

# Green Retrofit Financing

## Overcoming the Cost Barrier through Innovative Policy Approaches

Retrofitting existing buildings saves money while increasing the quality of buildings, reducing utility demand, and creating local jobs. Despite the fact that retrofits usually involve relatively straightforward measures, such as the installation of energy and water-saving equipment and improvements to the building shell, and can generate positive cash flow in the form of avoided operating expenditures, many projects are not pursued because of prohibitive up-front costs. The most persistent barrier to the wide-spread implementation of building retrofit activities is the traditionally high cost of capital to finance these projects.

## Background

Historically, property improvement loans and Energy Service Companies (ESCO's) have served as the primary mechanisms for securing upfront capital for building improvements. Today, local retrofit finance programs are emerging as another option for businesses and homeowners to realize energy and water efficiency improvements, secure renewable energy systems, and other measures for their property at rates that are good for investors and owners alike. Many local and state governments are interested in or have implemented retrofit finance and assistance programs that offer best-on-the-market rates and convenient repayment mechanisms for property owners. The programs are often accompanied by helpful services such as contractor referrals and labor standards to protect investors, as well as integration with rebates or other incentives through partnerships with utilities and stakeholders. Retrofit or renewable energy finance programs work well in concert with other policies, particularly those that drive demand for retrofit services or renewable energy system installation.



*Commercial buildings constitute a premier market opportunity for energy efficiency retrofits.<sup>1</sup>*

## Benefits

**When Structured Equitably, Financed Retrofit Activity Equals Cash for All Parties.** A key component of green retrofit finance programs is the concept of the “cash positive” financial model. A secure financial arrangement with a modest accompanying interest rate enables property owners to reduce their monthly utility bills by an amount greater than their scheduled repayments. This provides immediate and steady returns for the owner/ratepayer. Through a secure agreement between parties, lenders also realize a fair and predictable return on investment. In essence, the avoided energy cost should be higher than the cost of the work, and a fair deal allows everyone to benefit. The parties involved depend on the financing model being used and incentives included in the program. This certainly includes the local government and property owner but frequently also includes lending institutions or utilities and possibly state programs, workforce programs, private contracting firms, third party program administrators, and others.

**Retrofit Activity Creates both Local and External Jobs.** Overcoming barriers to work that makes economic sense not only opens doors for construction and renovation contractors in need of work – these programs also create financial and administrative jobs needed to manage the program itself. Energy auditors, engineers, planners, and the product manufacturers that produce energy-saving, water-saving, and renewable technologies can also look forward to increased business.

## Getting Started

There are various methods to structure a financial retrofit program. Ideally a borrower or program participant achieves superior cost savings from the energy efficiency improvements over the loan or repayment amount. The ultimate goal of these finance programs is to satisfy pent up demand from businesses willing but unable to overcome high upfront cost barriers, and to begin saving energy and money immediately through the creation of low-interest payment schedules or simplified repayment programs.

### **Step 1: Explore Available Financing Mechanisms.**

There are a variety of financing mechanisms available to and being explored by local and state governments including energy service performance contracts (ESPCs), revolving loan funds, leasing, on bill financing, property assessed clean energy (PACE), pooled bonds, qualified energy conservation bonds (QECBs), and more. Further, there are a number of “credit enhancing” design options that can augment financial designs such as interest-rate buydowns, loan loss reserves, and others.<sup>2,3</sup> Note that legal aspects and underpinnings of various financial models vary greatly across state and local governments. Conduct rigorous due diligence to clearly understand what types of financing models can be deployed in your community. Education on the mechanics behind available financing methods will almost certainly be necessary for staff, stakeholders, officials, and the public due to the complexities of various models.

### **Step 2: Explore Available Partners and Stakeholders.**

When creating a finance model, it is vital to involve stakeholders and partners in the process. Stakeholders may include initial program advocates, potential participants, financial institutions or utilities interested in providing program funding, and organizations or individuals that provide retrofit services. Consider including a business that has utilized a finance mechanism and is able to share the cost savings and benefits, an organization that conducts energy audits or provides “green” job training, or a real estate organization that encourages businesses to take energy efficiency measures in order to increase their marketability at sale. In order to determine which model is best for your community, it is important to engage stakeholders in the development process and also consider the community’s and/or partners’ tolerance for risk. The financing model must be supported and enticing to both creditors and targeted participants.<sup>1</sup> An open dialogue with all parties will provide critical feedback on stakeholder sentiment.

### **Step 3: Determine Scope and Intent of Program.**

Decide what types of improvements are eligible under the program and identify criteria for eligible projects or applicants. Key requirements to consider include linkage with supporting programs, minimum and maximum financing per project, program eligibility prerequisites, risk and assurances, criteria for evaluating success of the program, and finance terms depending on the program partners selected.

## Existing Policies or Programs

### **Boulder County, CO: ClimateSmart Loan Program (Commercial)**

<http://www.climatesmartloanprogram.org/>

- **Adopted:** Voters approved Ballot Issue 1A in November 2008 / **Effective:** Residential program launched 2009, commercial program in January 2010.<sup>4</sup>
- **Affected Property Types:** Eligible buildings include commercial and institutional properties including non-profits, apartment buildings, small manufacturing facilities, multi-family, low-income and/or elderly housing complexes.



- **Key Program Features and Requirements:**

- Minimum \$3,000 up to \$210,000 loans, 5 to 6.5% interest depending on applicant and project. 5 or 10 year loans are available.
- Properties currently exempt from payment of property taxes must certify that the loan is no more than 20% of property value.
- Will allow performance based path as well for larger loans and specific technologies (e.g., CHP, geothermal, methane digesters) – need 30% improvement in efficiency over current system.
- Eligible efficiency activities: Commissioning & Monitoring, Energy Management, Wall & Roof Insulation, Windows & Doors, Combined HVAC, Cooling, Heat Pumps & Ventilation, Boiler & Furnace, Energy Recovery; Water Heaters and Lighting.
- Eligible renewable activities: Solar Hot Water, Solar P.V., Small Wind, Biomass, and Geothermal.
- Lender consent, utility bill release and program tracking, special assessment placement on property required.<sup>2</sup>

## **City of Minneapolis, MN: Energy Efficiency Business Loan Program**

[http://www.ci.minneapolis.mn.us/cped/Energy\\_Efficiency\\_Loan\\_Program.asp](http://www.ci.minneapolis.mn.us/cped/Energy_Efficiency_Loan_Program.asp)



- **Adopted:** Program expanded August 28, 2009 / **Effective:** February 22, 2011
- **Affected Property Types:** Commercial businesses in Minneapolis that apply and are approved by the program for financing prior to implementation of project.
- **Key Program Features and Requirements:**
  - All recipients must use contractors licensed to do work in Minneapolis, meet Minneapolis City codes for all rehab work or equipment installations, comply with Minneapolis zoning ordinances, and comply with all federal, state and local laws and regulations including Davis Bacon Act and Historic Preservation Act.
  - Rebate of 20% of project cost after utility rebates (not to exceed \$5,000), interest rate fixed for term of loan at 0%, maximum loan is \$75,000, closing costs financed in loan, variable term up to 10 years is capped at 6 months beyond expected payback period of the improvement.
  - Eligible improvements include lighting retrofits (lamps and/or ballasts only); lighting fixture replacement and control upgrades; HVAC (Heating, Ventilating and Air Conditioning) controls upgrades and retro-commissioning; HVAC equipment replacement; envelope air sealing; insulation, windows or doors; refrigeration controls upgrades (where refrigeration is present); refrigeration equipment replacement; and other energy-efficiency improvements recommended by CEE and approved by CPED.

## **Sonoma County, CA: Energy Independence Program**

<http://www.sonomacountyenergy.org/>



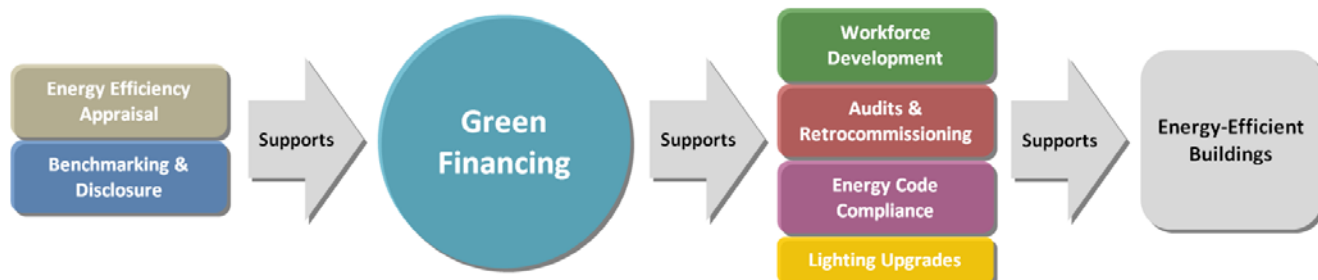
- **Adopted:** The County's Board of Supervisors adopted the program on March 25, 2009 / **Effective:** March 25, 2009
- **Affected Property Types:** Commercial or residential properties are eligible.
- **Key Program Features and Requirements:**
  - Commercial properties are required to obtain a Pacific Gas and Electric (PG&E) or equivalent energy audit, and water conservation audit. After the audit, a California State licensed contractor must be consulted to determine the cost of the improvements.
  - Property owners who want to use the funding must agree to repay the program through an assessment on their property taxes over a term of 5, 10, or 20 years. When the property is sold the assessment stays with the property. Improvements must be for existing buildings, new construction does not qualify.
  - If there is a mortgage on your property, obtain consent of your lender.
  - Energy efficiency, water conservation and renewable energy generation upgrades must be permanently attached to the property to qualify. Items not permanently attached such as dishwashers and other appliances are not allowed. Improvements like insulation, cool roofing, heating and air conditioning systems, waterless urinals, solar panels and energy efficient windows are acceptable.

For Access to the Commercial Buildings Toolkit visit <http://www.icleiusa.org/commercialenergypolicytoolkit>

For Further Information on Local Sustainability visit [www.icleiusa.org](http://www.icleiusa.org) & [www.imt.org](http://www.imt.org)

## Complementary Policies

### Complementary Policy Landscape for Green Financing



### *Green retrofit financing can make complementary policies much more effective.*

Green retrofit financing programs can include property types beyond commercial properties. Many programs also service residential, institutional, and industrial projects.

- **Workforce development programs** may be needed to supplement the existing market. Consider the availability of skilled workforce to implement the activities financed through these programs. Commercial, industrial, and residential work requires different skill sets.
- **A great number of complimentary policies** are supported by finance programs. Financing programs in operation today drive activity in **submetering, benchmarking, and retro-commissioning activity**, in addition to providing capital for the actual building improvements.

## References

1. Clinton Climate Initiative. “Why Buildings?” CCI Energy Efficiency Building Retrofit Program (2011). <http://www.clintonfoundation.org/what-we-do/clinton-climate-initiative/cities/building-retrofit>
2. U.S. EPA “ENERGY STAR Building Manual: Chapter 4-Financing”. [http://www.energystar.gov/ia/business/EPA\\_BUM\\_CH4\\_Financing.pdf](http://www.energystar.gov/ia/business/EPA_BUM_CH4_Financing.pdf)
3. Economic Opportunity Studies. “A Glossary of Energy Efficiency Financing Tools” Nathan Warren (2011). <http://www.opportunitystudies.org/repository/File/weatherization/Glossary.pdf>
4. U.S. DOE. “Economic Impacts from the Boulder County, Colorado, ClimateSmart Loan Program: Using Property-Assessed Clean Energy Financing” (2011). <http://pacenow.org/blog/wp-content/uploads/Econometric-Study-Boulder.pdf>

## Additional Resources

- Sustainable Alternatives Consulting Inc. “Property Assessed Payments for Energy Retrofits, Recommendations for Regulatory Change and Optimal Program Features” (2011). [http://www.sustainable-alternatives.ca/PAPER\\_Persram\\_for\\_DSf.pdf](http://www.sustainable-alternatives.ca/PAPER_Persram_for_DSf.pdf)
- DOE Energy Efficiency & Renewable Energy Technical Assistance Program. “Solution Center and Webcasts.” <http://www1.eere.energy.gov/wip/solutioncenter/webcasts/default.html>
- U.S. DOE. “Clean Energy Finance Guide for Residential and Commercial Building Improvement.” (Third Edition, 2010). [http://www1.eere.energy.gov/wip/solutioncenter/pdfs/revfinal\\_v3aafrontmatterdec9.pdf](http://www1.eere.energy.gov/wip/solutioncenter/pdfs/revfinal_v3aafrontmatterdec9.pdf)
- Database of State Incentives for Renewable Energy. <http://www.dsireusa.org/>