

# Clean Energy Works Portland

*A National Model for Energy-Efficiency Retrofits*

a report from



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<http://www.greenforall.org>

<http://www.cleanenergyworksportland.org>

# A NOTE FROM GREEN FOR ALL'S CEO

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As the tumultuous first decade of this century came to a close, Portland was already thinking several decades ahead. The city established itself as a pioneer in the development of a strong, green, local economy. With a robust alliance of government, business, labor and community groups, the city created one of the nation's leading models for putting Americans to work replacing the failing, pollution-based economy with a clean and green one built for long-term prosperity.



This paper details why Clean Energy Works Portland is so special – from on-bill financing, to the revolving loan fund, to the Community Workforce Agreement that creates “triple bottom line” returns. For now, it is enough to say that Portland developed an innovative plan that will cut energy bills, create green jobs, reduce pollution, expand business opportunities, and ensure that Recovery Act investments reach those hit hardest by this recession. If not a silver bullet, it's close.

Clean Energy Works Portland (and, particularly, the Community Workforce Agreement) are good for the city's residents, good for businesses, good for workers, and good for the greater Portland community. They are, of course, also good for the planet: reducing the amount of energy we use and thus reducing pollution and contributors to global warming.

But, more broadly, these initiatives are good for the entire country. Portland is showing America how to move forward with a new model for economic growth in the 21st century.

At Green For All, we are enormously proud to be a part of this effort. Other cities across the country will be excited to build on what Portland has accomplished, and we all must be ready to help them do so.

A handwritten signature in black ink, appearing to read 'PEL', written in a cursive, flowing style.

Phaedra Ellis-Lamkins  
Chief Executive Officer, Green For All

# OVERVIEW

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**I**mproving efficiency and saving energy through building retrofit programs is the cheapest, easiest and fastest way to cut carbon emissions and put Americans back to work. A number of studies detailing the economic and environmental potential of such retrofit efforts, coupled with a significant increase in federal spending, have created the perfect environment to establish long-term, effective programs that will remove the barriers to conducting energy-efficiency retrofits at scale. Green For All is proud to have partnered with the City of Portland and other groups to create just such a program, one that is already serving as a model for other programs across the country.

Clean Energy Works Portland aims to upgrade 100,000 homes. Leveraging federal dollars to attract outside investment,

it has established a revolving loan fund to offer low-interest financing for these upgrades. The program is sustainably funded, ensures that high-quality local contractors perform the work, creates middle-class jobs and opportunities for local residents, and reduces Portland's greenhouse gas emissions.

Clean Energy Works Portland is also well-positioned moving forward. Given the potential return on investment and increased interest in the potential of energy efficiency, governments able to develop programs quickly will be first in line for federal and private capital.

This policy brief will outline the potential benefits of energy-efficiency programs and examine Clean Energy Works Portland as a model for other cities.

# THE POTENTIAL

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Investments in energy efficiency are good for investors' balance sheets. Recent studies have shown that such investments can bring a moderate to significant financial return, creating the promise of long-term, sustainably funded programs. A number of available energy-efficiency products and services more than pay for themselves in the energy savings they create over their useful lifetimes. Residential retrofits alone have the

Investments in energy efficiency also have the potential to be good for the community by creating jobs. At the level required to bring America's building stock to its full efficiency potential in ten years, this investment would create 500,000-750,000 direct, indirect and induced jobs.<sup>5</sup> Portland's program is expected to create approximately 10,000 direct jobs over ten years. Every \$1 million invested in energy-efficiency measures creates ten direct

“Residential retrofits alone have the potential to reduce home energy bills in the U.S. by \$21 billion annually.”

potential to reduce home energy bills in the U.S. by \$21 billion annually.<sup>1</sup> According to the American Council for an Energy Efficiency Economy, energy efficiency has an average annual return of 22%, and just 5% year-to-year volatility (only slightly higher than U.S. Treasury Bills). This is a better return and a lower risk than corporate bonds, common stocks and small company stocks.<sup>2</sup>

Investments in energy efficiency are also good for the environment. Buildings account for 43% of U.S. carbon dioxide emissions.<sup>3</sup> Each home can reduce energy use by up to 40% and lower total associated greenhouse gas emissions by up to 160 million metric tons annually.<sup>4</sup>

person-years of employment.<sup>6</sup> Energy-efficiency upgrades also lower utility bills and free up household income for other expenditures. This is especially important for low-income households, which spend approximately 15% of their incomes on utility bills (as opposed to the 5% that the average household spends).<sup>7</sup>

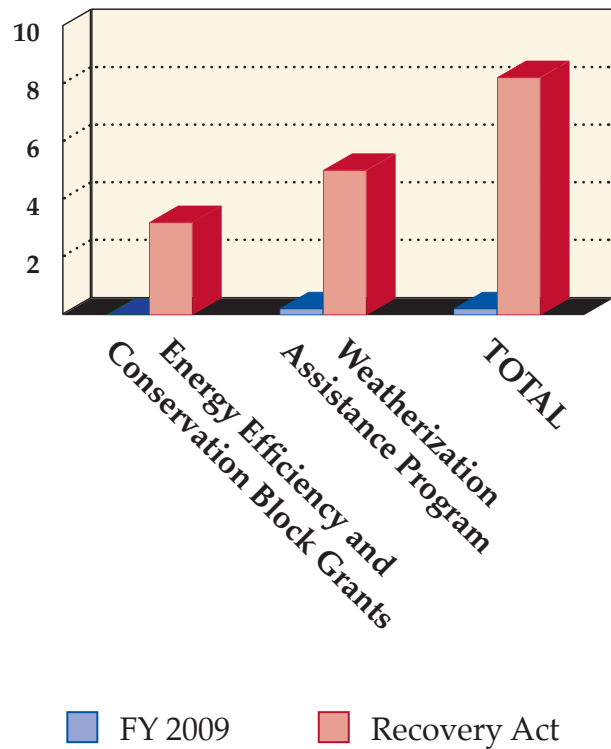


For these reasons and more, the federal government has sharply increased spending on energy efficiency. The American Recovery and Reinvestment Act includes \$25 billion for energy-efficiency programs over three years, funding many programs for the first time and dramatically increasing funding for existing programs.<sup>8</sup> For example, the Recovery Act increased funding for the Weatherization Assistance Program from \$250 million in FY 2009 to \$5 billion over three years, representing a twentyfold increase,<sup>9</sup> and for the first time funded the Energy Efficiency and Conservation Block Grant Program at \$3.2 billion over three years.<sup>10</sup> In addition, the Office of the Vice President and the White House Council on Environmental Quality recently unveiled a coordinated federal strategy to eliminate critical barriers to widespread and large-scale retrofit work.<sup>11</sup>

The economic and political climate is ideal for establishing public-private partnerships to fund energy-efficiency improvements. Along with federal funding, state and local governments can raise capital through taxes or bonds. Public capital can then be used to create an attractive market for private investors, especially social investment funds.

This big-picture potential is becoming a practical reality in Portland, Oregon,

Figure 1: Federal Investment in Two Core Programs for Energy Efficiency in Buildings (in billions of dollars)



which has developed a model program that will take full advantage of the “triple bottom line” opportunity in energy efficiency: economic returns, environmental returns, and social returns. Programs, like Portland’s, that get up and running early will be well-positioned for both public and private energy-efficiency investment dollars.

# CLEAN ENERGY WORKS PORTLAND

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**G**reen For All has partnered with the City of Portland to develop Clean Energy Works Portland (“CEWP”), a groundbreaking program that uses Recovery Act funds not just to stimulate short-term economic activity, but to lay the foundation for long-term economic, environmental and community health. CEWP is the first large-scale energy retrofit program in the nation to use on-bill financing, an innovative approach that allows residents to upgrade their homes with no up-front costs, and to pay for the retrofits over time through a charge on their utility bills.

Portland launched a pilot program in June 2009 that will upgrade 500 homes by autumn 2010. The pilot has four phases, allowing for learning and adjustments to be applied along the way. After the pilot phase, the program will ramp up to retrofit an estimated 100,000 qualifying homes in Multnomah County. Portland’s groundbreaking pilot program will inform similar efforts in jurisdictions throughout Oregon and the rest of the country. The City’s program complements an innovative state policy that removes regulatory barriers to large-scale retrofits at scale — the Energy

“CEWP’s Community Workforce Agreement establishes a set of contracting, training, and employment policies that will ensure high-quality work, high-quality jobs, and career opportunities for low-income and other historically underserved populations.”

CEWP is also the first retrofit program to include a Community Workforce Agreement. This agreement establishes a set of contracting, training, and employment policies that will ensure high-quality work, high-quality jobs, and career opportunities for low-income and other historically underserved populations.

Efficiency and Sustainable Technology Act of 2009.<sup>12</sup>

Going forward, Green For All will utilize its national expertise to help implement the Community Workforce Agreement and support and guide the effort to bring the pilot project to scale.

# HOW IT WORKS

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**C**EW P sets up a simple process. Any interested homeowner can apply online. If the applicant meets certain screening requirements (age of home, energy savings potential, etc.), she meets with an Energy Advocate (her personal guide to the program) and a Home Performance contractor for a comprehensive home assessment, including an energy audit. With the assessment information in consideration, the contractor develops a scope of work proposal. This proposal is screened by the Energy Advocate to ensure it meets the program’s established criteria for cost effective energy savings.<sup>13</sup>

Once the homeowner approves the scope of work, the Energy Advocate sends documentation to the lender for loan processing. The loan qualification process aims to be as inclusive as possible, and is based mostly on utility bill payment history. When the loan is approved, the



homeowner and the contractor are notified so work can be scheduled.

The contractors associated with CEWP have been pre-screened for quality and related experience and have signed contracts in which they agree to abide by labor standards and targeted hiring agreements. Once the work is performed and “tested out” as achieving projected energy savings, the contractors receive payment from the bank. A monthly charge then appears on the building owners’ utility bill that roughly corresponds with the energy savings generated from the upgrades. So far loans have averaged about \$9000; monthly payments have averaged about \$46. These numbers may increase as the program includes longer-term payback measures like solar panels and new windows.



## STRUCTURE OF CEWP

Early cooperation between participating parties was important in the

development of Portland’s program, allowing it to meet everyone’s needs. For more details about the program partners and their roles, see Table 1 below.

Stakeholder	Description/Value to Stakeholder	Role in Program
<b>Building owners/ program participants</b>	To increase participation, the benefits should be high and barriers low for building owners. CEWP provides an easy to understand program that increases the comfort and value of homes with no up-front costs and eventual savings on homeowners' energy bills.	Agree to take out a loan to upgrade their home to make it more energy efficient. Agree to pay back this loan through their utility bills. They will see little or no increase to their payments. Agree to pay back the loan in full if they sell the house, although loan is assumable if buyer and seller agree.
<b>Energy Trust</b>	Energy Trust of Oregon is an independent nonprofit organization dedicated to helping Oregonians benefit from saving energy and tapping renewable resources. <sup>14</sup> This program fits perfectly with the mission of Energy Trust.	Energy Trust will coordinate the process and guide the participant through it. It will make sure that all the goals of the program are met. It will develop a pre-screened list of contractors for participants to choose from.
<b>ShoreBank Enterprise Cascadia</b>	ShoreBank is a certified non-profit Community Development Financial Institution. ShoreBank will operate the loan program at no cost to itself. CEWP fits perfectly with its mission to promote economic opportunity and a healthy environment for communities of Oregon and Washington.	ShoreBank has more than a decade of experience administering community-based lending products. It will establish the fund with capital from the city and provide loans to program participants. ShoreBank will pay contractors directly when work is completed and passes quality tests.
<b>City of Portland</b>	This program will help the residents of Portland by reducing energy bills and increasing home values. It will also put people back to work and help revive the economy. This program also helps Portland carry out its Climate Action Plan and meet its green economic development goals.	The City of Portland convened the stakeholders, passed policy establishing the program and provided the seed money from its Energy Efficiency and Conservation Block Grant funding while actively pursuing additional funds.
<b>Utilities</b>	NW Natural, Pacific Power and Portland General Electric are the investor-owned utility companies that serve the areas of CEWP. Utilities will be compensated for their costs, and the program helps them meet future energy demand.	Utility companies have agreed to collect the payments for the loans as part of the utility bill and to send these payments to the bank for loan re-payment. Utility bills are paid before loan proceeds are collected in the event of under-payment.
<b>Multnomah County</b>	The County is a partner with the City of Portland in the Climate Action Plan and has the same interests for its residents as Portland does.	The County is taking the lead in ensuring coordination with its low-income Weatherization Assistance Program. The County is also a possible source of future funding, as it has access to its own funds for energy efficiency.
<b>Green For All</b>	Green For All is a national organization dedicated to improving the lives of all Americans through a clean-energy economy.	Green For All helped the City of Portland develop the program to ensure “triple bottom line” returns. Will help to create national impact by disseminating the lessons learned in Portland.
<b>Worksystems, Inc.</b>	The local workforce investment board connects the public job-training system to the program.	Worksystems, Inc. is helping to develop and support a pipeline of trained workers from quality training programs.
<b>Stakeholder Evaluation and Implementation Committee (SEIC)</b>	The SEIC brings together diverse stakeholders to work alongside the City and the Energy Trust in the pilot phase.	The SEIC is responsible for helping to implement the various aspects of the Community Workforce Agreement in the pilot program. The SEIC will evaluate data on progress toward the CWA goals and will recommend necessary changes throughout the phases of the pilot program.

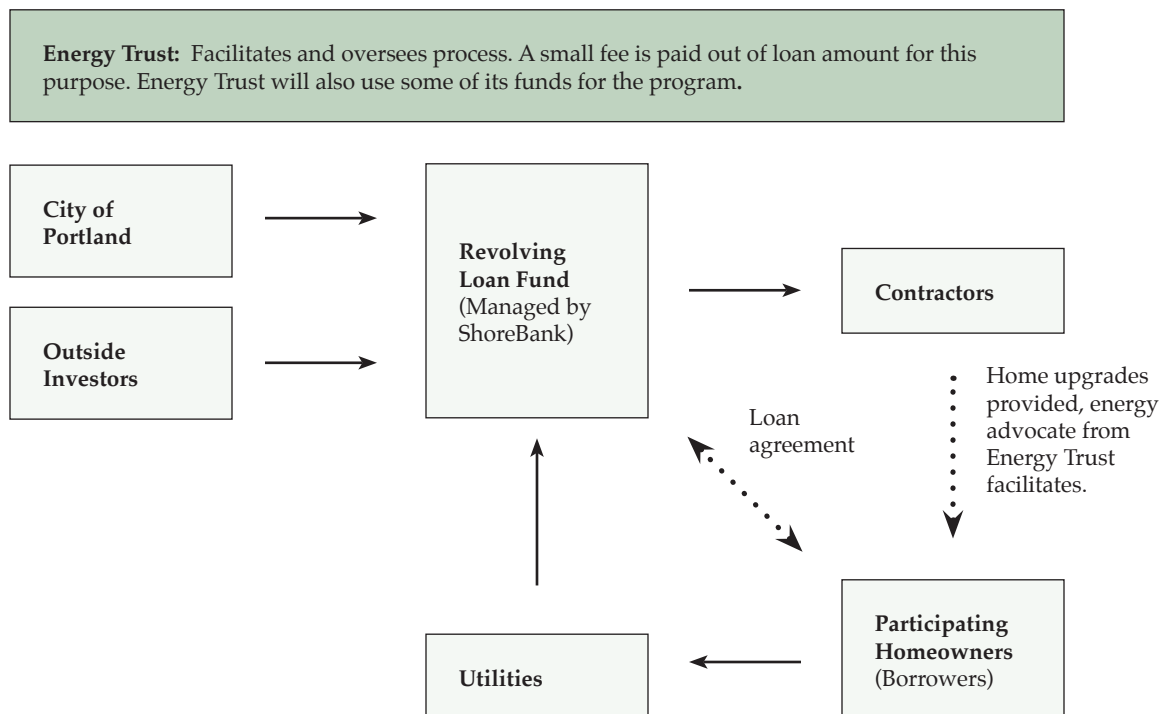
*Table 1: Clean Energy Works Portland Partners*

## FINANCING OF CEWP

One of this model's key features is its ability to finance itself over time. (To see how program funds flow, see Figure 2.) CEWP has established a \$2.5 million revolving loan fund, seeding it with federal stimulus funds and other City monies. The fund will work to attract additional outside investment. Portland could also issue government bonds or find low-

Socially responsible investors and funds are another potential source of capital. Many investors, like some of those that Green For All's Capital Access Program advises, will invest with a safe but modest 2-3% economic return because they value "triple bottom line" returns: economic, environmental and social gains. Recently, Green For All and Living Cities established the Energy Efficiency Opportunity Fund<sup>15</sup>

Figure 2: Flow of Funds



interest debt to fund the program. The repayment of loans (and possible replenishment via a secondary market) will keep the fund liquid into the future.

to leverage socially responsible investment dollars specifically for programs like Portland's.

## BORROWERS

The borrowers will sign documents that enter them into a loan with ShoreBank for a 20-year term. A small fee will be attached to the total cost of the loan to pay for administration. The loan will be secured by a deed of trust, subordinate to any mortgage financing, but still due upon sale of the property. The city will be look-

CEWP’s revolving loan fund is based on more than a decade of experience with successful revolving loan funds. The EPA has established such funds to clean up brownfields. The U.S. Economic Development Administration has one to support business. Numerous states, counties, cities and development authorities have established them for things like housing development and small business expansion.

Package	Eligible Measures	Rate	Term
<b>Basic Weatherization</b>	Attic insulation, air sealing, duct sealing	7%	20 years
<b>Extended Weatherization</b>	Above + wall and floor insulation	5%	20 years
<b>Extended + space heat or hot water</b>	Above + furnace/heat pump and /or hot water system (not solar)	3%	20 years
<b>Near-low income</b> (200-250% of Federal poverty level)	Any weatherization service <sup>16</sup>	2%	20 years

Table 2: Weatherization Packages Available Under CEWP

ing into loans that automatically transfer to new owners in the event of a sale (loans that “run with the meter”), but for the time being, are allowing loans to be assumed at time of sale for a fee if buyer and seller agree.

The interest rates offered to participants will vary depending on the income of the participants and the upgrades they are willing to finance. The idea is to allow low-income families to participate while also incentivizing maximum efficiency savings. The pilot program is planning on the rates in Table 2 and will alter them as needed to create a successful program for the scale-up.

These programs have shown a high rate of success.

A revolving loan fund not only “recycles” stimulus dollars over many projects; it also establishes a vehicle for leveraging outside investment. For a current Department of Energy competitive grant process, the desired ratio of outside investment to government seed funding is 5:1.<sup>17</sup> The most successful revolving loan fund achieved a ratio more than quadruple that — as high as 22:1.<sup>18</sup> The potential for this tool to help unlock energy-efficiency dollars is evident, and the federal government has promised to encourage the establishment of revolving loan funds for energy-efficiency projects in every state.<sup>19</sup>

# Community Workforce Agreement

## CREATING “TRIPLE BOTTOM LINE” RETURNS

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**G**reen For All helped Clean Energy Works Portland develop a Community Workforce Agreement (“CWA”) to ensure that the program provides high-quality employment and access for those in the community who have been historically left out of new economic opportunities.<sup>20</sup>

The Community Workforce Agreement lays out clear job-quality and access goals for the pilot project. It then goes on to describe a number of strategies that will help the pilot achieve those goals.

holder Evaluation and Implementation Committee to work alongside the City and the state Energy Trust to achieve the goals in the CWA. Second, the CWA requires that the pilot program be conducted in phases. Instead of using one set of contractors for all 500 retrofits, the pilot program will perform these retrofits in four different phases, each conducted by a different pool of contractors. This allows the stakeholder committee and the other partners to evaluate progress toward the CWA goals and to

“The Community Workforce Agreement lays out clear job-quality and access goals for the pilot project.”

These strategies include: establishing qualifications and requirements for all participating contractors; creating a diverse pool of participating contractors by using a best-value system of weighting different attributes; providing support to disadvantaged businesses; and providing support to training programs targeting disadvantaged populations.

The CWA also puts in place two important strategies related to collaboration and evaluation. First, it establishes a Stake-

holder Evaluation and Implementation Committee to work alongside the City and the state Energy Trust to achieve the goals in the CWA. Second, the CWA requires that the pilot program be conducted in phases. Instead of using one set of contractors for all 500 retrofits, the pilot program will perform these retrofits in four different phases, each conducted by a different pool of contractors. This allows the stakeholder committee and the other partners to evaluate progress toward the CWA goals and to

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make changes to the strategies before each new pool of contractors is established.

The CWA was signed by a broad array of stakeholders who helped craft it, including the City and the state Energy Trust. Then the mayor drafted a city council resolution endorsing the CWA and putting city agencies in motion to help implement the agreement. The resolution passed unanimously after overwhelmingly supportive testimony from a diverse set of stakeholders.<sup>21</sup>

## Portland's CWA

# A FRAMEWORK FOR OTHER CITIES

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The Portland Community Workforce Agreement contains elements that can be used as templates for any energy-efficiency program hoping to achieve the greatest economic impact possible. Here are some of the key features of the agreement that other programs should look to for guidance.

## JOB QUALITY

Portland's CWA ensures high-quality jobs with good wages, benefits, and training.

- **Wages:** In CEWP, employees will earn at least any prevailing wage that applies, or 180% of the state minimum wage, whichever is higher. Wages in any program need to be living wages and can be set in a variety of ways, including: setting prevailing wages,<sup>22</sup> determining a living wage for the area, using a percentage of minimum wage or of the federal poverty line, basing it on housing prices in the area, etc.
- **Benefits:** In CEWP, contractors receive points for providing benefits. Benefits can include sick days, vacation, a pension or retirement plan, a voice on the job and other non-economic job stan-

dards. To achieve good benefits, the Portland program includes a recommendation to support businesses with technical assistance on how to provide health insurance for employees.

- **Upward Mobility:** CEWP brings labor unions and training providers to the table to create career-path employment in Portland. Mechanisms should be established that reward contractors who help entry-level employees achieve upward mobility in the industry.

## ACCESS

Portland's CWA improves access to employment opportunities for local workers and businesses, including historically disadvantaged individuals and businesses. It also ensures that low-income homeowners have access to the weatherization program.

- **Local/First-Source Hiring:** The Portland Community Workforce Agreement calls for 80% of employees to be hired from Portland. Local hiring can be achieved in several ways. It can target specific geographic areas; it can create a radius within a certain distance of project

locations; or it can target specific zip codes with defining criteria such as income level or percent unemployment. Portland's CWA also establishes the process for "First Source Hiring," which requires contractors to hire a certain number of employees from identified training and work placement programs.

- **Diverse Workforce:** The Portland CWA calls for 30% of project hours to be performed by historically disadvantaged or underrepresented people, including people of color, women, and low-income residents. A disadvantaged person may be defined as a city resident who either a) has a household income less than a certain percentage of area median income, or b) faces one of the following barriers to employment: being homeless; being a custodial single parent; receiving public assistance; lacking a GED or high school diploma; having a criminal record or other involvement with the criminal justice system; or suffering from chronic unemployment. Local and First Source hiring mechanisms should complement this goal.
- **High-Quality Training Programs:** The Portland agreement establishes a process for setting up qualified training programs. It also requires that contractors hire 100% of their employees from one of these programs until 50% of positions are filled. Qualified training programs

will provide outreach to the community on available opportunities. To be certified as a "qualified training program," a program may be required to meet specified criteria. Establishing these programs ensures both a pool of qualified workers and access to jobs for local community members. Federal money has been set aside specifically for training programs in the green economy.

- **Diverse Business Participation:** The Portland CWA calls for 20% of contracts to go to businesses owned by historically disadvantaged or underrepresented people, including people of color and women. A diverse business participation provision can require that a certain percentage of project work goes to businesses owned by historically disadvantaged people. Retrofit programs can offer these businesses support, including scholarships and guidance to earn industry certifications — support that the Portland model offers.

## HIGH-ROAD EMPLOYERS

Portland's CWA identifies a pool of qualified contractors that can meet program standards and produce community benefits.

- **Individual Contractor Qualifications and Requirements:** CEWP establishes qualifications and

requirements for contractors. In order to participate, contractors must agree to the requirements and attend a mandatory training.

- **Best-Value Contracting:** The CEWP model gives points to interested contractors based on various criteria, such as experience with energy efficiency, a good service record, a track record of hiring from the local area, a track record of hiring disadvantaged people, and a clean history in dealing with employees, the public and labor unions. A best-value contracting approach can score applications from contractors on a range of desired attributes rather than relying on the race-to-the-bottom approach of “lowest-bidder” models.<sup>23</sup>

## LEGAL ENFORCEABILITY

CEWP includes the standards of the Community Workforce Agreement in legally binding documents that contractors must sign to be eligible to do the work. To the extent possible, all labor and com-

munity standards should be included in legally enforceable documents among the parties, and ongoing collaboration mechanisms should be established. The method for ensuring legal enforceability will vary depending on location and goals of the program.

## DEMOCRACY AND ACCOUNTABILITY

CEWP established a Stakeholder Evaluation and Implementation Committee (SEIC) to work alongside the City and the state Energy Trust to implement the CWA in the pilot program. Implementing procedures and practices to achieve good labor standards and community benefits is an intensive process and requires a range of expertise and perspectives. The SEIC provides the necessary expertise to make the CWA effective. In addition to developing procedures and practices, the SEIC also evaluates data on progress toward the CWA goals and adjusts the pilot program along the way. In taking on these responsibilities, the SEIC assumes accountability for the outcomes along with the government agencies.

# FROM PILOT TO FULL-SCALE RETROFIT PROGRAM

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**A**s Portland prepares to transition from the pilot phase to a full-scale program in mid-2010, leaders involved with the effort are analyzing ways to add new components to the program. These components represent best practices that similar model programs around the country want to include, as well.



In the full-scale program, CEWP hopes to be able to address the following issues:

- **Inclusion of Rental Properties:** To fully realize the benefits of an energy-efficiency program, establishing a way to retrofit rental properties is a must. CEWP is looking into strategies to overcome the split incentives between renters and landlords with regard to investing in lowering energy bills.
- **Pre-Weatherization Services:** Many of the homes most in need of energy-efficiency upgrades need up-front work on safety issues such as lead, mold and asbestos. If this barrier is not overcome, the most important homes for weatherization will be left out and an important opportunity to improve the health of the community will be missed. Options include combining service delivery of retrofits and healthy homes programs, wrapping the cost of these improvements into the loan, and/or establishing a separate fund for this purpose, depending on the income of the participant.
- **Bundling Properties:** Bundling a number of adjacent properties into a single larger project creates efficiencies in service delivery and creates opportunities for contractors who cannot make smaller individual jobs pencil out.
- **Community-Based Outreach and Creating Demand:** To reach large numbers of consumers, voluntary energy-efficiency programs need to build in good outreach and marketing mechanisms in order to increase demand for retrofits. Community-based organizations are very effective at disseminating information to target populations, especially those that are difficult

to reach with traditional outreach strategies. Community organizations have established relationships, trust, and methods for going door-to-door or reaching people through established community information channels, like church newsletters or merchant associations.

- **Coordinated Business Support Services:** Full-scale retrofit programs offer an opportunity to support local contractors and help them expand their businesses, creating new jobs and new wealth. Including a suite of supportive services in a retrofit program can help smaller businesses, including those owned by women and people of color, break into this emerging market and establish themselves as effective, responsible contractors. Services can include support for: identifying and acquiring necessary certifications; connecting to unions

and apprenticeship programs; accessing working capital; removing barriers to hiring formerly incarcerated people; providing health insurance to employees; and establishing competitive business practices.

- **Coordinated Training Support Services:** As retrofit programs go to scale, participating contractors will need access to a supply of trained workers in order to meet demand for high-quality, cost-effective, and timely delivery of services. Retrofit programs can support training programs in a variety of areas, including: making connections to employers and unions; integrating industry-recognized credentials and curricula; acquiring funding; and helping different training programs coordinate with one another to create green career pathways.

# CONCLUSION

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**T**oday, we can turn the vision of sustainably funded, large-scale energy-efficiency upgrades to buildings throughout the U.S. into a reality. With recent announcements of federal support and funding, as well as a renewed interest in energy efficiency among investors and foundations, a window of opportunity has opened. It is essential, for both the health of the environment and the economy, that local governments seize this moment.

The barriers to unlocking the huge financial and environmental benefits of energy efficiency can be easily overcome. With modest government funding and coordination, cities can establish energy-

efficiency programs that will survive well into the future without any additional government funds. The jobs created and the energy savings for residents will stimulate local economies and offer a return to investors. Such low-cost, high-return solutions to serious national challenges are rare; we must take full advantage of this one.

With Clean Energy Works Portland testing and perfecting the model, it has become even easier for other governments and communities to get in the game. Portland has offered a clear response to some of our most pressing national crises. Now it is only a matter of political and community will for others to be part of the solution.

# NOTES

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2. *The American Energy Efficiency Investment Market: A White Paper Prepared for the Energy Efficiency Finance Forum*. April 2007. <http://www.aceee.org/conf/07finance/financeforumwp.pdf>
3. Residential 21%, commercial 17% and industrial 5%. *Towards a Climate-Friendly Built Environment*. Prepared by Oak Ridge National Laboratory for the Pew Center on Global Climate Change, 2005.
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8. Alliance to Save Energy, "Energy Efficiency in the American Recovery and Reinvestment Act of 2009." <http://ase.org/content/article/detail/5481>
9. U.S. Department of Energy, "Sources of Funding for the Weatherization Assistance Program." [http://apps1.eere.energy.gov/weatherization/source\\_fund.cfm](http://apps1.eere.energy.gov/weatherization/source_fund.cfm) (last updated Mar. 11, 2009)
10. "Energy Efficiency in the American Recovery and Reinvestment Act of 2009."
11. *Recovery Through Retrofit*.
12. Oregon House Bill 2626, passed June 25, 2009. This bill authorizes the state to issue energy bonds and establish on-bill or property tax financing of loans, among other things. <http://www.leg.state.or.us/09reg/measure/hb2600.dir/hb2626.en.html>
13. The Energy Trust has laid out contractor guidelines (covering both costs and results) that vary based on the weatherization measures performed. For instance, a basic weatherization package for a home has a cost cap of \$4,300 and minimum required energy savings of 10%. The deeper retrofit package, including hot water and heat upgrades, has a cost cap of \$19,850 and minimum savings of 30%.
14. The Energy Trust was established in 2002 after a 3% public-interest charge was placed on utility bills in 1999.
15. For more information about the fund, see: <http://www.greenforall.org/blog/energy-efficiency-opportunity-fund-launched-at-cgi>
16. The federal Weatherization Assistance Program, which provides limited energy-efficiency upgrades free of charge for low-income families and individuals, has been in place since 1976.
17. Funding Opportunity Announcement Number: DE-FOA-0000148, U.S. Department of Energy. [http://www.eecbg.energy.gov/Downloads/EECBG\\_Competitive\\_FOA148\\_Amendment3.pdf](http://www.eecbg.energy.gov/Downloads/EECBG_Competitive_FOA148_Amendment3.pdf)

18. Downtown Development Corporation in Louisville, Kentucky established a revolving loan fund for housing development. The Council of Development Finance Agencies reviewed the program. For details, see: <http://www.cdfa.net/cdfa/cdfaweb.nsf/pages/RLFCasestudy2008.html>
19. *Recovery Through Retrofit.*
20. For more info and a copy of the Community Workforce Agreement, see: <http://greenforall.org/portland>
21. For a copy of City Council resolution, see *ibid.*
22. If Recovery Act funds are used in a project, energy-efficiency workers must be paid a prevailing wage.
23. Several studies have shown lowest-bidder contracting to be a bad investment, including the following: *The Road to Responsible Contracting*, by the National Employment Law Project, 2009; *Making Contracting Work for the United States*, by the Center for American Progress Action Fund, 2008; and *Prevailing Wages and Government Contracting Costs: A Review of the Research*, by the Economic Policy Institute, 2008.

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Green For All is dedicated to improving the lives of all Americans through a clean-energy economy. The national organization works in collaboration with the business, government, labor, and grassroots communities to create and implement programs that increase quality jobs and opportunities in green industry – all while holding the most vulnerable people at the center of its agenda.