Recovery *Through* Retrofit

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MIDDLE CLASS TASK FORCE

COUNCIL ON ENVIRONMENTAL QUALITY

CONTENTS

Executive Summary

Making American homes and buildings more energy efficient presents an unprecedented opportunity for communities throughout the country. The Recovery Through Retrofit Report builds on investments made in the American Recovery and Reinvestment Act of 2009 (Recovery Act) to expand the home energy efficiency and retrofit market. Home retrofits can potentially help people earn money, as home retrofit workers, while also helping them save money, by lowering their utility bills. By encouraging nationwide weatherization of homes, workers of all skill levels will be trained, engaged, and will participate in ramping up a national home retrofit market.

There are almost 130 million homes in this country. Combined, they generate more than 20 percent of our nation's carbon dioxide emissions, making them a significant contributor to global climate change. Existing techniques and technologies in energy efficiency retrofitting can reduce home energy use by up to 40 percent per home and lower associated greenhouse gas emissions by up to 160 million metric tons annually by the year 2020. Furthermore, home energy efficiency retrofits have the potential to reduce home energy bills by $21 billion annually, paying for themselves over time.

By implementing Recovery Through Retrofit's recommendations, the Federal Government will lay the groundwork for a self-sustaining home energy efficiency retrofit industry. This Report provides a roadmap of how the Federal Government can use existing authorities and funds to unlock private capital and mobilize our communities.

Barriers to a National Retrofit Market

Despite the economic and environmental benefits of improving home energy efficiency, a series of barriers have prevented a self-sustaining retrofit market from forming, including:

1. Access to Information: Consumers do not have access to straightforward and reliable information on home energy retrofits that they need to make informed decisions.

2. Access to Financing: Homeowners face high upfront costs and many are concerned that they will be prevented from recouping the value of their investment if they choose to sell their home. The upfront costs of home retrofit projects are often beyond the average homeowner's budget.

3. Access to Skilled Workers: There are currently not enough skilled workers and green entrepreneurs to expand weatherization and efficiency retrofit programs on a national scale.

Recommendations Summary

The Recovery Act provides a unique opportunity to address these barriers. The Recovery Act allocates about $80 billion to projects related to energy and the environment, and much of this money is targeted toward improving the energy efficiency in buildings, both Federal and non-Federal. Under the Recovery Act, state and local governments have an unprecedented opportunity to expand investments in energy retrofits and develop community-based programs on a large scale. These investments will put our country on a path to real reductions in greenhouse gases, and contribute to the economic recovery our country needs. The recommendations and actions in this Report have been carefully designed by eleven Departments and Agencies and six White House Offices to ensure that the energy efficiency market will thrive long after the Recovery Act money is fully spent.

By coordinating Recovery Act funds, Federal Departments and Agencies and resources; through building strong partnerships with states and local communities; and by targeting government policy changes, a foundation for self-sustaining energy efficiency retrofit market will be built. Through implementation of the Recovery Through Retrofit recommendations, the Federal Government will leverage private capital, streamline the retrofitting process, and reduce energy costs for homeowners.

Provide American Homeowners with Straightforward and Reliable Home Energy Retrofit Information

Develop Energy Performance Label for Homes

We propose to do for homes what ENERGY STAR® has done for appliances, helping consumers identify energy efficient products. New homes can already earn the ENERGY STAR® label – but no such label is available for existing homes. The Department of Energy and the Environmental Protection Agency are working together to develop an energy performance label for these homes. The end result will be an easily recognizable benchmark that energy auditors, retrofitters, lenders, realtors, and consumers can use to compare home energy performance and identify the most energy efficient homes.

Develop a National Home Energy Performance Measure

Before we can develop an energy performance label for existing homes, we must establish a standardized home energy performance measure applicable to every home in America. This measure will make it much easier for consumers to understand how much they can save by retrofitting their home. It will also give lenders the information they need to work with homeowners who are looking to invest in home energy improvements.

Reduce High Upfront Costs and Make it Easy for Homeowners to Borrow Money for Home Energy Retrofits

Support Municipal Energy Financing

Property tax or municipal energy financing allows the costs of retrofits to be added to a homeowner's property tax bill, with monthly payments generally lower than utility bill savings. This arrangement attaches the costs of the energy retrofit to the property, not the individual, eliminating uncertainty about

recovering the cost of the improvements if the property is sold. Federal Departments and Agencies will work in partnership with state and local governments to establish standardized underwriting criteria and safeguards to protect consumers and minimize financial risks to the homeowners and mortgage lenders. The Department of Energy will support model financing programs to provide much needed upfront capital utilizing Recovery Act funding provided for the Department's Energy Efficiency Conservation Block Grant and State Energy Programs.

Improve Energy Efficient Mortgages

Expanding the use of Energy Efficient Mortgages will simplify the process of obtaining and financing energy retrofits at a home's point of sale. This effort will also work to lower the cost of home energy audits as well as the monthly financing payments, and ensure that retrofits are accurately valued in the appraisal process. Federal Departments and Agencies will work collaboratively to: advance a standard home energy performance measure and more uniform underwriting procedures; develop procedures for more accurate home energy appraisals; and streamline the energy audit process.

Expand State Revolving Loan Funds

Expanding state revolving loan funds from 16 states to all 50 states will leverage private capital and achieve economies of scale necessary to produce consistent and affordable loan products. This will allow consumers to borrow money for home energy retrofits from private firms at lower interest rates. In addition to funding new programs through the Recovery Act, the Federal Government will work to provide examples of successful revolving loan programs and technical assistance to states without revolving loan programs in order to encourage their adoption.

Mobilize a Well-Trained National Energy Retrofit Workforce and Expand Good, Green Job Opportunities for All American Workers

Establish National Workforce Certifications and Training Standards

A uniform set of national standards to qualify energy efficiency and retrofit workers and industry training providers will establish the foundation of consumer confidence that work will be completed correctly and produce the expected energy savings and benefits. Consistent high-level national standards will spur the utilization of qualified training providers that offer career-track programs for people of all skill levels, promote and expand green jobs opportunities, and facilitate the mobilization of a national home retrofit workforce. Federal Departments and Agencies (including the Department of Labor, the Department of Energy, the Department of Housing and Urban Development, and the Environmental Protection Agency) will work in collaboration to assess existing standards and training programs and develop consistent models, guides, and best practices for training and certification. The Department of Education, the Department of Commerce, and the Small Business Administration will assist in implementing the best practices developed by the other Departments and Agencies.

These recommendations do not involve spending large new sums of Federal dollars in our fiscally-constrained environment. Rather, they focus on removing information barriers, transaction costs,

liquidity constraints, and other market failures that often prevent homeowners from making investments that have both private and social benefits.

Moving Forward

To ensure that the recommendations in this Report are implemented, CEQ will convene an interagency Energy Retrofit Working Group, which will be chaired by the Department of Energy, the Department of Housing and Urban Development, the Department of Agriculture, the Department of Labor, and the Environmental Protection Agency. In addition to implementing the recommendations and proposed actions of this Recovery Through Retrofit effort, the Working Group will track its progress and operate as the single point of contact for the successful implementation of this effort. Within thirty days, the Working Group will submit an implementation plan to the Vice President. Additional strategies will also be developed to expand the retrofit market to rental housing. Moreover, the Working Group will report to the Vice President regularly on its progress towards implementing each of the recommendations identified in this Report.

Introduction

On Tuesday, May 26, 2009, at a Middle Class Task Force meeting, Vice President Biden charged the White House Council on Environmental Quality (CEQ) with developing a proposal for Federal action that will grow green job opportunities and boost energy savings by retrofitting homes for energy efficiency. In response to this charge, CEQ has facilitated an interagency process with the Office of the Vice President to develop this Report—involving eleven Departments and Agencies and six White House Offices. This Report contains a set of recommendations for specific Federal actions, which address the market and non-market barriers that have prevented the home retrofit market from achieving national-scale. The following Departments and Agencies contributed to this Report and participated in drafting the recommendations:

- Office of the Vice President
- Department of Agriculture
- Department of Commerce
- Department of Education
- Department of Energy
- Department of Housing and Urban Development
- Department of Labor
- Department of Treasury
- Environmental Protection Agency
- Equal Employment Opportunity Commission
- General Services Administration
- Small Business Administration
- Executive Office of the President
  - Council of Economic Advisers
  - Domestic Policy Council
  - National Economic Council
  - Office of Management and Budget
  - Office of Public Engagement and Intergovernmental Affairs
  - Office of Science and Technology Policy

A Strategic Plan for Recovery Through Retrofit

Market Barrier 1: Consumers need reliable home retrofitting information to make informed decisions

Consistent, accessible, and trusted information is a critical element to building a robust, energy efficient home retrofit market in the United States. This information must provide consumers with a reliable benchmark for energy efficiency and sound estimates of the costs and benefits of home energy retrofits. Currently, there are a variety of energy performance rating tools in the home retrofit market, each one supplying different information and performance predictions. The lack of a standard rating causes great confusion for consumers. Without some level of standardization combined with an effort to increase recognition and awareness, energy efficiency retrofits will likely remain a niche product, keeping consumer demand low and investors out of the market.

Solution 1: We must provide straightforward and credible information to American homeowners on the costs and benefits of home energy retrofits

The Federal Government already promotes an energy efficiency measure that helps consumers save money by identifying appliances and other household products that use less energy. The ENERGY STAR® program is a proven solution that has helped to revolutionize the market for cost-effective, energy efficient products. With the help of ENERGY STAR® Americans saved $19 billion on their utility bills last year. We propose to do for homes what ENERGY STAR® has done for appliances so homeowners know that retrofits will bring their home to a recognized and trusted standard of energy efficiency and home buyers, lenders, and realtors have an easy way to understand the energy performance of homes. To get there, we must take two steps:

Develop Energy Performance Label for Homes

When consumers see the ENERGY STAR® label on a dishwasher or a refrigerator, they know they are getting an energy efficient product and they can take the savings into account as they decide what to purchase. New homes can qualify for an ENERGY STAR® label but there is no similar label for existing homes that have undergone retrofits. The Federal Government will develop a home performance label for existing homes. The label will be based on the national home energy performance measure described below, and it will be developed in partnership with industry leaders, realtors, and efficiency advocates to promote widespread adoption. The end result will be an easily recognizable benchmark that auditors, retrofitters, lenders, realtors, and consumers can use to compare home energy performance and identify the most efficient homes.

The new home performance label should be accompanied by a national marketing campaign to increase consumer awareness and expand the demand for home energy retrofits. This campaign should build on the marketing that Federal Government already does in conjunction with the ENERGY STAR® label on products and the Home Performance with ENERGY STAR® program for whole-home retrofits. The national marketing campaign will help homeowners find reliable sources of information on how to improve their homes and quality, skilled contractors to do the work.

Develop a Standardized Home Energy Performance Measure

We cannot develop an energy performance label for existing homes without first developing a standardized home energy performance measure that is applicable to every home in America. The measure will make it much easier for consumers to understand how much they can save by investing in retrofitting. A uniform and nationally-recognized measure could be incorporated in home appraisals at the point of sale and utilized in energy retrofit transactions, which would spur new interest in the retrofit industry from large-scale suppliers and institutional lenders.

The Department of Energy (DOE) is currently working with the Department of Housing and Urban Development (HUD), the Environmental Protection Agency (EPA) and other Agencies to design a standard energy performance measure and related tools to meet this need. The Federal Housing Administration (FHA) will work to link the new energy performance measure to its redesigned Energy

Efficient Mortgage products. DOE will promote adoption of a national energy performance measure through its advisory role to States and will encourage the use of a common national standard.

Market Barrier 2: The costs of home retrofit projects are beyond the average homeowner's budget

High upfront costs and a lack of credit and financing options dissuade many homeowners from completing or even considering energy efficiency home retrofits. Many homeowners are understandably concerned with how to fund these key improvements. The Recovery Act began to address these issues by extending and expanding a 30% tax credit for investment in residential energy efficiency property, up to a cap of $1,500 per primary residence over 2 years. Other existing financing tools, while successful in some local markets, have not succeeded in making significant inroads in the market at large. Because home buyers lack information about the payoffs associated with increasing a home's energy efficiency and because the industry does not properly incentivize retrofits that pay-off over long periods of time, homeowners often do not recoup the actual value of their energy efficiency investments when they sell. The solution is to make financing more transparent, more accessible, repayable over a longer time period, and overall, more consumer-friendly.

Solution 2: We must make it easy for homeowners to identify and access home energy retrofit financing tools and products

Today, the Recovery Act is already making it easier for homeowners to access home energy retrofit financing. A number of states are currently leveraging the Department of Energy's Recovery Act funds to support long lasting job creation and the deployment of renewable energy and energy efficiency technologies. For example, the State Energy Program (SEP) offers states the opportunity to encourage renewable energy and energy efficiency projects through their state's financing mechanisms, such as revolving loan funds. For example, Kansas plans on spending over $34 million to establish a low-interest revolving loan fund to finance cost-effective energy efficiency improvements in homes and small commercial and industrial buildings. In addition, Nebraska plans on spending $11 million to create a revolving loan fund to provide low-interest financing to deploy energy efficient building technologies to the residential, public, commercial and industrial building sectors. Lastly, Florida plans on spending $10 million to create a low-interest solar loan program that will provide capital to deploy commercially available solar water heaters to Florida residents. These are just a few examples of how Recovery Act funding is currently creating green jobs and reducing greenhouse gas emissions, at the state level.

Support Municipal Energy Financing

The high turnover rate of housing in the United States has proven to be a significant problem when it comes to financing home retrofits. The debt accrued by a retrofit is tied to the individual making the investment, rather than the home itself, even though the savings are passed on to the next owner of the home. This means that retrofits frequently don't pay for themselves before the homeowner who took the initiative moves. As a result, people are less inclined to invest in home retrofitting. In recent years, a number of innovative financing mechanisms have been implemented by municipalities that permit property owners to request financing for energy retrofits or renewable energy systems secured by a special tax assessment on the property. These mechanisms tie the retrofitting loan to the property instead of the individual, permitting the energy retrofit assessment to be paid off in annual installments as part of the property's usual property tax bill.

The Property Assessed Clean Energy (PACE) financing programs enable the costs for energy efficiency retrofits to be added to an owner's property tax bill as part of a municipal property tax assessment, which takes the same priority as traditional property tax liens and assessments.

PACE programs are designed to overcome several barriers that may otherwise impede property owners from making energy investments. These barriers include: (1) limited access to capital; (2) high transaction costs; (3) lack of information on the part of home buyers that leads them to undervalue efficiency investments; and (4) potential downstream home sale, all of which may dissuade property owners from taking on debt that might not be fully recovered by energy savings before the property is sold.

PACE programs address these barriers by providing access to capital that might be otherwise limited to homeowners. PACE provides beneficial financial terms, streamlines the application process with lower application and transaction fees relative to other lending options, and establishes a financing mechanism in which that debt obligation is tied to the property and the owners receiving the energy savings benefits.

Along with the exciting potential of PACE programs for energy retrofits, homeowners and mortgage lenders can encounter certain risks if the programs are not implemented correctly. Building on the expertise of the Federal Government, the Department of Energy, the Department of Housing and Urban Development, and the Department of the Treasury will announce new principles for PACE program design. Moving forward, Federal Agencies will work in partnership with state and local governments to establish standardized underwriting criteria and safeguards to protect consumers and minimize financial risks to homeowners and mortgage lenders.

A Federal role to encourage PACE pilot programs will also facilitate the collection of data, objectively measure and evaluate the performance of PACE programs, and speed the adoption of more detailed, uniform "Best Practices" that include robust and effective homeowner and lender protections. Further research can then assess the efficacy of PACE programs, including the cost-effectiveness of energy retrofits, reductions in greenhouse gases, and economic impacts on community spending and green job creation.

DOE will be funding model PACE projects, which will incorporate the new principles for PACE program design. Under the State Energy Program, DOE has received approximately $80 million of applications for PACE-type programs to provide upfront capital, out of nearly $3.1 billion in total funding available. Smaller PACE-like programs may also be funded through the Energy Efficiency Conservation Block Grant Programs. Funding at these levels will encourage pilots of PACE programs, with more developed homeowner and lender protections than have been provided to date.

Improve Energy Efficient Mortgages

Energy Efficient Mortgages (EEMs) enable home buyers and homeowners refinancing their properties to add energy efficiency upgrades and improvements to their properties as part of the underlying mortgage financing transaction. This permits the energy retrofits to be financed over a longer period of time, with lower monthly payments. Energy improvements are typically identified as part of a Home Energy Rating or energy audit and must be cost effective, generating energy savings that are equal to or greater than the costs of the improvements over the useful life of the improvement.

Historically, there have been significant barriers to widespread utilization of Energy Efficient Mortgages. A four-part solution is proposed to expand and increase the effectiveness of Energy Efficient Mortgages:

1. To lower transaction costs, EPA and DOE will advance a standard home energy performance measure that can be used to easily rate the energy performance of a home;

2. Federal Agencies will work with the home energy rating and home performance industries, as well as states, municipalities and utilities to streamline the energy audit and the home energy ratings process, and expand consumer education and lender awareness of the product;

3. To the extent feasible, HUD will work with Fannie Mae and Freddie Mac to establish uniform procedures for Energy Efficient Mortgage products; and

4. Federal Agencies will work with the home appraisal industry to develop procedures for appraisals to more accurately reflect energy efficiency.

These enhancements are aimed at boosting the volume of Energy Efficient Mortgages. States, cities, or counties can also use their Recovery Act funds to provide credit enhancements and implement other initiatives to boost EEMs.

Expand State Revolving Loan Funds

A Revolving Loan Fund is a funding mechanism that enables loans to be provided to pay for an energy retrofit project's upfront capital costs. Once the energy retrofit is completed, the principal and interest on the loan, along with any financed transaction costs, are paid from the energy savings generated from the project. As energy retrofit loans are paid off, the funds are constantly "revolving" – being used, earned back, and reinvested, thus sustaining the fund over time.

Revolving Loan Funds for energy efficiency retrofits in homes already exist in 16 states. However, they are presently too diverse for private sector suppliers, installers, retail lenders and secondary loan markets to realize economies of scale, which would lower transaction costs. Conforming efficiency loans will be required to bring down capital costs and create sustainable secondary loan funding. Such conforming measures should require: (1) similar loan lengths up to 15 years, so monthly payments are greatly reduced; (2) standard approved products linked to ENERGY STAR®; (3) common procedures with product tiers installed in logical order, linked via Home Performance with ENERGY STAR®; and (4) standardized home energy performance measures and data protocols, so that both loan performance and retrofit performance can be measured accurately over time.

The Federal Government will also work to encourage the development of revolving loan funds in all 50 states. State revolving loan funds produce consistent and affordable loan products, allowing consumers to borrow money for home energy retrofits at lower interest rates. These efforts will create reliable, easy to close, unsecured loan products in every jurisdiction and mobilize private sector funds and achieve economies of scale in installation costs, transaction costs, and persuasive marketing efforts. In order to encourage development of state revolving loan funds in all 50 states, the Department of Energy will also provide technical assistance to states without revolving loan programs in order to encourage their adoption. Finally, existing funding through the Recovery Act can be used to expand current and create new revolving loan fund programs throughout the country.

Market Barrier 3: Increase the number of skilled workers and green entrepreneurs to successfully expand efficiency retrofit programs on a national-scale

To achieve the desired scale of efficient and healthy home retrofits, a sizable increase in the number of well-trained green retrofit workers is needed. Many states and localities are looking for guidance and information on how to both streamline and rapidly expand quality training opportunities for those looking to enter the home energy retrofit industry. Furthermore, there is no clear guideline or standard to assure consumers of the quality of the work being done on their home. A consistent set of standards will increase consumer confidence in energy retrofit workers, promote good green job opportunities and training opportunities for people of all skill levels, and facilitate the mobilization of a national home retrofit workforce.

In addition, a lack of business skills training has been a barrier to the widespread success of efficiency retrofits programs. Business skills training and business development must therefore be a key component of any large-scale efficiency retrofit workforce capacity development initiative to ensure that a commercially viable effort can be maintained by small- and medium-sized businesses in the open market over the long-term. Developing a workforce equipped with both technical and business skills will improve the rate of success for small efficiency retrofit businesses and increase the ability to respond to rising retrofit demand. This will enable sustained economic and green job growth while achieving further energy savings and healthy homes.

Solution 3: Mobilize a skilled national energy retrofit workforce and expand good, green job opportunities for all American workers

Develop Consistent Workforce Certifications and Training Standards

To rapidly expand retrofit capacity, a national effort is needed to conclusively identify required job skills upon which certification standards will be based, and develop standard training goals or methods. The availability of model training programs based around best practices will lower the barriers to entry for programs needed to train workers, allowing an expanded offering of quality training opportunities. The widespread adoption of model training approaches will also facilitate the development of a well-trained workforce across the country, which will improve energy and environmental outcomes, enable worker mobility, and enhance career opportunities. In addition, as outlined in the *Surgeon General's Call to Action To Promote Healthy Homes*,[1] healthy and environmentally friendly housing education should be incorporated in weatherization training programs. Proper certification and training standards will ensure that retrofitted homes are healthy homes.

To facilitate consistent, high-quality training of a green retrofit workforce, the Federal Government will:

1. Advance a nationally recognized worker certification standard for comprehensive training that provides evidence that a worker is well qualified to properly complete efficiency and healthy home retrofits.
2. Promote a nationally recognized training accreditation standard to enable students to identify trainers with a demonstrated capacity to provide quality instruction.
3. Develop and deploy model training programs for workers, including pre-apprenticeship and other programs that serve as onramps for lower skilled workers, provide clear pathways to career track jobs, and assist training providers in ramping up training capacity efficiently and effectively.
4. Leverage existing workplace training, labor management partnerships, and other public-private partnerships and the local presence of Federal Agencies in communities to link workforce training to job opportunities.
5. Provide business development support and business skills training to improve the rate of success for small efficiency retrofit businesses and to engage both small businesses and larger contractors in entering the retrofit market to build an industry at scale. This support should also include a focus on making sure small businesses and minority and/or women owned businesses have a seat at the table.

To ensure that efficiency retrofit training programs translate into thriving efficiency retrofit businesses, the Federal Government will use its resources to make business skills a critical component of efficiency retrofit training. By combining industry-specific business skills training with industry-specific jobs skills training, the Federal Government can help provide a steady stream of skilled retrofit workers, and a steady stream of healthy small and medium-sized retrofit businesses ready to hire these workers.

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[1] For the full report, see: http://www.surgeongeneral.gov/topics/healthyhomes/index.html

Federal Departments and Agencies, including: the Department of Labor, the Department of Energy, the Department of Housing and Urban Development, and the Environmental Protection Agency will work in collaboration to assess existing standards and training programs and develop consistent models, guides, and best practices for training and certification. The Department of Education, the Department of Commerce, and the Small Business Administration will assist in implementing the best practices developed by the other Departments and Agencies.

Implementation

CEQ will convene an interagency Energy Retrofit Working Group chaired by the Department of Energy, Department of Housing and Urban Development, Department of Agriculture, the Department of Labor, and the Environmental Protection Agency, to implement the recommendations and proposed actions of this Recovery Through Retrofit effort and track its progress. The Working Group will operate as the single point of contact for the successful implementation of this effort. Within thirty days, the Working Group will submit an implementation plan to the Vice President. In addition, the Working Group will report to the Vice President regularly on the progress towards implementing each of the recommendations identified in this Report. Additional strategies will also be developed to expand the retrofit market to rental housing.

Further, Federal Agencies will collaborate with local communities to test business models and develop best practices for encouraging energy efficiency programs that address the three key market failures identified in this Report.

Conclusion

Coordinated and principled Federal actions, like those described in this Report, in partnership with states, cities, counties, and the existing home energy industry, may be able to tackle the challenges faced by the current retrofit market. These recommendations can pave the way for a self-sustaining retrofit market, a market that can reliably cut energy bills while also creating good green jobs and saving consumers money. We can build on the foundation of the Recovery Act to jumpstart a thriving, private market for energy efficient and healthy home retrofitting that will put thousands of people back to work while also reducing our impact on the environment.