

# The Role of Strong Housing Nonprofits in Energy Retrofitting Delivery



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**CONTENTS**

**I. Executive Summary** ..... 3  
 Introduction ..... 3  
 Gaps in the Delivery System and the Need for Mission Owners ..... 4  
 Strong Housing Nonprofits as the Energy Retrofitting Infrastructure ..... 6  
 A Way Forward and Public Policy Recommendations ..... 6

**II. The Case for Energy Retrofitting** ..... 8

**III. The Energy Retrofitting Challenge** ..... 9  
 Existing Resource Ecosystem: Current Approaches and Gaps ..... 11  
 Challenges Specific to the Assisted Multifamily Housing Stock ..... 12  
 Challenges Specific to Retrofitting the Single-Family Housing Stock ..... 17

**IV. Role of High-Capacity Nonprofits in the Energy Retrofitting Strategy** ..... 19

**V. Toward a Better Energy Retrofitting Policy Framework** ..... 23

**VI. Endorse Strong Housing Nonprofits as Preferred Implementing Party** ..... 27

**VII. Conclusions and Steps Forward** ..... 28



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# I. Executive Summary

## INTRODUCTION

Energy-conservation retrofitting of the existing residential stock is a major national priority as the nation struggles to reduce its reliance on foreign oil and its contributions to carbon and other greenhouse gas emissions. Yet, efforts to date have been limited in their successes. As federal resources grow increasingly constrained, retrofitting will need to place a higher priority on effective use of existing public resources that are able to leverage private capital and incentivize private energy conservation. Fulfilling this objective will require an increased focus on not just which public resources are used, but *how* these resources are used and *through whom* they are delivered.

American homes consume approximately 22 percent of the country's entire energy usage. A key factor to consider when assessing how to conserve energy is that the vast majority of the nation's homes are not newly constructed, but are part of a large existing stock built over many decades. In terms of aggregate impact on America's energy conservation efforts, the business of retrofitting existing properties is more important than building greener new structures – but also more challenging.

For several reasons, *affordable* multifamily housing is a prime candidate for energy conservation efforts. Perhaps most importantly in an era of fiscal constraints, the federal government pays an estimated \$6.8 billion annually for the utility costs on the nearly 5 million apartments nationwide that benefit from some form of rental assistance. These expenses are likely elevated because the multifamily housing stock is older; it is occupied by large families and elderly people, both of whom tend to consume residential energy at higher rates; it has faced financial disincentives for energy upgrading over its life; and it is mostly located in urban environments where energy prices are often high. An energy-conserving investment in this inventory is likely to have a bigger payoff and save federal outlays.

The implementation of the residential energy conservation agenda is restrained, in part, by the lack of delivery capacity, specifically by an overreliance on legacy delivery models. In both the affordable housing and energy conservation fields, the delivery system has had an overreliance on dispersed models, small-scale actors, and government subsidies. Unblocking capital and evolving new resource flows requires recognizing the need for a national nonprofit delivery infrastructure that is empowered and regulated for that purpose. Specifically, mission-oriented, high-capacity sponsors can convert limited resources into scalable, successful transactions. These entities are natural innovators, able to attract private resources, and wholly devoted to positive triple-bottom-line (economic, social, and environmental) outcomes. Through a strategic partnership with these strong housing nonprofits, the government can achieve its residential energy conservation agenda faster and cheaper.

The national nonprofit delivery system currently exists, but is underutilized. The Housing Partnership Network (Network or HPN) and its sister organization, Stewards of Affordable Housing for the Future (SAHF), comprise a network of high-performing nonprofit entities that operate on a national or regional scale. The members of these networks have housing developments and other business activities in all 50 states and U.S. territories. The members have significant experience working in low-income communities as developers, owners, and managers of affordable single-family and multifamily housing. The membership also includes Community Development Financial Institutions (CDFIs) and housing counseling organizations. The common characteristics of these organizations are their social enterprise models, their strong business cultures, and their ability to operate at scale. With the right tools and policy framework, these entities could make a significant impact in a national program to retrofit the housing for low-income people.

The Network is a business collaborative where the nonprofit members come together to advance housing and community development practice. Through peer-to-peer exchanges, the Network creates a mechanism for practitioners to share their experiences and best practices. The Network serves as a forum for innovation and, more importantly, provides the vehicle for rapid dissemination and adoption of new ideas. Its unique collection of developers, lenders, and counselors is a strength, because each of these complementary organizational types bring specialized capacity to address key aspects of a national energy retrofitting strategy.

As demonstrated by their performance over the last two decades, high-capacity housing nonprofits have a unique and valuable role in the delivery of an energy retrofit strategy. All told, since 1980 Housing Partnership Network members have:

- Developed, rehabilitated, or preserved more than 231,000 affordable homes.
- Financed 420,000 affordable homes.
- Counseled more than 600,000 families.
- Financed and/or developed affordable housing with total value above \$67 billion.

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## GAPS IN THE DELIVERY SYSTEM AND THE NEED FOR MISSION OWNERS

Although the existing affordable housing inventory represents fertile ground for energy retrofits, little energy conservation has been done, because the value chain/delivery system is encumbered:

- ***Resources are delivered in silos that work poorly with affordable housing.***  
Energy-conservation incentives provided by federal agencies – notably the Department of Energy (DOE), and the Department of Housing and Urban Development

(HUD) – are coordinated in principle, but their administrative machinery does not work well together in practice. This is especially true for affordable multifamily housing: most existing resources are delivered through a system focused on the owner-occupant, whereas multifamily needs supply-side incentives aimed at an owner-landlord.

- ***Capital-inhibiting regulatory restrictions are in the way.*** Affordable housing has capital structures and operational restrictions that make new financing for energy conservation extremely difficult to accomplish. Similarly, means-tested rental assistance subsidies adjust up or down based on actual utility expenses, so that energy-conservation efficiencies will not improve a property's Net Operating Income, nullifying the owner's motivation to make improvements.
- ***Tenants and landlords have misaligned incentives for investments in energy conservation.*** Owners are less likely to invest in energy conservation if the utility cost savings accrue to the benefit of the tenant or the government; tenants are less likely to alter their energy consumption behaviors if they are unable to realize savings due to rental assistance program rules or if the utility bill is paid by the landlord.
- ***The payback performance of energy conservation improvements is unproven.*** This makes it difficult to develop or underwrite innovative energy financing models and value chains. These investments are difficult to underwrite with conventional or federally supported debt. The result is that, except for access to scarce grant dollars, owners have to fund energy improvements with expensive equity capital.
- ***Given return on investment uncertainty, most energy-saving improvements will not yet occur without subsidy.*** At current costs of capital, many of the most-desirable long-term improvements have internal risk-adjusted rates of return well below the owner's economic threshold. Government can create supply-side incentives – grants, favorable loans, and tax credits – but these are less and less likely in the current fiscal environment.

Stitching together Department of Energy (DOE) subsidies with Department of Housing and Urban Development (HUD) rental assistance programs and financing requires private non-governmental actors that are naturally entrepreneurial, innovative, and risk-tolerant – but also committed to the long-term affordability of the property. For energy conservation to come to the existing multifamily affordable housing inventory, government must harness the private sector. Likewise for a national single-family housing energy upgrade effort in low-income communities, the delivery system should rely on entities that can engage with both the sources of public and private capital and with the residents of those communities. Government policy, therefore, must choose partners in a delivery system with the capacity to overcome the many barriers to action, entities with triple-bottom-line thinking built into their character and governance – namely, affordable housing nonprofits.

## STRONG HOUSING NONPROFITS AS THE ENERGY RETROFITTING INFRASTRUCTURE

No programmatic edict or universal rule can deliver the energy-conservation retrofitting implementation the federal government seeks; properties will have to be upgraded individually, by motivated owners and operators. Government needs a counterparty whose motivation *is* reliable, in whom it can vest proprietary resources. Such an entity must:

- Exhibit entrepreneurial and innovative skill with public and leveraged private resources.
- Deploy capital into outcomes.
- Commit to the long-term affordability of the property.
- Bring real estate capacity and the ability to act at scale.
- Balance economic, social, and environmental outcomes consistent with public policy.

Strong scaled housing nonprofits are the only group that meets all these requirements. Public entities typically cannot mix public and private resources effectively and are not the owners and operators of most of the inventory. For-profit owners have the capacity and innovative orientation, but they are incorporated to pursue profits over other public objectives. Strong housing nonprofits not only have the action capacity, they also have a commitment to redeploy profits they might make in one area into more affordable housing elsewhere.

Beyond their strengths as individual enterprises, these strong housing nonprofits are organized into networks that serve to enhance their capacity to achieve greater scale as they act collectively. These networks have delivery value as a nationally distributed infrastructure of publicly accountable, proven housing entrepreneurs that convert subsidy resources into positive triple-bottom-line outcomes, *and* can operate in ways that lessons are rapidly learned and shared.

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## A WAY FORWARD AND PUBLIC POLICY RECOMMENDATIONS

Strong housing nonprofits are a delivery-system-in-waiting – the go-to group for addressing this and other housing and community development public policy challenges. They can rise to the occasion if the challenge is posed and resources are provided. Initiating this network as a national resource for energy conservation might include the following:

**Turbocharge the collection and availability of data.**

With better data on the energy consumption patterns, affordable housing property owners can assess the greatest opportunities for a return on energy investments and lenders can obtain the robust data required to underwrite loan products.

**Endorse strong housing nonprofits as a preferred implementing party.**

Strong nonprofits are aligned with the public sector with respect to mission and can also act in ways that the government cannot. Policy makers can rely upon these groups to pursue public goals. At the same time, the best of these organizations are operating collectively to act at scale. This strong nonprofit housing network would benefit the government in a central delivery role for retrofitting both the single-family and multifamily housing stock by taking the effort to a higher level of significant impact.

**Incentivize energy retrofitting in ways calculated to leverage private investment.**

The government's most effective role is to use subsidy resources to induce private activity and stimulate innovation, while, at the same time, leaving room for the private market. In a limited resource environment, the government can best achieve this by distributing its resources through an existing network of proven performers – entities with demonstrated capacity to deploy capital effectively and leverage private capital to reach a greater scale.

**Adopt economic incentives that spur nonprofit owner/managers to pursue conservation.**

Congress should provide nonprofit entities with “energy capital” that competent entities can use as equity to raise leverage capital for this agenda. Policy should also provide incentives to property owners and tenants alike to encourage their commitment to energy conservation. Both tenants and owners need to share any savings they are able to achieve with the government. Tenants will most likely commit to behavior changes if there are economic benefits. Over time, nonprofit owners will reuse any savings retained from energy conservation investments to preserve properties, lower energy consumption, or achieve other mission purposes.

## II. The Case for Energy Retrofitting

As the United States confronts the continuing strategic threat of an overreliance on foreign sources of energy and a certain future of rising energy prices, policymakers have turned some of the focus onto the built environment's contributions to the problem and the potential to reduce energy consumption by buildings. America's homes consume about 22 percent of all the energy used by the country. And, we can expect that a large majority of the energy inefficient buildings that exist today will still exist in 50–100 years.<sup>1</sup> This fact is behind an the emerging effort by the federal, state, and local governments to identify strategies for retrofitting the existing housing stock in order to lower its energy consumption.

In addressing the energy conservation agenda, policymakers have also seized on an opportunity to create ancillary benefits to society. In the near term, new jobs in renewable energy industries are counted on as a driver for the economic recovery following on the financial crisis and the resulting, lingering, economic slowdown. Green jobs are also a key new area for longer-term employment growth and decent living-wage jobs in the manufacturing sector as the American economy continues its longer-term transition away from one that was once reliant on manufacturing in heavy industries in the past.

Another potential win-win outcome from a focus on retrofitting the residential housing stock is the benefit of energy consumption and cost reductions on the federal housing budget. Through its support of an inventory of approximately 5 million units of affordable housing, the Department of Housing and Urban Development (HUD) estimates that it spends as much as \$6.8 billion a year on energy costs<sup>2</sup> – an amount approximately equal to 15 percent of the department's annual budget outlays. The HUD budget has significant exposure to energy price spikes. HUD has a remarkable opportunity to invest in retrofits today for budget savings over the long term.

For the nation as a whole, perhaps the strongest rationale for a bolder national energy conservation strategy is the value that a reduction in energy costs would bring to the budgets of low-income households. Any scheme for reducing energy costs should include the ability for residents to share in the savings. For the low-income households living in assisted housing, energy savings could be made available to otherwise help to meet other basic needs, address other economic demands, save for emergencies, and/or improve the quality of that low-income family's life. Lacking the safety net of federal rental assistance, these families are particularly exposed to the vagaries of the world energy markets.

<sup>1</sup> A.C. Nelson, "Toward a New Metropolis: The Opportunity to Rebuild America," December 2004 Discussion Draft for the Brookings Institution. p. 8.

<sup>2</sup> Bamberger, *Ibid.*, PowerPoint presentation at the Brookings Institution, September 27, 2010, based on data from a draft HUD report, RECS, and the U.S. Census.

### III. The Energy Retrofitting Challenge

Many complicated challenges stand in the way of making important strides forward. Most importantly, the nation needs to create a policy framework to overcome the numerous barriers to retrofitting the existing housing stock, one that will allow retrofitting activity to achieve exponential growth. We need to increase the demand for energy-saving services and then figure out how to expand the capacity and effectiveness of the industry that identifies and quantifies energy-saving opportunities. Among the action steps are answering questions around how to advance the development of technologies and techniques for reducing energy consumption in the existing housing stock, as well as building the skills to install and manage the new technologies. And, the strategy will need to focus on addressing current wasteful patterns of human behavior through outreach, training, economic incentives, and quite possibly a profound culture change with respect to the way in which energy is consumed by residents.

Especially as the country faces increased fiscal stresses and innumerable underfunded competing priorities, the nation will need to learn how to use available public resources more efficiently and use these to catalyze the private markets to provide the capital necessary to scale a residential retrofit industry. Scale will follow if the public sector can figure out ways to attract private capital to bear on this challenge. The key is to apply the public resources in ways that leverage the highest level of private investment. In this initial phase, the answers may lie in the design of subsidy regimes and other interventions by the public sector to absorb risks and build a track record that becomes the foundation of a larger industry. In fact, in this instance, the federal government has a unique opportunity to lead in building the knowledge base, experience, and expertise to scale up this work and ultimately trigger a thriving, much larger segment of the private economy dedicated to energy conservation.

#### **Greening New Construction.**

While not simple by any means, it is easier to conceive the advancement of the energy conservation agenda through the application of new policies to the newly constructed additions to the housing stock because the improvements can be built into the housing design and financing. Even so, there are still challenges in new construction related to the financing and underwriting of investment in energy-saving materials and building systems. Most notably, private investors have not yet achieved a high degree of comfort with the reliability of the pro-forma savings from these investments. And, to the extent that green building increases the costs of housing construction, there are also lingering concerns about the effects of green standards on housing affordability specific to low-income households.

The industry has moved to address some of the concerns about the application of green standards. Various green building standards have proliferated, among them the Leadership in Energy and Environmental Design (LEED) Green Building Rating System<sup>®</sup>,

EPA's Energy Star homes, and the Enterprise Community Partners' Green Communities Criteria. Even more rating standards apply around the country in the single-family arena, including Earth Advantage, Green Point Rates, and Build It Green. Local governments are grafting these principles onto building codes and weaving them onto other programs that they direct to support construction. Many builders and developers are voluntarily adopting these or similar standards and making green a virtue in their marketing. Some have learned how to construct entirely passive buildings whose carbon footprints are zero or close to zero. All of this activity is driving down the extra costs to build a green building; the so-called "green premium" continues to drop, approaching a level of no more than 1 percent over conventional costs, and in some cases possibly as cheap or cheaper.<sup>3</sup> In short, it is rapidly approaching the moment where the decision to choose a more energy efficient product is not significantly different from a decision to install an inefficient product.

This is not to say that every new home today is constructed to the optimal level of energy efficiency. It is to recognize that over the long term, the stock will naturally become more energy efficient: every newly built home today is likely more energy efficient than the home taken out of the stock due to obsolescence. In BTUs per square foot, homes built after 2000 are 30 percent more efficient than those built between 1960 and 1980.<sup>4</sup> In this is progress to a more energy efficient housing stock.

### **Retrofitting Existing Housing.**

Even if we could construct the newly built housing stock at zero carbon, the core challenge lies in our ability as a nation to retrofit the energy inefficient units in an existing stock of more than 130 million units of housing. For multifamily housing, 70 percent of the stock was built before 1980, when the 1970s oil embargo by the Organization of Petroleum Exporting Countries (OPEC) had injected new sensitivities to energy conservation into the national consciousness.

With the economic downturn and a significant excess supply of homes for sale, fewer new units are being built today, with annual completions running at approximately 600,000 units in 2010. Even if the new construction market rose to the 1.7 million units per year average for the 10 years from 1999–2008, these new annual additions to the housing stock of more energy efficient units still represent only about 1.3 percent of the total housing inventory. Meanwhile, the loss of units from the existing stock is negligible, estimated at no more than 0.3 percent per annum – that is, one out of every 300 houses.<sup>5</sup> As a result, *at least* 82 percent of all residential units in service today will still

<sup>3</sup> Gregory Kats, "The Costs and Financial Benefits of Green Buildings," Massachusetts Technology Collaborative, Copyright 2003.

<sup>4</sup> Bamberger, *Ibid.*, PowerPoint presentation at the Brookings Institution, September 27, 2010, based on data from a draft HUD report, RECS, and the U.S. Census.

<sup>5</sup> See Eric S. Belsky, Rachel Bogadus Drew, and Daniel McCue, "Projecting the Underlying Demand for New Housing Units: Inferences from the Past, Assumptions about the Future," Joint Center for Housing Studies, November 2007. Table 6, p. 23.

be standing in 2030.<sup>6</sup> A conversion to a more energy-efficient inventory would take a very long time if we relied on the normal patterns of additions and subtractions at this pace and the current level of effort to retrofit the stock.

Given the scale of the retrofitting task, the nation will need to think big and strategically on the various ways it can provide incentives to all the relevant actors in our economy. The retrofitting of the existing housing stock will require new forms of financing. It will require new technologies that apply to the diversity of the residential housing stock as well as the diversity of climate zones across the United States. It will require new workforce expertise. The government, capital providers, and the private sector will need to figure out: who's going to do this work?

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## **EXISTING RESOURCE ECOSYSTEM: CURRENT APPROACHES AND GAPS**

The federal government supports numerous programs that provide dollars specifically for energy conservation in the existing housing stock. It also funds numerous other programs whose eligible activities include the new construction and rehabilitation of both single-family and multifamily housing – which could, and often do, incorporate energy saving investments. Central to a national strategy to retrofit the multifamily assisted housing inventory is the need to understand the current resources available to meet the challenge and ensure that these are used to increase the energy efficiency of the stock. More importantly, we need to expand our ability to leverage these existing resources to drive better outcomes against the national energy conservation priority.

The list of programs available throughout the federal government that policy makers could apply to the retrofitting of the residential stock is quite long. The largest capital subsidy program in the federal government is the Low-Income Housing Tax Credit (LIHTC). Many states are using their LIHTC Qualified Allocation Plans to shape a green housing agenda. At HUD, the list of programs relevant to an energy retrofit agenda includes its two large block grants – the HOME Investment Partnership and Community Development Block Grant (CDBG) programs – as well as the Neighborhood Stabilization Program (NSP) that was launched in response to the foreclosure crisis. Policies governing the subsidy streams that support the publicly owned and privately owned assisted housing stocks could also be changed to encourage conservation investments and activities. HUD is in the process of reexamining and modifying its Federal Housing Administration (FHA) insurance authorities to support and encourage energy conservation investments. On the DoE side, the core programs are the Weatherization Assistance Program (WAP) and Energy Efficiency and Conservation Block Grant Program (EECBG), both of which received large infusions of funds in the stimulus

<sup>6</sup> A.C. Nelson, "Toward a New Metropolis: The Opportunity to Rebuild America," December 2004 Discussion Draft for the Brookings Institution, p. 8.

bill. At the local level, the residential energy retrofitting agenda is also placing a great focus on public utility energy conservation programs as a source for greater leverage and impact through coordination with these other efforts. Utilities spend over \$4 billion nationwide through public benefit programs including funds for low-income residential energy efficiency.

The record for the first few years of this massive infusion of stimulus resources into energy retrofitting activities has been poor. Most notably, despite high-level cooperation between HUD and DOE, there has been a significant failure to integrate the DOE dollars with the needs of the multifamily residential stock in general and the HUD-assisted affordable multifamily stock specifically.

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## CHALLENGES SPECIFIC TO THE ASSISTED MULTIFAMILY HOUSING STOCK

There are six key elements of a public policy strategy for retrofitting the assisted multifamily housing stock. These are:

1. Collecting Better Data.
2. Leveraging Private Capital.
3. Identifying Resources, Rationalizing Existing Subsidies, and Removing Barriers to Their Use.
4. Engaging Residents and Solving “Split Incentives” Issues.
5. Focusing on the Delivery System.
6. Delivering Through Capable Nonprofits.

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### 1. Collecting Better Data.

Perhaps the most fundamental step in getting this industry to a new plateau is the need to collect and analyze better data. The absence of strong data sets on historical and current levels of energy consumption at a property and portfolio level, on the relative energy performance of one building compared to another, and on the payback experience of different energy conservation interventions in the multifamily assisted stock all confound the ability to move forward on this agenda. Better data collection and organization is needed for *baseline* determinations, *benchmarking* across the sector, and measuring *risks and rewards* on investments.

**Baselines.** First and foremost, the industry needs a better set of numbers for establishing baselines of energy consumption and energy costs. Conceptually, buildings will vary considerably in their energy consumption based on their geography and climate zone (which plays into the mix of heating and cooling), the types of energy they are using (oil, gas, electric, etc.), age of the property, and type of metering (master meters or individual

unit meters). Ideally, the data would cover a longitudinal period for each property so that patterns of consumption could be observed over time and analyzed relative to changes in the external environment, including both the weather and changes in energy rates. To move forward, we need to establish a baseline of energy consumption against which we can later measure the impacts and returns of investments in energy retrofitting.

**Benchmarks.** The next advantage of a concerted data collection effort would be in the ability to compare data on one property against data from other properties in the assisted housing inventory. The ability to benchmark would allow owners of multi-development assisted housing portfolios the opportunity to identify which properties in their portfolios are consuming the most energy (per unit of measurement) and help direct an intervention to the property where there is the greatest potential return on investment. Comprehensive data for the larger HUD-assisted and LIHTC portfolios would allow policy makers to do a better job of allocating limited public resources to those investments where the payoffs in energy cost savings are likely to be greatest.

**Risks/Rewards.** The fundamental reason for collecting data over time is to use the resulting rich data set on energy consumption and costs before and after energy conservation to bring more private capital into these activities faster and at lower cost. Specifically, the data is critical if we are to underwrite loans secured by energy savings. The information collected should also be able to show which interventions provided which paybacks in energy savings over what period of time. With more precise data, private capital will only flow in larger volumes once the paybacks are known and the risks to the paybacks are better understood.

A data collection effort is not free. Property owners can incur a significant cost to process and enter their utility bills, and sometimes cannot recoup this loss as an allowable expense under HUD's rules. Though a very good investment, there are costs in terms of time and resources.

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## 2. Leveraging Private Capital.

The challenges in accessing private capital for a national energy retrofit program are numerous. In face of limited experience underwriting energy retrofit investments on a large scale, capital providers expect data on the viability and predictability of energy savings, and on loan performance based on this type of outlay. In the current market, an investment in energy retrofitting often requires an upfront capital outlay against an uncertain payback period. The uncertain period for recouping the investment coupled with the uncertainty around realizing energy savings makes it less likely that a lender will provide a loan for an energy conservation project. Without financing, a multifamily property owner will not likely undertake the project other than to take on those activities consistent with his or her replacement reserves plan, such as replacing systems and appliances as these reach obsolescence.

The acquisition of private capital for energy retrofitting is much easier at the point where the owner of a multifamily property is already engaging in a larger refinancing and recapitalization of an existing property. It is more complicated when the owner wants to undertake the activities on top of the existing capital structure. In the multifamily housing space the average costs per unit of energy retrofitting are relatively small, at as little as \$2,000 to \$5,000 per unit. The transaction costs on relatively small loans discourage lenders and borrowers alike from participating. In the existing capital structure a new loan to pay for energy retrofitting would likely fall into a second position and come with a higher interest rate and other potentially onerous terms, perhaps undermining the economics for the property owner and discouraging the owner from making an investment.

In the assisted multifamily stock, the challenge is even more pronounced. In the subsidized housing world it is often the case that an individual project will have a very complicated capital structure with multiple layers of subsidy and liens in second and third positions. It is more complicated still for a lender to make a loan into the existing debt on the property with this capital structure. FHA prohibits junior liens and subordinating existing cash flow notes.

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### **3. Identifying New Resources, Rationalizing Existing Subsidies, and Removing Barriers to Their Use.**

At this stage in the industry's development, the need for subsidy is critical. Private markets for comprehensive retrofitting are not robust in the residential sector, mainly because the risks and returns on investments are not well understood. Public subsidies can be used mitigate risk and to help clarify the return on investment calculation.

There are good economic arguments to public investments in energy conservation. Some portion of energy conservation is a public good because of positive externalities: the benefits of reducing energy consumption flow to others and not solely to the entity making the investment. Society as a whole benefits from reducing environmental impacts and lessening the need to import oil. Market failure is another justification for public investment in this space. The lack of good information creates a market failure that modest public investment could overcome. Without good information, private capital will not make an investment or it will charge a high-risk premium to get compensated for the risk. Public subsidies can reduce the private sector's aversion to uncertainty until the market matures.

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### **4. Engaging Residents and Solving “Split Incentives” Issues.**

Resident consumption behavior is critical to realizing efficiencies after a retrofit. If we are to scale energy conservation, we must build tenant awareness and commitment to energy conservation efforts, including financial motivation that the community residents value.

The fundamental challenge with tenant engagement strategies is the problem of misaligned incentives. In many rental situations, the tenant has no economic incentive to conserve energy if the landlord is paying the utilities. Moreover, even in individually metered units of public and assisted housing, the tenants do not receive the benefits of their own energy conservation efforts: HUD-subsidized rent rules limit a tenant's rent contribution – which includes both the housing and utility costs – to 30 percent of the household's income. To the extent that a tenant-paid utility costs goes down, the amount of rent that the tenant pays to the landlord will increase to hold the rent-plus-utility cost constant. The logical conclusion is the need to create economic incentives for residents to partner with the owners in efforts to reduce energy consumption.

Residents, like property owners, first need better information about their own energy consumption. Smart meters and other smart technologies have the potential to provide renters with information about their energy consumption and costs. While metering will not directly reduce energy consumption, it can serve as a precursor for resident action. Models for better tenant engagement do exist, but these require some time and expense to organize. Toronto Community Housing Corporation of Toronto, Canada – with about 164,000 tenants, the largest social housing provider in North America – has a robust system for tenant engagement on energy conservation in their properties and is often studied by its peer institutions in the States. American nonprofit managers are also managing programs to encourage tenant energy conservation and experimenting with different approaches. These efforts depend upon hiring and training the right kind of staff to manage these programs.

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## 5. Focusing on the Delivery System.

This paper emphasizes that one of the key barriers to effective program delivery is that policy makers have been inattentive to quality of the delivery system. The government needs to build a new industry with an emphasis on those players who can take the energy retrofitting of the multifamily inventory to scale. The high-capacity nonprofits and the networks through which they are linked hold great promise as central to the delivery system.

Perhaps one of the greatest challenges to scaling a national green retrofitting agenda is the scattered and limited capacity of the existing delivery system. The public sector side of this is characterized by its many silos, and a scattered delivery system for public subsidies. WAP funds flow through the states to Community Action Partnership or CAP agencies. DoE's EECBG program flows to the states and is distributed there by the State Energy Offices. Few of these funds are applied to energy conservation efforts in multifamily housing in general, or to the federally assisted housing inventory specifically. HUD funds flow to various different actors at the state level (state government

housing agencies or quasi-independent housing finance agencies), at the local level (city housing offices or the public housing agencies), or at the project level (across wide array of different legacy subsidy programs). The result is that these funds are not flowing to communities with common purpose.

Experience also suggests that collectively CAP agencies have a bias for single-family housing; it has been a challenge for HUD-assisted properties to access the WAP funds provided in the stimulus bill.

It is in this complexity and fragmentation of the program delivery landscape that strong nonprofits can play an important leadership role. The group includes relatively sophisticated developers and owners with experience working across the silos and layers of government to cobble together the subsidies necessary to create and preserve affordable housing and bring service programs to their residents.

The high-capacity nonprofit sector is also particularly gifted at working with private sector actors. In building out the new delivery system, policy will want to focus on how to forge better linkages with the utility companies and the energy service companies (ESCOs). The strong nonprofits could work more closely with utilities to make more effective use of public benefit resources. ESCOs are a potentially significant source of technical expertise and can bring their experience working with HUD and the public housing agencies. This experience could extend to the broader assisted housing stock and then be scaled for the entire multifamily sector.

Ultimately, the delivery system will mature and grow if the right regulatory structures are in place and the incentives are sufficient for each of the important players – tenants, housing providers, lenders, utilities, and energy service companies – to undertake the work with an assurance of a sufficient return commensurate with the risks of that investment.

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## **6. Delivering Through Capable Nonprofit Networks.**

All of these blockages will be overcome only by individual owners and sponsors executing retrofit programs on individual properties and developments. For that reason, the delivery network is a critical piece of the system. Ideally, such a network would cover the whole country; provide peer-to-peer forums where participating organizations can learn from each other how to retrofit individual properties in a way that is both efficient and socially responsible; facilitate the reporting of data into a national database so as to give late adopters additional advantages; and potentially serve to aggregate capital that is then deployed to the members to support this activity.

Such a network already exists. The Housing Partnership Network and its members are uniquely positioned to address the multifamily retrofit challenges. Our partner organization, SAHF, and its partner, Bright Power, have acquired data on hundreds of low-income multifamily properties and have created an industry-leading energy scorecard that serves as an analytical tool for directing this work. The Network's nonprofit members are also highly experienced in the effective utilization of public subsidies to leverage private investment. Our members are all committed to improving the lives of their residents and have vast experience delivering tenant services. The Network is structured to improve the nonprofit delivery system.

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## CHALLENGES SPECIFIC TO RETROFITTING THE SINGLE-FAMILY HOUSING STOCK

The challenges of retrofitting the single-family housing stock are arguably even greater than those facing the multifamily energy retrofitting agenda. America's single-family owned housing consists of nearly 100 million housing units, the vast majority of which are owner-occupied. Taking this effort to scale will rely on influencing decisions that are in the hands of millions of diverse households. Interestingly, the single-family rental housing stock – at nearly 19 million housing units – is perhaps even more complicated. It is held by millions of small owners and not typically managed professionally. It exhibits the same challenge found in the multifamily rental stock of misaligned incentives between owner and tenant. Policy makers need to make progress in scaling energy savings strategies for this market segment also.

***Access to Actionable Information.*** The first significant barrier is the lack of household access to actionable information. Most homeowners are aware of their monthly utility bills; what are less well understood are the components of consumption. To what extent is the level of energy consumption each month a function of the design of the home, the efficiency of the heating and cooling systems, or the patterns of consumption by the residents? The individual homeowner of some means and education still may lack the level of information needed to make an informed decision with respect to an energy saving investment. The homeowner will need to understand the cost of investment, the cost of financing that investment, and the return on investment in terms of energy savings. Yet, much of this information is uncertain and the homeowner takes the risk that the savings will not materialize. If the payback period extends beyond the time that the homeowner wishes to remain in his or her home, the incentive to make the investment diminishes even further. For the sophisticated and unsophisticated homeowner alike, these are complicated and daunting decisions.

***Developing New Financing Tools.*** Even if the investment decision was fully understood, the financing tools for single-family energy retrofitting are not well evolved. For very low-income owner households, there are various subsidy sources available for

energy retrofitting. Weatherization grants cover certain allowable costs up to approximately \$6,500. Without the subsidy, few homeowners will fund energy retrofit savings out of their own resources, given uncertainty around the investment returns and the upfront costs. If the solution is to borrow the capital, the homeowner will often find the borrowing options unsatisfactory. Private financing options for single-family retrofits are costly and cumbersome. Home retrofits could be financed through credit card debt, home equity or home improvement loans, or through loans provided by the home improvement contractor.

The energy retrofit movement has touted the expansion of other potential sources of financing including Energy Efficient Mortgages (EEMs) offered by HUD or Fannie Mae, which provided more liberal underwriting in exchange for energy efficiency in the home; on-bill financing, where the amortized cost of improvements were paid with the monthly utility bill; Property Assessed Clean Energy (PACE), where the costs of energy retrofitting were embedded in the local government's property tax assessment on a existing home; and the Energy Star Mortgage – a joint effort between the Department of Energy and the Energy Programs Consortium that allows existing homeowners to incorporate the costs of an energy retrofit into a home refinancing.

The experience has not been positive. EEMs have never reached a significant level of market acceptance. Most banks do not promote these loans because the banks were not appropriately compensated for the product and the more liberal underwriting features do not always meet newer bank standards. The Energy Star Mortgage product has also seen limited success because the lenders were required to provide discount pricing. PACE is financially problematic, as it requires an existing first mortgage holder to subordinate to a new and unknown loan provided via a local taxing authority, and as such legally impairs the mortgage security. For that reason, the financial industry has been unanimously opposed to PACE, and in July 2010, the Federal Housing Finance Agency declared that the government sponsored enterprises would no longer buy loans when a PACE loan had a priority in foreclosure.

In addition to its EEM product, HUD also offers FHA mortgage insurance through its 203(k) rehabilitation loan product, which can finance energy conservation rehabilitation expenditures. And, in November 2010, HUD announced a new FHA PowerSaver second mortgage product pilot that will provide owners up to \$25,000 to make energy-efficient improvements to their homes including the installation of insulation, duct sealing, doors and windows, HVAC systems, water heaters, solar panels, and geothermal systems. HUD expects this product to carry interest rates in the 5 to 7 percent range.

In the single-family retrofitting space, the Network and its members have significant capacity and experience to bring to bear. Forty-six members have engaged in businesses related to single-family development and the same number have housing or financial counseling as a business line. The forty-one members that are actively engaged in the

Neighborhood Stabilization Program (NSP) are deeply into the management of renovation and rehabilitation of the single-family stock or the financing of stabilization activities as a result. NSP rehabilitation not only serves to stabilize values in the community, but reduces the housing's carrying costs, making it more affordable over the long term for the new homebuyers.

## IV. Role of High-Capacity Nonprofits in the Energy Retrofitting Strategy

Over the last several decades, a growing group of high-performing nonprofits has emerged in an increasingly prominent position within the housing and community development delivery system. Most of these entities are playing a leading role in the development and management of affordable housing and other community assets in their markets. They are responsible stewards of long-term affordable housing, acquiring and recapitalizing the affordable housing stock, and preserving it as affordable housing for the long term. These strong housing nonprofits have emerged with a social enterprise ethos. They operate based on business principles as they pursue their missions to make a difference for the low-income families and communities they serve. These are social entrepreneurs in service to their missions. All told, since 1980 Network members have:

- Developed, rehabilitated, or preserved more than 231,000 affordable homes.
- Financed 420,000 affordable homes.
- Counseled more than 600,000 families.
- Financed and/or developed affordable housing with total value above \$67 billion.

As they have grown, these nonprofit housing organizations have built even greater capacity and scale by adopting new business processes and new levels of business infrastructure that allow them to analyze opportunities, manage risk, raise and leverage capital, and operate efficiently. With scale and capacity, they have been better able to partner with federal, state, and local government, the private sector, and civic organizations. They have been better able to step up to address increasingly complex community development challenges, often working across the silos of various federal, state, and local programs. The high-performing nonprofits are proving the proposition that strength matters: the stronger these institutions become, the more effective they are at utilizing precious public resources and the greater impact they are having on the lives of the low-income families they serve and the low-income communities in which they work.

Through the Network, these high-performing nonprofits have joined together in an effort to magnify their impacts even further. By forming peer-to-peer networks, joint ventures, and other collaborative businesses to leverage their collective strength, they are advancing the sector and helping to increase its capacity and scale.

***Expertise in Housing Development and Rehabilitation Management.*** The high-capacity nonprofit housing organizations who are members of the Network have become increasingly important in the affordable housing delivery system as developers, owners, and managers of affordable housing properties. Included in their ranks are the Community Development Financial Institutions (CDFIs) who serve as lenders to the developers and their properties. With command over a fairly large subset of the affordable multifamily housing inventory and an even larger share of the new affordable housing development work, these organizations represent significant latent ability to make meaningful progress against a national goal to reduce energy consumption in the residential inventory. These entities are some of the most seasoned nonprofit development organizations in their communities, undertaking building rehabilitation using complex financing mechanisms that incorporate public and private capital. Many of these organizations are already leaders in green development and retrofitting: piggybacking on their expertise makes sense.

***Strong Affordable Housing Nonprofits as a National Laboratory for the Larger Effort.*** As innovative social enterprises, with control over hundreds of thousands of units in every climate zone, these entities and their networks are ideal candidates to serve as incubators for testing of different approaches. They bring a proven record of accomplishment as well as the ability to learn from experimentation and repetition – and the ability to transport these new innovations to other places. A reliance on these organizations in delivering on the energy retrofit agenda would provide policy makers with the ability to scale and replicate any intervention. High-capacity nonprofits have proven themselves early adopters of innovation and capable of stitching together subsidies from multiple sources provided at the federal, state, and local levels.

***Portfolio-Level or Network-Level Interventions.*** Current policy and practice limits the ability of housing social enterprises in the United States to operate their housing portfolios as a portfolio. Instead, many rules require separate property-by-property management infrastructure and accounting. Aside from adding cost to each asset, this limits the scalability of energy retrofitting, because each one must be independently financed, so each set of agreements must be independently, and painstakingly, renegotiated and amended. Not only can these high-capacity nonprofit organizations add value because they can apply their developing expertise to the multiple properties in their portfolio, strategies that allow them to operate more effectively at the enterprise and/or portfolio levels will, in turn, take the retrofitting effort to a new level. For example, a program of enterprise-level finance could allow a single source of energy conservation capital that the company could deploy across its portfolio but with a lower overall transaction cost.

Likewise, formal nonprofit housing networks like the Housing Partnership Network may provide the opportunity to magnify the interventions in this sector even further. The Network has demonstrated the ability to create new business ventures on behalf of its members and operate collectively with its members to create new efficiencies. For

example, the Network founded the highly successful Gulf Coast Housing Partnership in response Hurricane Katrina and created a captive insurance company in response to increasing property and casualty premiums. The insurance company has saved the Network's subscriber-owners considerable expense.

A national response to the energy retrofit challenge might benefit from both the capacity of the individual organizations and from collective action at the Network level.

***Missions to Serve Low-Income Households and Low-Income Communities.*** Most importantly, the high-capacity nonprofit sector is uniquely positioned to bring the advantages of the energy retrofitting agenda to low-income communities and households. The mission orientation of the leading developers, owners, and managers of the HUD-assisted housing and LIHTC properties means that there is already a strong culture of service to the residents and the community. This culture, along with a well-developed infrastructure for the provision of services for the residents, creates the opportunity for programming and outreach where resident cooperation is essential to achieving significant energy savings from an existing property. Through peer-to-peer exchanges, the sector can advance learning that leads to scalability, technology transfers, and more rapid adoption of the new techniques for partnering with residents and the broader community.

***High-Performing Nonprofit Lenders.*** The high-capacity nonprofit CDFIs also represent latent capacity to take the energy retrofitting agenda to a new scale. As we build out the larger delivery system, the government should look to the CDFIs to play a leading lending role. Like the housing development entities, the CDFIs embrace a mission of service to low-income communities. The CDFIs will often put money at risk to meet financial needs not met by the broader for-profit financial services community in service to their missions. The CDFIs consistently innovate with their capital to incubate new products and approaches and, in doing so, show the way for the rest of the lending industry to get comfortable with the risks of lending into these markets. The CDFIs bring a willingness to fill in niches in the market where the private, for-profit commercial lenders are unwilling to go.

***Single-Family Housing and Neighborhood Stabilization.*** At this moment in history, many housing nonprofits across the country are partnering with their state and local governments to address the foreclosure crisis. Forty-one members of the Network are participating as either lenders or developers in NSP. The Network is also a founding member of the National Community Stabilization Trust (NCST) – an intermediary organization established to work in the space between the servicers and the communities affected by foreclosures. NCST facilitates the transfer of REO properties from the servicers to local partners and works with the local organizations to reposition the property in the neighborhood context. NSP rules require the greening of disposed homes to highly efficient standards. High-performing nonprofit organizations seem well-suited

to taking the appropriate ideals and regulatory requirements of this program and testing models of financing and implementing energy retrofits into these foreclosed homes. At a minimum, this represents an enormous opportunity to bring a large number of single-family homes to a new level of energy efficiency.

The participating nonprofit organizations are also leaders in delivering other HUD-funded single-housing rehabilitation programs. We can and should build more energy conservation efforts into these already ongoing rehabilitation efforts. Studies show that households can save up to \$1,000 per family per year merely by undertaking a home retrofit. Clearly, aligning energy efficiency with neighborhood stabilization and other HUD housing rehabilitation programs could take advantage of the competencies of the high-capacity nonprofit sector.

***A Role for Housing Counseling Nonprofits.*** In addressing our national energy challenge, we need to change consumer behaviors with respect to how we organize our lives around energy consumption and how we learn the appropriate application of new technology. The housing nonprofit community also includes organizations that have made providing housing counseling services to low-income households part of their business models. With their presence in low-income communities and their trusted advisor relationships with low-income households, the housing counselors could play an important role in advancing the energy conservation agenda. Many counselors already include energy conservation when helping low-income households manage their household budgets as part of asset-building and foreclosure prevention strategies.

The nonprofit housing counseling industry could support this effort at the interface between the low-income household and the home improvement industry. Most home improvement contractors are highly skilled and reputable, but throughout the history of communities, from time to time low-income households are preyed upon by unscrupulous contractors and shady home-equity-loan salespeople. The result was shoddy work backed by predatory loans with terms and features that sucked equity out of the homes. As the nation scales up an effort to retrofit the residential stock, counseling entities – with ties to low-income communities and in their roles as trusted advisors – have the potential to serve as a buffer against abuse by providing consumers with advice at the moment of an investment decision that requires complicated contracts and loan documents. This potential role for housing counselors – especially around scrutiny for home improvement lending products – does not obviate the need for better state regulation and enforcement of regulations to weed out the bad contractors.

As an intermediary for a network of strong nonprofit housing counseling agencies that fosters peer-to-peer engagement among the member organizations, the Housing Partnership Network also has a potential role here to help develop and disseminate best practices to the members of the Network. Scaling this intervention relies on figuring out what works, replicating it, and then sharing this experience to the broader industry.

## V. Toward a Better Energy Retrofitting Policy Framework

This paper has shown that America needs a greater federal government emphasis on retrofitting the HUD-assisted multifamily housing stock. The rationale for this is simple: at the same time that the government is experimenting with different approaches to energy conservation in multifamily housing, the government will also benefit in the form of reduced utility bills and budget savings from the properties it already oversees. By conducting a natural experiment around the retrofitting of assisted housing and single-family housing undergoing rehabilitation, the government can learn more about what works and what does not work, and then pivot off this learning to stimulate the growth of the larger industry. With this as the principal goal, this analysis leads to the following recommendations for energy retrofitting policy change:

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### **Turbocharge the collection and availability of data.**

- Policy makers should place a high priority on data collection and analytics around the energy conservation agenda. HUD should lead in organizing a high-quality national data repository specific to the energy retrofitting and energy management needs of the assisted multifamily inventory.
- Policy should provide incentives for participants in all federal housing programs to submit energy data to the national repository. Current HUD reporting requirements are onerous and costly, so the government should invest in mechanisms to lower the costs of increased reporting.
- Once established, the government should make this database available to the public for free in an easily accessed and analyzed format. The data should include baseline consumption data, as well as the energy-related inputs and outputs to any capital investment in the property. The availability of this baseline data will serve to foster the growth of private benchmarking activities, technology development, and increased underwriting sophistication.
- The government should work with utilities to allow public access to the relevant data from their activities. Most importantly, the utilities can provide automatic uploads of tenant energy consumption data in unit-metered buildings, enabling the owner to do a whole-building energy usage evaluation – not just usage evaluations based on common areas.
- HUD should also work to build a similarly comprehensive and accessible national data repository on single-family energy consumption and the impacts of energy retrofitting. HUD could add to the reporting requirements for those HUD programs

that provide resources for single-family rehabilitation including the FHA insurance programs – notably the Title I and 203(k) rehabilitation finance programs – as well as HOME, CDBG, and NSP.

- Likewise, single-family energy retrofitting data collection should extend to other units of the federal government that fund single-family housing, including the energy conservation programs at DOE, and the housing programs at the Department of Agriculture.

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### **Incentivize energy retrofitting to leverage private investment.**

- Experiment with new tools, deploy existing subsidies better, and find new resources for retrofitting multifamily housing.
- Create a set-aside in the WAP program to ensure that some of these dollars flow to the multifamily sector. To work better with assisted multifamily housing, models should designate state housing finance agencies, or other statewide organizations focused on multifamily, as eligible sub-grantees for this purpose.
- Use FHA insurance to test new models of financing for multifamily retrofitting activities, including risk-sharing with private lenders, on-bill financing, energy retrofit bridge loans, and subordinate debt products targeted to energy efficiency.
- HUD should remove regulatory prohibitions and provide greater flexibility in its rules to allow owners to incur junior or subordinate debt and secure it with the property.
- Provide additional incentives to owners of assisted housing to undertake energy conservation investments. Specifically, program rules should allow developers to take a reasonable development fee for undertaking retrofitting activities and allow property managers to share in energy cost savings in the context of limited dividend properties and budget-based rents.
- Experiment with a Section 8 “green dividend” program to support energy retrofitting debt. Under this model, HUD would allow increases in Section 8 rents to cover the new financing until energy savings pay back the debt.
- Increase the flexibility around the use of residual receipts, any excess property reserves, and excess cash flows at the property level to free up these underutilized resources for energy retrofitting, and allow high-capacity nonprofits the ability to aggregate these resources and apply them across entire portfolios of housing for energy conservation activities.
- Offer flexibility within budget-based rents to allow organizations to hire energy managers who work at the enterprise level in multi-property organizations.
- Work to develop lenders – especially CDFIs – specializing in underwriting energy retrofitting finance.

- Encourage greater linkages between the ESCOs and the owners/managers of the assisted housing stock. Replicate the HUD public housing energy performance contract option under which HUD permits housing authorities to freeze the rolling base of energy consumption for up to 20 years if the authorities enter into an energy performance contract with an ESCO.
- Create a new housing tax credit specific to green retrofit strategies. In order to scale the credit, allow proceeds from syndication to flow to the nonprofit enterprise for retrofitting activities across an entire portfolio of properties.
- Deepen tax incentives for alternative energy use in low-income housing developments and expand these tax incentives to also support investments in energy conservation.

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### **Expand policy support for energy retrofits in the single-family sector.**

- Make energy costs a more prominent feature of the home purchase transaction. Mirror an initiative off the “energy performance certificate” adopted by the European Union (EU). The EU requires the seller to provide an energy efficiency certificate to all prospective owners and renters.
- Sponsor an independent third party to analyze the national single-family energy data repository to provide consumers with better information on the potential return on investment for energy savings investments in their homes.
- Encourage the broad deployment of smart meters or technology allowing monitoring of household energy consumption.
- Allow federal rehabilitation programs to provide incentives to renters for their contributions to energy savings.
- Promote business models to scale up systems for managing scattered site, single-family rental properties as an affordable housing strategy as well as an energy conservation strategy. With scale comes more professional management and the opportunity to undertake retrofitting and other energy savings interventions in a more efficient, cost-effective manner.
- Expand funding to HUD and NeighborWorks housing counseling programs to increase the counseling agencies’ capacity to work with residents to encourage financially and energy-viable sensible energy retrofits and protect against predatory loans and abusive contractors in the retrofitting business.
- Make tax credits and other incentives for single-family home residential energy retrofits equal in value to the tax credit for alternative or renewable energy sources.
- Use FHA credit enhancements to support and test new financing models including on-bill financing, unsecured financing, and secondary market security innovations.

- Consider an FHA partnership with retail home improvement companies to lessen cost of capital for energy retrofitting work paid for through loans by the private company.
- Expand the role of CDFIs in providing single-family energy retrofit financing solutions.

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### **Advance strategies to engage residents in multifamily housing.**

- Change rental assistance rules to create incentives that allow tenants to participate economically in their own energy conservation efforts.
- Create a saver's incentive such that residents who achieve energy savings can keep a portion of those savings by paying less than 30 percent of their incomes for rent for some interval.
- Expand the availability of resources for service coordinators on multifamily housing management teams and make energy conservation a piece of resident engagement.
- Conduct and evaluate demonstration projects in how to best engage residents in energy conservation activities, and widely disseminate the results.

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### **Break down silos in the current delivery systems and make investments in filling gaps.**

- Expand the collaboration between HUD and DOE at the federal level to establish common platform for the delivery of program resources – perhaps a common single NOFA combining program funds. The NOFA could require state and local agencies to jointly apply in order to encourage better coordination and prioritization at the community level. Specifically use the NOFA to forge greater linkages among the WAP and EECBG programs and HUD's core NSP, HOME, and CDBG programs and among the public agencies at the state and local levels – including the HFAs, state energy offices, housing departments, and the CAP agencies.
- Expand training, certifications, and licensing of qualified energy retrofitting contractors – especially with respect to multifamily housing.

## VI. Endorse Strong Housing Nonprofits as Preferred Implementing Party

In building out the national strategy, policy makers should embrace the role that strong housing nonprofits can play in implementing the effort. There are four key policy thrusts to achieve this objective:

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### **Launch a national energy retrofit demonstration.**

The Administration should launch a national housing retrofit demonstration lead by high-capacity nonprofit organizations. The demonstration could include data collection and data utilization strategies; group buying at both the enterprise and the network level for energy efficient appliances, materials, and energy technologies; experimentation with various funding and leveraging mechanisms – including Section 8 green dividends and FHA-insured products; training programs for on-site managers; and resident engagement strategies.

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### **Create greater flexibility for multi-property nonprofits to operate at a portfolio level.**

By allowing nonprofit enterprises to operate more flexibly at a portfolio level – most notably by allowing the consolidated management of accounts, residual receipts, and reserves – the multi-property organization could do a more comprehensive job of examining its energy consumption across its entire portfolio to best implement its energy retrofit investment strategy. With more flexibility to operate at the portfolio level, the nonprofits would increase their ability to engage in financing structures at an enterprise level. Likewise, creating greater flexibility at the enterprise level to manage excess reserves and residual receipts would allow the enterprise to deploy these resources more effectively.

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### **Allow and encourage financing at the enterprise level.**

Currently, affordable housing finance occurs at the project level, rather than the owner/manager level. There is the potential for important financing benefits from enterprise-level financing. An enterprise-level finance approach would create larger transactions, which would reduce the costs of financing and increase the flexibility in the use of the resources. From the lenders' perspective, risk can be reduced by cross-collateralized structures and the potential for greater free cash flows from across the entire organization. Transaction costs are reduced for lender and borrower alike.

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### **Create a mechanism for making equity or impact investments in nonprofit entities.**

Equity infusions would allow high-capacity nonprofits to leverage additional private capital at the enterprise level and increase the scale and impact of their operations. For many of the high-capacity nonprofits, the goal is to create more earned income to cover the costs of operations and the sustainability of their business model. Scale and the balance sheet strength to leverage private capital are critical to this business strategy.

## **VII. Conclusions and Steps Forward**

This paper has outlined the challenges the country is facing in its effort to reduce carbon emissions and conserve energy. There is no silver bullet: much work needs to be done to shape the financial and technological infrastructure that will ultimately build an industry and take this effort to scale.

In the end, the market will have its say on the pace and importance of this effort. When energy prices start rising rapidly, demand for energy conservation will also rise rapidly. Techniques and technologies not currently economical will become cost-effective and players in the market will figure out how to expand to meet the demand.

The problem, of course, will be the dislocations that high energy prices will cause the economy. Retrofitting of the existing housing stock will take time and in the transition household budgets will be shredded by the utility bills. Multifamily owners will face difficulties paying their mortgages, and the properties and their residents will suffer as a result. Of course, the greatest burden of rising energy costs will fall on very low-income households who are individually metered and who lack the protection of HUD's rental assistance programs. In the assisted housing programs, program rules will mostly protect tenants from energy price spikes by an assistance formula that limits their rent contribution based on housing plus utility costs to 30 percent of income. HUD, on the other hand, will be faced with rising costs in its subsidy programs, likely crowding out budgetary resources for other important initiatives and thwarting its efforts to meet other critical housing and community development needs.

The time to start has already passed – we are working against borrowed time. Energy prices are already rising again. It is imperative for society to make energy savings a national priority to better inoculate the economy from the effects of future price shocks.

To push the focus on energy to a much greater scale, the country will need to realign incentives to trigger a concerted private sector response on both the supply and demand side. On the demand side we need to provide the context that will trigger multifamily owners and single-family homeowners to seek cost-effective opportunities to reduce their energy consumption. On the supply side, we need to create sufficient returns on investment to stimulate the production of new technologies and the ready availability of private capital to finance the growth of a retrofitting industry that is able to make a reasonably sufficient rate of return that allows it to amass the capital.

Within this framework of a significant national challenge, this paper highlights the critical role that the high-performing nonprofits can play in advancing a national energy retrofitting agenda. Most notably, these high-performing organizations are showing the way. They are already undertaking energy retrofits to the substantial inventory of assisted housing properties they own and manage. Members of the CDFI community have developed loan products and strategies to support alternative energy. On the single-family side these organizations are playing central roles in their communities in the implementation of NSP and its attendant upgrading of the stock. In general, their experiences are serving as laboratory for various approaches toward improving the energy performance of the assisted housing inventory and providing a strong foundation toward a set of better outcomes.