



Financing Small Commercial Building Energy Performance Upgrades: Challenges and Opportunities

Council on Finance, Insurance and Real Estate

Executive Summary

Small commercial buildings, which represent the preponderance of the U.S. commercial building stock, are a largely untapped source for significant energy savings.

- Nearly 94 percent (93.9%) of U.S. commercial properties are small buildings, defined as structures of 50,000 square feet and below accounting for roughly half (49.5%) of U.S. commercial square footage.
- Almost nine of ten U.S. commercial properties (87.9%) measure 25,000 square feet or less, and represent 36% of commercial square footage.
- Close to three-quarters (73%) of U.S. commercial buildings are very small at 10,000 square feet or below, accounting for close to 20% of commercial floor space.
- The median commercial building size is only 5,100 square feet; the mean size is 15,700 square feet.
- Seventy percent of the nation's rental housing is in structures with nine or fewer units, with single-family homes constituting almost 40% of the U.S. rental housing stock.

The retrofit market for small commercial buildings is conservatively estimated at \$35.6 billion, assuming a 30% improvement in performance for buildings constructed before 1980. A market this size would create an estimated 424,000 job years¹ of full-time employment and reduce greenhouse gas emissions by 87 million metric tons a year. Small building retrofits would also improve the resilience of the nation's built environment and would take pressure off the aging electric grid.

Despite this considerable opportunity, numerous market barriers are preventing meaningful financing and investment in retrofits for the small commercial building market. Small commercial buildings are less likely to be well-leased, well-located or occupied by strong credit tenants. As a result, these buildings typically fall outside the investment parameters of institutional lenders and investors, making it more difficult to supply capital for energy retrofits.

Seven specific barriers constrain the small commercial finance market. On the demand side, the owners, managers and tenants of small commercial buildings:

1. are frequently skeptical that energy savings will materialize;

¹ Defined as one job for one year

2. often do not understand energy performance analysis and technology;
3. lack the operational understanding and expertise to manage energy upgrades; and
4. are often of lower credit quality, with more restricted access to cash or debt.

These factors depress demand for energy efficiency loans in the small commercial sector.

On the supply side:

1. small commercial properties are frequently difficult to underwrite due to complex or atypical configurations, uses and market characteristics;
2. energy efficiency loans are a hybrid loan product, combining the characteristics of construction and permanent loans, thereby making it more difficult for lenders to evaluate and price risk.
3. fixed upfront transactions (such as legal, energy audits, financing fees and appraisals) and ongoing loan management costs represent a larger component of the loan/investment amount, thereby rendering these transactions less attractive to investors and lenders.

Several bright spots do exist—particularly programs based on public and private-sector cooperation. These successful programs include property assessed clean energy (PACE), on-bill payment/financing and Small Business Administration (SBA) loan programs. Other programs showing promise include equipment loans or capital leases, contractor based financing, managed energy service agreements and energy efficiency and renewable REITs. Expanding these programs and applying the lessons learned to new models for small commercial retrofit financing is needed. A turnkey solution with contractors as the delivery mechanism can overcome many of the identified barriers by providing an efficient, integrated solution to building owners.

Based on the above findings, the Council on Finance, Insurance and Real Estate offers the following recommendations:

1. **Federal programs, which offer important support for the growth of the small energy retrofit market, should be expanded and deployed to facilitate state and local energy retrofit financing efforts.**
 - a. Expand existing research, program development and technical assistance programs, including the Commercial Building Energy Consumption Survey (CBECS), Department of Energy (DOE) Energy Efficiency and Renewable Energy (EERE) initiatives and ENERGY STAR, which provide cost-effective approaches to market expansion.
 - b. The federal government is well positioned to support research and deployment of building performance tracking, reporting, analysis and control software and hardware. Activities in this arena will enhance the measurement and verification of building energy performance and energy retrofit outcomes.
 - c. Federal credit enhancements and guarantees, such as those offered under SBA's 7(a) and 504/CDC programs, are a potent and well-tested way to attract substantial additional private financing to the small commercial building retrofit market. A program that combines the small business financing expertise of the SBA and the energy efficiency technical support of DOE would be ideal.

- d. Congress should consider a comprehensive approach to building energy efficiency incentives, including tax credits, deductions and depreciation schedules, in developing tax reform measures. Tax incentives should be performance-based, and linked to measurable energy savings; incentives might also be targeted to encourage retrofits that deliver substantial efficiency gains.
2. **Federal policy should encourage the development and testing of energy retrofit programs at the individual city, county or utility level.** Local initiatives are less risky than larger state, regional and national programs and can provide proof of concept for future initiatives. State, local and utility officials and organizations can help to identify local program opportunities and provide technical support at the community level.
3. **Public-private energy retrofit approaches should be encouraged in federal policy making.** To date, public-private ventures have been the most successful model for delivering energy retrofit financing to the small commercial building sector and have demonstrated the most potential to scale. Such initiatives should:
 - a. Leverage public credit enhancements, superior collection methods and sanctions to improve loan security and leverage significant private capital flows.
 - b. Use standardized administrative processes, legal documents and contractor training.
 - c. Bundle utility, federal, state and local tax incentives.
 - d. Aggregate small projects into larger energy retrofit contracts.
 - e. Provide turnkey services to the property owner.
 - f. Promote cost-effective and readily deployed and replicated energy conservation measures.
4. **Federal, state and community policy makers should recognize local and property-level variations in designing energy efficiency programs that serve small businesses and others.** Policy initiatives might be most appropriately targeted to high energy cost areas or to the most energy-inefficient buildings that may have the strongest incentive to improve performance.
5. **Policy makers should leverage national CBECS data and the growing quantity of voluntary and mandatory benchmarking and disclosure programs to create more meaningful building performance databases.** Better collection and dissemination of energy consumption and benchmarking data will support the design of more meaningful energy models and help owners, tenants, buyers, sellers, appraisers and banks evaluate the performance of specific buildings.
6. **Utilities should be required to provide energy consumption data to property owners and tenants, including aggregate building level data for properties in which tenants are separately metered.** Customer education is a key aspect of driving energy retrofit demand. The monthly utility bill and the customer's utility records can supply the key metrics. Building owners and occupants should also be educated about the economic, health and productivity benefits of energy retrofits and available financial assistance. Public or utility outreach programs can deliver this content.
7. **Public policies and programs should be designed to anticipate the future aggregation of energy retrofit loans into bonds, and to provide the basis for appropriate loan documentation.** Secondary markets, when appropriately controlled for risk, help to maximize financing opportunities and reduce financing costs.

About the Council on Finance, Insurance and Real Estate

CFIRE brings together building industry representatives that play a significant role in how buildings are procured, designed and constructed. Council participants include architects, engineers, contractors and owners; insurance representatives (including professional, property, casualty, environmental and surety); banking representatives (including construction and permanent); investment representatives (including real estate investment trusts, pensions and others); appraisal representatives; and testing and validation representatives. The Council works to promote collaboration and buy-in across these sectors and address the challenges of evaluating risks, benefits, technologies and practices associated with the achievement of cost-effective high-performance buildings. See <http://www.nibs.org/?page=cfire> for more details.

About the National Institute of Building Sciences

The National Institute of Building Sciences (Institute) was authorized by the U.S. Congress in the Housing and Community Development Act of 1974, Public Law 93-383. In establishing the Institute, Congress recognized the need for an organization that could serve as an interface between government and the private sector. The Institute's public interest mission is to serve the nation by supporting advances in building science and technology to improve the built environment.

Through the Institute, Congress established a public/private partnership to enable findings on technical, building-related matters to be used effectively to improve government, commerce and industry.

The Institute is a non-profit, non-governmental organization bringing together representatives of government, the professions, industry, labor and consumer interests to focus on the identification and resolution of problems and potential problems that hamper the construction of safe, affordable structures for housing, commerce and industry throughout the United States. The Institute provides an authoritative source of advice for both the private and public sector of the economy with respect to the use of building science and technology. Congress recognized that the lack of such an authoritative voice was a burden on all those who plan, design, procure, construct, use, operate, maintain and retire physical facilities, and that this burden frequently resulted from failure to take full advantage of new useful technology that could improve our living environment.

The Institute has provided the opportunity for free and open discussion of issues and problems where there was once conflict and misunderstanding between government and the private sector construction industries. The Institute brings together representatives of regulatory agencies, legislators and representatives of the private sector to open working sessions that seek a consensus solution to problems of mutual concern. See <http://www.nibs.org>.

Find the full report at <http://www.nibs.org/CFIRE>