



Top 10 Ways to Use Recovery Funds for Green Building

With the passage of the American Recovery and Reinvestment Act (ARRA) comes a time of tremendous and unprecedented opportunity for green building. Governments across the U.S. are acting fast to take calculated steps to identify not simply shovel-ready, but shovel-worthy projects that are a strong investment into the green economy – investments that will put Americans back to work. Rather than looking project-by-project, or system-by-system, many governments are thinking holistically about how to use recovery dollars to advance sustainability in the built environment.

Across the country governors are securing funding for projects with strategic benefits to bring home to their respective communities economic growth, environmental stewardship, efficiency and good green jobs. The benefits of green building are increasingly documented in case studies and independent research and include significantly lower energy costs and other financial returns, alongside other rewards in occupant and environmental health. In many cases, buying down the costs of multiple projects and leveraging private dollars is doing even more to extend the reach and benefit of recovery dollars.

The time to act on ARRA is now. With guidelines for implementation being released daily, consult your state's economic recovery Web page for the most up-to-date information. As you plan, apply for, and implement ARRA recovery dollars, make sure to maximize your green building potential by taking cues from this top-ten list.

For the most current information on the allocation and distribution of ARRA funds please visit the following websites:

Recovery.gov: <http://www.recovery.gov/>

Department of Education: <http://www.ed.gov/recovery>

Department of Energy: <http://www.energy.gov/recovery>

Department of Housing and Urban Development: <http://www.hud.gov/recovery/>

Department of Labor: <http://www.dol.gov/recovery/>

Department of Transportation: <http://www.dot.gov/recovery/>

And, of course, USGBC's economic recovery resources: <http://www.usgbc.org/government>

Top 10 Ways...

- 1. Invest in Healthy Schools and Reinvest in our Children and our Future**
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1. Invest in Healthy Schools and Reinvest in our Children and our Future

Investing in our children – and America’s future – may be the one re-investment area with the most potential for future returns. By promoting the design and construction of green schools, governments can make a tremendous impact on student health, test scores, teacher retention, school operational costs and the environment.

In 2007, Ohio took a major leap in its commitment to rebuilding and improving its public schools by committing to green schools. This initiative, originating by Executive Order from the Governor’s office, employs thousands of individuals across the state in this landmark undertaking. To date, there are nearly 140 schools registered or certified for LEED certification as a result of this initiative, administered through the [Ohio School Facilities Commission](#).

State and local governments should also consider pursuing recovery funds from the State Fiscal Stabilization Fund, School Construction Bonds and Impact Aid – each administered through by the Department of Education – for more efficient, greener and healthier schools.

For an overview of provisions for school modernization:
<http://www.ed.gov/policy/gen/leg/recovery/modernization/index.html>

2. Build or Expand Residential Energy Retrofit Programs

With innovation on energy retrofit programs at the state and local level at an all-time high, ARRA presents unprecedented opportunity to bring the environmental, economic and health benefits of green building home to the everyday American by addressing the residential sector.

The City of Houston began piloting its program to improve energy efficiency in lower income communities in 2006 through a partnership with the local utility. Efficiencies of upwards of 20% were achieved through simple weatherization measures, and with payback periods of approximately two years, an average annual savings of more than \$800 per household was significant to homeowners, not to mention the CO₂ reduction and other environmental benefits.

Houston scaled up its program in 2007 to reach more than 1,000 homes, and again in 2008, reaching a pre-2009 total of over 4,000 homes. The City of Houston is expanding its program once again with plans to weatherize another 6,000 homes through 2010. The Mayor’s Office of Environmental Programming is currently writing grants for funding through the relevant programs that are distributing recovery dollars in this area. Major programs include: the Weatherization Assistance Program (DOE), the Energy Efficiency & Conservation Block Grant (DOE), and the Assisted Housing Stability and Energy and Green Retrofit Investments program (HUD).

For more on Houston’s initiatives: <http://www.greenhoustontx.gov/>

3. Make Affordable Housing more Efficient and Affordable

Local governments have unique authority to guide smart, sustainable development in America’s cities, counties and towns. Local leaders are recognizing that the benefits of green building go even farther when incorporated into the affordable housing stock, offering homes that are truly affordable – both for residents and public housing authorities.

Across the country, state and local governments are investing in the greening of the affordable housing stock. In Minnesota, a strategic partnership of not-for-profit organizations has aligned to support affordable housing developers in their work to expand and improve affordable housing within the State.

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Like in many states, Minnesota will be taking advantage of the expertise, resources, and financial support of local nonprofits, like Minnesota Green Communities, to further the reach of recovery dollars to bring green building and true affordability into the State's neediest of homes.

Governments should also give thoughtful consideration to recovery funds available through the Public Housing Capital Fund (HUD), Assisted Housing Stability and Energy and Green Retrofit Investments program (HUD), HOME Investment Partnerships (HUD), and Neighborhood Stabilization Funds (HUD).

4. Demonstrate Leadership by Example – Greening Public Sector Buildings

In times of economic trouble, leadership by governments towards the economy of the future is just as important as sound stewardship of public funds. In greening government buildings, both are achieved.

To make government buildings more sustainable and to encourage green building in the private sector, the City of Seattle is pursuing LEED for New Construction Silver certification for every new construction or major renovation project that it undertakes greater than 5,000 square feet. Seattle also encourages the private sector to incorporate LEED standards into new and existing buildings by providing grants for qualifying projects and offering height or density bonuses to projects that achieve LEED Silver certification and contribute to affordable housing.

The City of Seattle plans to use stimulus funds to strive for higher LEED ratings in new construction projects and to implement deeper energy conservation measures and add green elements to existing facilities. Governments should also explore using recovery funds from the Energy Efficiency & Conservation Block Grant (DOE) and the State Energy Program (DOE) towards green building elements in new construction projects and existing buildings.

More on Seattle's Program: <http://www.seattle.gov/dpd/GreenBuilding/OurProgram/Overview/>

5. Maximize Efficiency in the Business Community

ARRA provides a wealth of opportunity to expand the reach of green building and energy efficiency in the private sector. Engaging the local business community through energy efficiency and green building incentive programs can magnify the impact of recovery dollars. Commercial and industrial building owners are quick to recognize that reducing operational costs can give them a competitive edge in the newly-forming green economy – and pairing private capital and financing with government and utility incentive programs will only extend their reach.

Adobe Systems, Inc., based in California, has done much to document the substantial energy cost savings realized by certifying its headquarters with LEED for Existing Buildings. Adobe implemented 64 energy conservation and related projects and reduced their annual operating costs by \$1.2 million. By leveraging their \$1.4 million investment in these projects with nearly \$400 thousand in rebates from state and local agencies, Adobe achieved a comprehensive green building retrofit with a 121% return on investment. The savings realized by Adobe Systems is proof positive that investing in green building can be a significant boost to the bottom line. Beyond energy efficiency, the additional benefits of sustainable building practices – from occupant health and water efficiency to increased rental rates – continue to attract the business community to build green, even in a down economy.

The New York State Energy Research and Development Authority (NYSERDA) runs a broad range of incentive and assistance [programs for commercial and industrial buildings](#). For existing buildings, NYSERDA offers assistance with energy audits and incentive grants and a loan program to purchase energy efficient technologies. NYSERDA also supports green building in new construction through

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incentives and technical assistance for energy modeling, design charrette facilitation, commissioning, and purchasing high-efficiency equipment.

Governments should consider accessing funds from the Energy Efficiency & Conservation Block Grant (DOE) and the State Energy Program (DOE) to incentivize energy audits and energy efficiency retrofits of commercial buildings.

6. Build Capacity through Education and Training

Our efforts to weatherize American homes, green America's schools, and build smart and responsible public buildings are only as strong as the workforce that is behind it. Education and training of the workforce is a key component of the economic recovery, not only for green building, but also as a foundation for the green economy.

The State of Arkansas is planning to use stimulus funds under the Weatherization Assistance Program to provide training on how to conduct residential energy audits and how to perform weatherization upgrades. This is part of their focus on creating jobs and building capacity, while also making an impact on energy efficiency and accomplishing a strategic goal for the state of ameliorating fuel poverty.

Governments should also take advantage of recovery funds appropriated through the U.S. Department of Labor related to green job training.

7. Leverage and Extend Recovery Dollars with a Revolving Loan Fund

From coast to coast, state and local governments as well as institutions and foundations are recognizing the power of the "revolving loan fund" (RLF) to finance energy efficiency and green building measures in a sustainable way. When used to finance quantifiable investments in green building and efficiency, the resulting operational cost savings from greener, more efficient buildings pays back the fund. Money used to bring long-term eco-efficiencies in one project reinvests in another building, whose efficiencies pay back the fund and yield opportunity for others.

Several states are developing RLFs, and the U.S. Congress is considering proposals. Harvard University's [Green Campus Fund](#) has been greening its campus since 2001 using a revolving loan fund. In some models, repayment schedules are set lower than anticipated cost savings from retrofitting measures, allowing owners to realize the financial as well as environmental benefits of the projects. State governments see opportunity in the State Energy Program funds (DOE). Local governments are looking to the Energy Efficiency & Conservation Block Grant (DOE).

8. Get Buildings on the Right Track – Retro-Commission your Buildings

Given the quick turn-around time required for metrics and responsible spending of recovery dollars, relatively small investments in recently constructed buildings may reap rewards over a number of building projects when compared to larger spending on any one project individually. Critical to optimizing the intended design of any building is ensuring that systems are designed, installed, functionally tested, and capable of being operated and maintained to perform as intended. The retro-commissioning process calibrates building systems for optimum performance and identifies opportunities for upgrades.

While formulating portfolio-wide existing building operations and maintenance practices and policies necessary to achieve LEED certification, The State of California Department of General Services (DGS) is setting the groundwork for green building performance by energy benchmarking and retro-commissioning each facility. DGS is working extensively with local utility company incentive programs to substantially reduce the cost of their retro-commissioning program.

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DGS plans to use stimulus funds to implement upgrades that have been identified and build on the 11-12% average increases in efficiency that have resulted from retro-commissioning alone. Governments should also consider accessing recovery funds from the Energy Efficiency & Conservation Block Grant (DOE) and the State Energy Program (DOE) to perform energy audits, commissioning, and make system upgrades to existing buildings.

For more on California DGS: <http://www.documents.dgs.ca.gov/dgs/pio/green/highlights.pdf>

9. Make Informed Energy Resource Management Decisions through Metering

With great opportunity comes responsibility. ARRA calls for an unprecedented level of accountability in tracking the disbursement and impact of recovery funds on our economy. In contrast, many governments operate facilities in a master-metered campus setting or are equipped with older facilities whose utility meters do not give a clear picture of building performance. Installing meters for individual buildings and for major building systems is an effective measure in energy management that also enables greater accountability, tracking, and ultimately, opportunity for efficiency. Meters are a central component to optimizing existing building performance over time – after all, you can't manage what you can't measure.

In its effort to green its historic state Capitol Complex, Colorado found that the installation of additional utility meters yielded significant savings by enabling more-efficient building operation and management. The additional meters have allowed Colorado to benchmark each building through Energy Star's Portfolio Manager Tool and to identify operational inefficiencies, such as after-hours and weekend use of facilities connected to district utility systems. Better performance data also allows Colorado to achieve a more-accurate guaranteed savings through an Energy Performance Contract. The State is projecting utility savings of over \$1 million per year and thirteen buildings are slated to be submitted for LEED Existing Buildings: Operations & Maintenance certification, with the historic State Capitol building already achieving a LEED Certified rating. Read the [Governor's Press Release](#).

Governments should also give careful consideration to use recovery funds from the Energy Efficiency & Conservation Block Grant (DOE) and the State Energy Program (DOE) to upgrade energy conservation measures, such as utility meters and management systems.

10. Greening Piece-by-Piece – Laying the Groundwork for Future Holistic Measures

Because ARRA funds come with a short timetable, no guarantee of future federal funding and will most likely go to projects already under consideration, it is very important that each project is part of a holistic plan for the building or neighborhood that contains it. The funding offers the opportunity for deep green retrofits and upgrades that may not have happened otherwise. Given the large number of commitments by state and local governments to make government buildings more sustainable, thinking holistically about how these projects will fit with future efforts is extremely important. Certification of buildings through LEED for Existing Buildings: Operations & Maintenance can provide a framework for the long-term management of building performance.

Most any building project – whether new construction or an existing building retrofit – can incorporate an alternative material, strategy, or technology that can improve its energy and environmental performance and render it a more appropriate building for certification through LEED for Existing Buildings: Operations & Maintenance. In addition to the guidance offered in the LEED rating system, the U.S. Green Building Council works to create forums for the government community to share successful strategies and resources for achieving sustainability goals. Many of these strategies are collected into the following resources: LEED as a Tool for Performance Strategies, Roadmap to Sustainable Government Buildings, The

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Playbook for Green Buildings + Neighborhoods. Find all of these resources and more at www.usgbc.org/government.

ARRA funds from the Energy Efficiency & Conservation Block Grant (DOE) and the State Energy Program (DOE) may be used to set a foundation for sustainable facilities in a number of ways. Recovery dollars from the Community Development Block Grant (HUD) and the Neighborhood Stabilization Program (HUD), in addition to DOE programs, may provide substantial opportunity to improve sustainability in buildings and neighborhoods. Possible projects or programs may include: integrating green efficiencies into new or existing buildings; training staff on green building design and operations; developing and implementing management plans for energy efficiency, material conservation, and fuel-efficient transportation.