



A Star Turn for Energy Efficiency Jobs

Energy Efficiency Must Have a Starring Role in Putting America Back to Work

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Introduction

Retrofitting America's homes and offices for energy efficiency must remain at the top of the national agenda when Congress returns to work today. Congress needs to find bipartisan solutions to jumpstart the economy and create jobs.

Wasted energy is an obvious and costly drag on the productivity and competitiveness of the U.S. economy, but equally important amid the current jobs crisis is this—investing up front in energy-saving technology for homes and offices will create hundreds of thousands of jobs, especially in the hard hit construction and manufacturing sectors of the economy. The same dollars that we waste today on inefficient energy use would be better spent paying the wages of skilled American construction workers and purchasing state-of-the-art advanced manufactured products made here in the United States.

When there is substantial excess capacity in both the construction workforce and in domestic manufacturing, a program to retrofit U.S. homes and offices is well targeted to put American workers back on the job. While housing demand remains depressed, these cost-effective investments in efficiency can create a new source of demand for skilled workers.

Furthermore, building retrofit investments are driven by the private sector through targeted incentives, not government programs, drawing private capital to create lasting American jobs. That's a smart, bipartisan way to tackle the jobs crisis, our dependence on foreign energy sources, and global warming.

In this issue brief we will make the case for residential and commercial building retrofits, demonstrate that successful efforts in the Recovery and Reinvestment Act of 2009 and the administration's Better Buildings Initiative can lay the groundwork for jumpstarting a new wave of private-sector investment in this nascent but critical American industry. We then detail how we can build upon this foundation to create 250,000 new

jobs over the next year. Specifically, Congress needs to enact three programs that enjoy widespread backing on both sides of the aisle and deep industry support—Home Star, Building Star, and Rural Star.

Residential and commercial building retrofits

If we retrofitted just 40 percent of the nation’s residential and commercial building stock, we would mobilize a massive amount of domestic labor, over half a million (625,000) sustained full time jobs over a decade. This would generate as much as \$64 billion per year in cost savings for U.S. energy ratepayers. That’s means \$300 to \$1,200 in savings for individual families.

The residential sector gives us a perfect example of the work that needs to be done. Homes account for 21 percent of the nation’s energy use. The average American household spends \$1,900 per year on energy bills. There are approximately 130 million homes in the United States, with roughly half of these homes built before 1973—long before modern residential building codes and more widely used practices to insulate against energy waste. Modern retrofitting techniques and technologies can reduce energy use by up to 40 percent per home.

McKinsey and Co. finds that our nation wastes \$130 billion annually on energy costs from inefficient buildings and appliances, which could cost effectively be saved using today’s existing technology. That’s money that is literally flying out the window or thru the cracks of leaky buildings. Their report “Unlocking Energy Efficiency in the U.S. Economy” states that a comprehensive efficiency strategy, executed at scale, could reduce the nation’s nontransportation end-use energy costs by more than \$41.2 trillion by 2020—far outpacing the initial investment of \$520 billion to deploy such a program.

Further, we know that the work that needs to be done will be labor-intensive, as every 1 million invested in energy efficiency retrofits will create 17.36 jobs according to the Political Economy Research Institute at the University of Massachusetts, Amherst. Compare that to the 6.86 jobs created by investment in the coal industry, or the 5.18 jobs if the same money were put in oil and gas. Congress would do well to note that building retrofits out-perform investments in new oil and gas exploration as a form of job creation or economic stimulus by a factor of 3-to-1.

What’s more, most of the products used in energy efficiency retrofits have over 90 percent of the content made right here in the USA. Sheet metal for ductwork, for example is over 99 percent domestically sourced, vinyl windows are 98 percent American made, and rigid foam insulation is over 95 percent made in America. Even major mechanical equipment like furnaces (94 percent made in the U.S.A.) and air conditioning and heat pumps (82 percent American made) have a much larger share

of U.S. content than other products, with the domestic share of production for all products in the United States hovering just above 76 percent.

When you build green, you are far more likely to be buying American. That is very good news for the hard hit U.S. manufacturing sector, especially in building and construction materials, which desperately need a boost during this down real estate market.

Finally, clean energy jobs are better for U.S. small businesses. In fact 91 percent of the firms involved in retrofits are actually small businesses, according to research conducted by the Energy Future Coalition. Insulation, for example, is installed by more than 22,000 firms, 85 percent of which employ less than 20 people. Roofing insulation is installed by nearly 20,000 contractors around the country, 88 percent of which employ less than 20 people.

Windows are manufactured and installed by more than 130,000 people working for nearly 7,000 firms in the United States, 82 percent of which employ less than 20 people. The production and installation of heating, ventilation, and air conditioning equipment employs around 2 million people in the United States, and nearly 90 percent of them work for firms of less than 20 people. While nearly 850,000 people manufacture or install interior or exterior lighting equipment in the United States—nearly 90 percent work for firms of less than 20 people. This is a big deal for struggling small and family businesses in the United States, who provide the real engine for new hiring in our economy.

The macroeconomic arguments behind this issue are steadfast. We have a problem—leaky and inefficient buildings that waste money and energy—and the solution will be met with domestic, labor-intensive work that can be achieved today at low cost with existing technology. Energy efficiency is, and will continue to be, the “low-hanging” fruit by which the United States can save money and create sustained jobs in struggling industries crippled by the Great Recession and continuing housing crisis. We can do this while improving and upgrading our infrastructure and quality of life, with healthier, more comfortable, and more economical buildings. The real question then is how to unlock these benefits effectively at a moment of economic downturn.

Building on successful Recovery Act investments

The energy efficiency industry is at a critical point in its development, and real estate investors recognize this emerging market as a potential bright spot in a troubled market for construction jobs. While critics often assert that the American Recovery and Reinvestment Act of 2009 has not lived up to its promise, this assessment is both grossly premature and contradicted by the facts. In fact, the recent waves of new investment in clean energy and building efficiency, while slow to take hold have gained traction and this market is growing.

These public investments in energy efficiency made significant advances in building new national demand for retrofits, bringing skilled workers into good jobs in the process. What is needed now is a clear plan of action to sustain this emerging market with expanded private-sector investment. But first the facts of the Recovery Act.

The nonpartisan Congressional Budget Office found that through the first quarter of 2011, the stimulus created between 1.6 million and 4.6 million jobs overall, increased real gross domestic product—the largest measure of growth in the economy after factoring in inflation—by between 1.1 percent and 3.1 percent, and reduced unemployment by between 0.6 percent and 1.8 percentage points. This number is supported by the President Obama’s Council of Economic Advisors report, which finds that the stimulus created or saved 2.7 million to 3.7 million jobs by the third quarter of 2010.

This job creating effect was found to be the case in six major analyses of the Recovery Act, including one from The National Bureau of Economic Research which stated, “The stimulus had a positive, statistically significant effect on employment” and that “aid to low-income people and infrastructure spending showed very positive impacts.”

Furthermore, if the Recovery Act had been an energy bill, it would arguably have been the single-most important piece of clean energy legislation in our nation’s history. It drove unprecedented new investments, both public and private, into modernizing America’s clean energy infrastructure. The law provided financing tools and signaled clear demand to investors, which drew private capital from the sidelines back into job creating investments. This helped U.S. businesses rebound, got new projects built, and put Americans back to work.

Three separate Recovery Act programs for energy efficiency retrofits, Weatherization Assistance Program, Energy Efficiency Block Grant Program, and state energy programs collectively upgraded over half a million (530,000) buildings and employed almost 25,000 Americans since the programs began to ramp up from April 1, 2011 and June 30, 2011.

To be sure, these programs experienced growing pains, as many were funded for the first time under the Recovery Act, but an initial ramp-up period for the energy efficiency programs was not unexpected in the two-year Recovery Act spending plan. Despite the relatively slower start, however, progress has built steadily, and is moving rapidly now that these programs are solidly in place.

Although a recent New York Times article mischaracterized the Weatherization Assistance Program as “not catching on,” the program is actually on track to meet its goal of retrofitting 600,000 homes ahead of schedule—having already achieved 80 percent of its goal by June of 2011. On top of that, according to a recent study by a Department of Energy national laboratory, these weatherization services have saved

families an average of more than \$400 in energy costs during the first year, providing those family budgets with a perpetual “stimulus check” in additional disposable income that will continue each year as they spend less on wasted energy.

In addition, three other clean energy programs from the 2009 law also had significant impact on job creation. The Treasury Department’s cash grant in lieu of a tax credit (known as the 1603 program), the advanced energy manufacturing tax credit (known as the 48C program), and the Department of Energy loan guarantee program—together cost the government about \$7 billion—less than 1 percent of Recovery Act funding—but have leveraged more than \$12 billion in private capital and account for more than 13 percent of the jobs created directly by Recovery Act funding.

This is the real track record of clean energy spending under the Recovery Act. Far from being a bust, green jobs are real and these strategic public investments have already helped put Americans back to work—even as we locked in long-term consumer savings and built market share for U.S. companies in strategic industries that enhance America’s global competitiveness.

Sustaining the energy efficiency market

Now, however, as the Recovery Act’s stimulus funding winds down, this early progress must be sustained through a renewed national commitment. We need smart policies that build on these early successes and encourage even greater private capital investment in building retrofits over the long term.

The Obama administration continues to show leadership in promoting this work through its Better Buildings Initiative, which aims to use public-private partnerships to make commercial buildings 20 percent more efficient by 2020. Through its leadership, the administration in only a few months has already secured commitments to over \$575 million in private financing for retrofit projects and building owners have pledged to retrofit 260 million square feet of commercial real estate, cutting energy use by at least 20 percent.

This is a great start. But voluntary partnerships with industry leaders are just a beginning. Building a strong market requires sustained policy signals to provide better incentives and break down the very real market barriers faced by clean and efficient energy. Last year, 68 major investors collectively managing \$415 billion in assets issued a joint statement urging a “no” vote on Proposition 23, the California ballot initiative that would have halted implementation of the state’s landmark, bipartisan clean energy law. The statement said: “As investors, we need certainty about the policies that govern the sectors in which we invest so that we can make strategic, profitable investments over the long term.”

The Better Buildings Initiative proposed an initial suite of incremental policies that would help bring such certainty to the market by expanding the use of federal loan guarantees for energy efficiency, making existing tax incentives for commercial building retrofits more effective, and enlisting the Small Business Administration in assisting U.S. companies as they make these investments. These incremental policy measures would together create at least 300,000 new U.S. jobs according to independent analysis conducted by Architecture 2030. For each \$1 billion in new commercial building efficiency tax credits for example, the program will generate \$16.4 billion in new private spending and \$3.6 billion in new federal tax revenue. This program would not only pay for itself, but would also reduce deficit spending by \$2.6 billion.

Home Star, Building Star, and Rural Star

These measures offer needed new tools for private investors, but building a well-structured national market powerful enough to create jobs on a large scale will benefit from a more comprehensive approach. Fortunately there are three existing bipartisan initiatives that have already been proposed in Congress, which together will create a solid foundation for job creating energy efficiency retrofits: Home Star, Building Star, and Rural Star.

These three measures were introduced in the last Congress with bipartisan backing by diverse coalitions, including:

- Fortune 500 companies such as Dow Chemical Co. and Home Depot, Inc.
- Financial institutions, such as Bank of America Corp. and a number of community banks
- Business advocates such as the U.S. Chamber of Commerce and the National Association of Manufacturers
- Industry groups such as the rural electric co-ops
- Progressive advocates from the labor and environmental movements

These three pro-market and pro-growth policy measures should be advanced together immediately as an integrated suite of tools for creating jobs by cost-effectively upgrading the efficiency and productivity of our nations building stock.

Home Star (H.R.5019) is proposed legislation that was passed by a bipartisan majority in the full House of Representatives in the last Congress, and was introduced in the Senate Energy and Natural Resources committee with the strong backing of two Republican and two Democratic sponsors (Sens. Olympia Snowe (R-ME), Scott Brown (R-MA), Jeff Bingaman (D-NM) and Mark Warner (D-VA)). Home Star establishes a two year \$6 billion dollar rebate program providing direct consumer incentives for homeowners to purchase energy saving upgrades in single-family homes.

These measures would include whole home energy saving retrofits as well as incentives for individual measures such as new more efficient furnaces and air conditioning units,

energy efficient hot water heaters and appliances, improved insulation and duct sealing, and the replacement of leaky windows and doors. Under this program consumers would receive \$3,000 for modeled energy savings of 20 percent, plus an additional \$1,000 incentive for each further 5 percent of reduction in energy use, with incentives not to exceed 50 percent of project costs.

Home Star is smart policy, establishing strong incentive for deep energy savings to cut energy bills and maximize job creation. Home Star is also carefully designed to rely on existing private-sector industries, establish minimal new government bureaucracy, provide meaningful safeguards against fraud, and ensure high quality work.

The Building Star Energy Efficiency Act introduced in the Senate (S.3079) by Sen. Jeff Merkley (D-OR) and the House (H.R.5476) by Rep. Peter Welch (D-VT), provides a powerful companion program to Home Star specifically targeting energy retrofits in commercial buildings and multifamily housing. These larger projects are heavily job creating, and offer very significant savings in operating costs for hard hit U.S. companies, thereby adding value for investors in an otherwise stagnant real estate market.

Building Star establishes \$6 billion in financial incentives to invest in energy saving mechanical equipment, insulation, and other building system upgrades. The program would be administered by the Department of Energy, and would include \$600 million in grants directly to states to support financing for energy efficiency, thereby leveraging even greater private capital investment.

The Rural Energy Savings Program Act (H.R. 4785 & S.3102) was passed by the full House of Representatives and introduced in the Senate Agriculture committee in the last Congress, with strong bipartisan support in both chambers. Rural Star provides \$4.9 billion in loan authority to rural electric co-operatives to offer low interest microloans to residential and small business customers. The program builds on the strong community ties of the existing co-op infrastructure with its demonstrated 75-year history of consumer protection and rural economic development.

Rural Star would offer homeowners direct access to loans to pay for cost-effective energy saving home improvements, giving consumers the ability to repay these loans on their utility bills, offset by their energy cost savings for a net reduction in their utility bills. These efficiency measures will also provide economic benefit to rural co-ops themselves by reducing strains on their generation and distribution capacity, saving co-op members millions more. The Congressional Budget Office estimates that implementing H.R. 4785 would cost \$800 million over five years.

Together these three measures will create approximately 250,000 jobs. Independent estimates calculate that Home Star would create 186,000 jobs over 2 years, while

Building Star has been estimated to create 150,000 jobs annually and Rural Star between 20,000 and 40,000 jobs per year. These jobs can't be outsourced and are broadly distributed, occurring in every state, and are concentrated in small business and the hard hit manufacturing and construction industries.

Together Building Star and Home Star are estimated to save building owners approximately \$4 billion each year, while the avoided pollution is the equivalent to taking 4.6 million cars off the road.

Conclusion

The economic benefits of energy efficiency are clear. Every year Americans waste billions of dollars on unnecessary energy and unwanted pollution. That is money that could be put to better use revitalizing communities, re-energizing U.S. manufacturing, and restoring economic security to working families. The Obama administration has made very important strides on energy efficiency through far sighted leadership in the American Recovery and Reinvestment Act, and continuing through executive branch efforts such as the Better Buildings Initiative.

To bring these efforts truly to scale, however, it is essential that any further bipartisan job creation plan include a major national program of reconstruction grounded in the clean energy jobs of the future. Together, Home Star, Building Star, and Rural star provide a powerful script for beginning the work of restoring our national economy. It is time for energy efficiency to play a starring role in America's recovery.

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