution in the nation. If properly directed, TVA could become an important national test ground for clean energy technology. In his first six months in office, President-elect Obama will have the opportunity to fill four of the nine seats on the TVA Board of Directors. Given TVA's role in providing electricity to almost nine million people in seven southern states, these appointments will likely forecast our nation's commitment to securing a clean and sustainable energy future. It is, therefore, critically important that these appointments be individuals who are willing and able to take advantage of TVA's potential to be a leader in energy efficiency and renewable energy development. They should have a history of strong commitment to clean energy development in the region.

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- **Require TVA to implement a Renewable Energy Standard**. TVA should not be exempt from a national Renewable Energy Standard (RES). TVA has good bio-power, wind and solar resources and could meet a well crafted renewable standard. Requiring TVA to meet a national RES will build pressure for other southern utilities to grow their renewable energy technologies as well. All TVA power distributors should be required to meet this standard also as purchasers of TVA power.

- **Require TVA and its power distributors to meet an Energy Efficiency Resource Standard**. TVA's service territory consistently ranks as the nation's highest residential consumer of electricity. In the past 12 months TVA has begun to evaluate some energy efficiency options, but three decades of limited investment in energy efficiency has created a tremendous opportunity. TVA and its power distributors should be required to meet an efficiency resource standard to accelerate the deployment of energy efficiency technologies and practices.

- **Move TVA into a leadership role for Smart Grid**. TVA service territory should be a showcase for smart grid technology. TVA's and its 159 power distributors could serve as a "living laboratory" for smart grid technology. Partnering with the Oak Ridge National Laboratory (ORNL), TVA could model smart grid applications for energy efficiency, both demand response and conservation, as well as automated meter technology. Several automobile manufacturers are located in the TVA service territory, including Saturn, Nissan, and Volkswagen. These manufacturers, in collaboration with the Electric Power Research Institute (EPRI), which also has a major research center in east Tennessee, could provide good ingredients for smart grid/electric car charging technology to be developed in the region.

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IX. Department of Housing and Urban Development (HUD)

- **Include energy standards in the $3.92 billion Neighborhood Stabilization Program.** The Housing and Economic Recovery Act of 2008 includes 3.92 billion dollars for Neighborhood Stabilization Programs to rehabilitate, demolish, and redevelop foreclosed and abandoned properties. HUD has calculated how these funds will be allocated to states and entitlement cities and counties and set out guidelines for development and submittal of local programs back to HUD for approval prior to actual release of the funds in February 2009. This is an opportunity to ensure that energy efficiency is addressed when these properties are rehabilitated or redeveloped. Grand Rapids, Michigan is an example of a local government that has included detailed energy efficiency requirements including upfront and final testing of all rehab projects.

- **Improve Energy Efficiency at HUD's Properties by creating an Energy and Utility Office in HUD Headquarters to coordinate energy efficiency operations across HUD's affiliated properties. The Director of this office should be a direct report of the Secretary.** More than 15% of HUD's budget is directly or indirectly comprised of energy and utilities. HUD buildings have been among the nation's most inefficient utility consumers in the apartment building sector. Of HUD's more than $5 billion in utility expenditures to public and private housing, an estimated 25-35% could be saved. HUD could support and institute programs to save $400 million or more within five years and $600 million or more within seven years by adopting and/or improving prudent energy efficiency policies and programs (60% public housing, 40% assisted housing). A single office coordinating interactions with utilities would help HUD realize these potential cost savings.

  This office should set efficiency and carbon goals, collect utility information, and direct utility efficiency and renewables efforts for both the Public and Indian Housing and Assisted Housing branches at the Department (to assure line responsibility, office should have two branches, Public and Indian Housing and Assisted Housing). The FEMP and military services have demonstrated that a staff of eight to ten professionals could save the Department an additional $50 million in its first two years of operation. HUD properties are 15-20% more energy intensive than private housing stock, suggesting there are large opportunities for savings.

- **Enhance HUD's Energy Performance Contracting (EPC) Program**. The HUD Energy Performance Contracting (EPC) Program is an effective program that has led to $600 million in capital improvements paid for by utility energy savings, but this has been achieved with only 15-20% market penetration. This should be enhanced in the following ways:

  - $500,000 should be allocated to train HUD Field Offices and agencies on the program.
  - Streamline the process for review of EPC contracts, especially for approving utility baselines and monitoring and verification (M&V) criteria. Training and technical assistance to Field Offices to ensure rapid and effective review of contracts should be funded at the level of at least $1 million annually.

  - Provide loan guarantees to address the current difficulty encountered by housing authorities in accessing 20-year term tax-exempt financing for performance contracts.
  - In addition, $100 million should be allocated for additional Capital Fund appropriations to PHAs smaller than 300 units because these are too small for effective participation in EPC contracts.

- **Additional measures needed for federally assisted housing.** The financial incentives that are in place for energy efficiency in public housing are not mirrored on the assisted housing side, which accounts for 1 million units. To allow the extension of EPC contracting to assisted housing, the following regulatory and legislative approaches should be applied:

  - allow for restrictions on security interest in equipment to be waived for energy performance contract financings;
  - provide for "one-stop" procurement for energy performance contracts to allow for a design-build approach;
  - provide financial incentives for owners to participate;
  - provide incentives for portfolio managers to enter into energy performance contracts (such as guaranteed loan pools);
  - support passage of Section 19 in HR 6078, the Green Act (2008), which would reinstate the major provisions of AHELP.

  For HUD-assisted properties, two major barriers to undertaking energy performance contract work include separate procurement requirements for design and construction as well as restrictions on security interest in equipment financed. The ill-fated Affordable Housing Energy Loan Program (AHELP, 1996), never implemented, actually attempted to address these types of barriers and was structurally a sound program. Streamlined HUD approval processes, performance contracting, and management incentives are all potentially effective strategies to overcome the barriers afflicting this HUD portfolio.

  To provide financial incentives to property owners to participate in EPC contracting, Section 8 utility allowance incentives could mirror existing incentives on the HUD public housing portfolio, allowing for owners to "freeze" allowances for the contract term but lower them to the tenants once measures are installed – thereby increasing the flow of rental income to the owners.

- **Apply energy efficiency standards to new construction.** Hope VI, HOME and other new affordable housing programs financed by HUD should at a minimum meet Energy Star Standards for new construction, and all opportunities for the inclusion of combined heat and power (CHP) and renewable energy should be pursued. HOPE VI developments should be encouraged to partner with third parties to develop, finance, own, and operate the heating, cooling and electric load requirements for these properties.

  Because higher first costs are difficult to cover and capital will be constrained, the EPC incentives should be permitted for incremental efficiency upgrades and renewables technologies for at least

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the portion of the units that remain funded under the Annual Contributions Contract (ACC). Section 18 of HR 6078 would allow this development.

HOPE VI developments are outstanding opportunities for combined heat and power and renewables projects. By permitting partnering with third party companies to develop, finance and own, housing authorities can reduce their development costs and benefit from reduced utility costs. Finally Indian Housing presents special opportunities for renewables projects, especially solar electric and wind. Technical assistance targeting to these opportunities is warranted. For more information, see Section 2 of HR 6078.

- **Amend the Block Grant Program** to provide for Energy Block Grants to states and communities to create community-based marketing, outreach, and financing supplements to existing utility efficiency and renewables incentive programs.

X. Department of Transportation (DoT)

- **The FAA should receive funding so that it can adequately staff reviews of wind energy development proposals.** To ensure that each federal agency involved in reviewing wind energy projects has the staffing level and appropriate expertise to provide timely and appropriate decisions, the Obama administration and Congress should increase staffing at FAA, USFWS, the National Weather Service and the Long Range Radar JPO to allow for timely review and response to industry applications.

XI. Department of Commerce (DoC)

- **Increase funding for the National Weather Service to ensure that it can adequately staff reviews of wind energy development proposals.** To ensure that each federal agency involved in reviewing wind energy projects has the staffing level and appropriate expertise to provide timely and appropriate decisions, the Committee recommends that the Obama administration and Congress increase staffing at FAA, USFWS, the National Weather Service and the Long Range Radar JPO to allow for timely review and response to industry applications.

- **Reauthorize the National Marine Sanctuary Program.** The National Marine Sanctuary Program in NOAA/Commerce is an excellent program. Although small, it has active citizen participation in many sites. The program is up for reauthorization in 2009 and should be reauthorized.

XII. Department of Defense (DoD)

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DoD is the largest consumer of energy in the federal government, the biggest emitter of greenhouse gases, and has the largest budget. It is therefore a critically important player in the climate/energy/environment/national security agency nexus.

During the Clinton administration, DoD undertook a number of progressive energy-use reduction and climate change-related efforts, including involvement in the UN treaty negotiations. It conducted an agency-wide (global, all sources and sinks) greenhouse gas inventory (the only agency to have done one at the time), which enabled it to accurately track the greenhouse gas reductions associated with the agency's energy-management efforts. The agency reviewed the government's annual national security review for input from a climate change and energy management perspective, coordinated with the State Department and other agencies on climate issues and participated in all relevant climate-change interagency meetings and bodies including the White House Climate Change Task Force.

Despite all these policy efforts and success at actual greenhouse gas reduction, the agency was not able to do as much as it would have liked due to concerns about disrupting its relationship with the Congress over potential accusation of "pre-implementation" of the Kyoto Protocol, which was a concern in the Byrd-Hagel resolution era. Therefore, DoD implemented most of its highly effective energy-reduction measures under the aegis of the Energy Policy Act.

In the Obama administration, DoD could be a significant contributor to both domestic and international climate change mitigation and policy efforts.

In addition to its climate and energy initiatives, DoD also had major and successful programs to prevent pollution, train foreign militaries in toxic clean-up and other environmental restoration methods as part of a peace-building initiative, and protect endangered species and habitat on its land, as DoD is one of the biggest land managers in the country.

All of the many excellent environmental efforts at DoD should be reviewed to assess their status, revived and improved if necessary, and fully integrated into the rest of the federal government's climate change and environmental protection and restoration efforts. The CT4-0 team would be pleased to elaborate on suggestions under separate cover, including in the climate change arena. Several examples of recommendations are below.

- **Improve FAA / DoD / DHS Program concerning Wind Power projects and Long Range Radar Interference** The Department of Defense/Department of Homeland Security Long Range Radar Joint Program Office ("JPO") currently works along with the FAA to assess possible radar interference that can be created by wind power projects. Currently a case-by-case analysis is conducted by both the Federal Aviation Administration ("FAA") and the JPO to assess potential impacts on local air traffic control and air defense systems to determine if a proposed wind farm could compromise radar capability. Project proponents must apply to the FAA for a hazard determination prior to construction of any windmills. Additionally, a project proponent must work

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with the JPO and its informal consultation program, which is aimed at assisting project proponents in identifying locations where radar line of sight concerns exist.

Program Recommendation:

- Establish a process within existing law through which developers can engage the DOD in a process that is timely, transparent, and predictable and that includes an opportunity to appeal negative decisions and discuss mitigation options. The following steps are recommended:
- Secure commitments, at the political appointee level, at the FAA and DOD/DHS to adhere to a transparent, predictable review and appeal process for wind turbine obstruction evaluations.
- Secure commitments, at the political appointee level, from DOD and FAA to create an early feasibility review that allows project proponents an opportunity to understand potential DOD concerns and points of contact.
- New political appointees at the DOD should clarify that red/yellow/green coded maps produced under the program are not a decision-making tool; they are only an information tool to help determine the appropriate level of scrutiny a project should receive.
- DoD, in coordination with FAA, should identify Long Range Radar facilities that are targeted for upgrading which could impact potential wind energy sites in the future.
- To ensure that each federal agency involved in reviewing wind energy projects has the staffing level and appropriate expertise to provide timely and appropriate decisions, it is recommended that the next administration and Congress increase staffing at FAA, USFWS, the National Weather Service and the Long Range Radar JPO.
- Request $5 million for radar mitigation R&D at DOE in collaboration with DOD/DHS and the wind industry.
- Finalize a BLM/DOD MOU in a way that provides for a more transparent, timely and predictable review process.

- **Improve energy efficiency and renewable energy use by U.S. military bases and facilities, beginning with residential housing.** DoD has a number of existing programs and special pilot projects for energy efficiency and renewable energy use by military facilities.

  Program Recommendation: Immediately begin energy improvements on U.S. military bases, beginning with residential housing. This will have a four-fold benefit of stimulating the economy, reducing carbon emissions, reducing DOD's long-term energy budget, and improving the lives of service men and women and their families.

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XIII. Department of Health and Human Services (HHS)

- **Increase energy efficiency funding within LIHEAP (Low Income Home Energy Assistance Program).** LIHEAP has an annual allocation of $5.5 billion dollars, of which a small percentage is allotted for weatherization. As more funds are devoted to energy efficiency funding, the long-term need for assistance with energy will be reduced.

XII. Department of the Treasury

- **Expand the Green Bond pilot program to attract a larger pool of investment capital and fund a broader range of projects and companies**. The Treasury could offer investors a low-risk, long-term, tax-exempt investment opportunity in the increasingly risky bond market, while concurrently shoring up risk for the financing of commercially viable projects and companies that will inevitably face scarcity in the supply of lenders. Green Bonds currently fund retail developments like the State of New York's brownfield development, Destiny USA. This bond issuance could be expanded to play a similar role to the Victory Bonds that helped finance World War II, but with priorities comparable to the Climate Awareness Bonds recently issued by the European Investment Bank.

- **A National Infrastructure Bank (if created) should adopt a comprehensive methodology to maximize impact of investment in Green Infrastructure**. Through a variety of mechanisms including direct federal funding, grantmaking, lending, loan guarantees, bond underwriting and tax credits, a National Infrastructure Bank, as proposed by President-elect Obama and introduced in the Senate in the Dodd-Hagel National Infrastructure Bank Act of 2007, could coordinate funding for many types of clean energy and energy efficiency programs, projects and companies. Rather than award funding on an ad-hoc, non-competitive basis, as current infrastructure projects tend to be funded, the National Infrastructure Bank should consult with federal agencies and national laboratories with expertise in energy and environment (e.g. National Renewable Energy Laboratory) and with experienced private cleantech and renewable energy investors, to develop a comprehensive investment screen to prioritize funding for projects that will maximize energy productivity, renewable energy generation, the reduction of greenhouse gas emissions, the creation of green jobs, and finally, show potential to be commercially viable and generate a positive return on investment.