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ENERGY EFFICIENT BUILDING RETROFITS

HEARING

BEFORE THE

COMMITTEE ON ENERGY AND NATURAL RESOURCES UNITED STATES SENATE

ONE HUNDRED ELEVENTH CONGRESS

SECOND SESSION

TO

REVIEW LEGISLATIVE PROPOSALS DESIGNED TO CREATE JOBS RELATED TO ENERGY EFFICIENCY, INCLUDING A MAJORITY STAFF DRAFT ON ENERGY EFFICIENT BUILDING RETROFITS

MARCH 11, 2010

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ENERGY EFFICIENT BUILDING RETROFITS

THURSDAY, MARCH 11, 2010

U.S. SENATE,
COMMITTEE ON ENERGY AND NATURAL RESOURCES,
Washington, DC.

The committee met, pursuant to notice, at 10:04 a.m. in room SD–366, Dirksen Senate Office Building, Hon. Jeff Bingaman, chairman, presiding.

OPENING STATEMENT OF HON. JEFF BINGAMAN, U.S. SENATOR FROM NEW MEXICO

The CHAIRMAN. I'm told Senator Murkowski will be here very shortly. But we have today three legislative proposals that we're going to have a hearing on. They are designed to improve the energy efficiency in existing buildings, to reduce energy bills for residential and commercial buildings, to create jobs in building construction and building-related manufacturing sectors.

Buildings are a large source of greenhouse gas emissions. They account for as much as 39 percent. That's figures for 2006. Numerous studies have shown that energy efficiency improvements in buildings are among the most cost effective ways to reduce greenhouse gas emissions.

I was very glad to work with Senator Murkowski last year and all members of the committee to report bipartisan energy legislation last summer. ACELA, which is the American Clean Energy Leadership Act, includes provisions to incentivize energy efficiency retrofits and the residential and commercial building sectors, as well as a rebate program for replacing extremely inefficient manufactured housing with Energy Star manufactured housing.

Today, several months after that legislation was reported from the committee, the continued levels of unemployment in the building sector have made energy retrofit programs attractive for their job creation potential, as well as for their energy savings benefits. Over the past several weeks, I've been working along with a group of Senators on developing the Home Star program, with the administration of course very strongly in favor and the President advocating for this as well. A large coalition of leaders from the construction industry, energy efficiency, and clean energy advocate groups, as well as labor groups, have pursued this to expand the residential retrofit programs in the bill that we previously reported.

Senator Warner, who's here, Senator Merkley, Senator Sanders, they've all made very important contributions to this effort and the effort has been to create a program that could be established to

quickly have the detailed legislative language that would be needed for the program to get up and running. We hope we can finalize that legislation and have it introduced soon.

I'm also very glad that the hearing today will include consideration of the Building Star coalition. This is legislation Senator Merkley introduced focused on commercial building retrofits. We'll receive testimony on Senator Tester's proposal for manufactured housing rebates to allow low-income residents to afford Energy Star-related manufactured homes as well.

We've invited State and utility experts in efficiency programs and the National Association of Home Builders to give their views today, and of course the Secretary, Assistant Secretary for Energy is here, Catherine Zoi, and she will give the administration's perspective.

[The prepared statement of Senator Corker follows:]

PREPARED STATEMENT OF HON. BOB CORKER, U.S. SENATOR FROM TENNESSEE

Today's hearing on the proposed Home Star program brings to the forefront of our discussions the complexity of setting energy efficiency standards for windows, doors, and skylights. Since last year, I have supported a change in the criteria for the 25C tax credit to make it match the Energy Star 2010 criteria for windows, doors and skylights. And today, I am advocating for these Energy Star standards to be the criteria for the Home Star rebate program for these same products.

As it stands today, there are some parts of the country where an Energy Star window would not be eligible for the 25C tax credit. This creates customer confusion, but more importantly does not achieve the goal of maximum energy efficiency. It is my understanding that the criteria under the 25C tax credit do not take regional climate differences into account. Therefore, windows that are more energy efficient in northern climates are not eligible for the tax credit, which means they would not be eligible under the Home Star legislation. The updated Energy Star criteria do, however, take these regional differences into account.

If the goal of the Home Star legislation is to incentivize energy efficient products, it seems appropriate that we should coordinate the Energy Star criteria with the 25C tax credit and Home Star program. This will best serve customers by ensuring that windows that provide the greatest possible energy savings for a given climate are available for purchase and eligible for incentives.

Senators Rockefeller and Grassley have introduced legislation that would accomplish this goal. I hope this commonsense approach will be passed into law, and I urge my colleagues to support it.

Senator Murkowski, did you have comments before we turn to hear from our colleagues?

Senator MURKOWSKI. I do, Mr. Chairman. Thank you very much, I appreciate the hearing. We've got several interesting proposals that you have outlined for discussion this morning. I clearly recognize that the efficiency retrofits have been given an elevated profile due to some of the President's recent remarks. I'm eager to review the ideas that we have in front of us.

It was about a year ago that we sat in this room and we talked about several proposals intended to improve building efficiency. The bill that we passed out of committee, the American Clean Energy Leadership Act, provides a myriad of incentives to encourage building owners to retrofit their buildings to make them more energy efficient, certainly, among other things.

I continue to believe that the policies we put forward then make good sense. I'm also pleased that today we're moving the conversation forward, talking about the role of building efficiency through retrofit programs.

Since the building efficiency hearing that we had last year, we have learned even more about the ever-important role that energy efficiency can play in reducing energy consumption, helping homeowners reduce their energy bills.

We've also seen that sometimes, despite our best efforts, Federal initiatives don't always play out perhaps the way that we had intended.

Just last week, we held a general oversight hearing on the stimulus funds that were awarded to the Department of Energy. DOE had received unprecedented levels of funding for measures to retrofit buildings and at the time indicated that the money would be spent and that hundreds of thousands of homes would be retrofitted in a timely and a targeted fashion. However, to date few homes have been weatherized with the stimulus money. Much of the money remains to be spent, even within the framework of the weatherization assistance program, which is more than 30 years old.

So we've got to ask the question now, are we moving in that same direction? Are we falling into that same trap? To proceed with both a commercial and a residential retrofit plan estimated to cost more than $12 billion without accounting for lessons learned I think is a hazardous path.

Now, it's my understanding when we talk about the Home Star this is intended to be a part of the package to create jobs, which is good. It's clearly also an efficiency measure, which is extremely important. I have some concerns that I will raise in my questions about the do-it-yourself provision or perhaps the lack of it in the draft.

When I left home this morning, Mr. Chairman, my husband was just finishing the sheet rock in the little office that we've been building out, and did the insulation yesterday. He's restoring a historic home and doing a great job of it, does it day in and day out. So the question that I have to ask is does this meet the Vern standard? When we talk about the necessity to create jobs, that's very important. But I think we also want to do what we can to encourage individuals to on their own build these efficiencies into their home like we're doing in our house. So I'm going to be looking for that this morning.

I look forward to hearing comments from my colleagues and to the testimony from the others. Thank you.

The CHAIRMAN. Thank you very much.

We'll start today hearing from Senator Warner, who's been a real champion for this Home Star proposal from the inception of the idea, and then from Senator Merkley, who has been championing that, but also the Building Star proposal. We're anxious to hear both of them. So Senator Warner, go right ahead.

STATEMENT OF HON. MARK WARNER, U.S. SENATOR FROM VIRGINIA

Senator WARNER. Thank you, Mr. Chairman and Ranking Member Murkowski, Senator Burr. I appreciate the opportunity to appear before the committee and I want to echo what the chairman's already said and thank my colleague and friend Jeff Merkley for his work on this issue of Home Star as well. I'm not going to get

into all of the specifics of the proposal. I know your later panel will. But a couple of just kind of data points.

One, this is a proposal we've been working with your staff on and the administration on and colleagues for a number of months. I want to particularly thank the chairman and specifically members of his staff, like Deborah Estes and Bob Simon, for their hard work on this. I want to thank the Home Star Coalition, which has assembled a bipartisan group of business, labor, and environmental groups, retailers and manufacturers. I think they've done a tremendous job in kind of working through a proposal that I think really will have 2 effects. One is to create jobs very quickly, but also help us move toward that national goal of more energy efficiency.

I've got some comments I want to make, but I think it's really important that right at the outset that I—at least my 2 cents in terms of Senator Murkowski's I think very appropriate question she asked. I, like probably most members and clearly as Senator Murkowski just mentioned, I'm just really concerned about the slow ramp-up on the weatherization program and how much DOE missed its numbers.

Even at the most sympathetic view of their numbers, they're still 20, 30,000 homes short in terms of 2009.

I do think—and I think the later panel will go into this, although I'd be happy to answer to the level of my knowledge questions. What were the lessons learned in terms of the long rulemaking process that took place to kind of expand the weatherization program, the fact that it was mostly run through government entities, whereas the Home Star initiative is going to be much more focused on using the private sector.

I think there are a lot of lessons learned from weatherization that are not going to take place in the Home Star initiative. I commend the folks at DOE, the White House, and again all of the individuals from the Home Star Coalition who have been working on this to kind of get it right this time, because if we do move forward on this area and we then take 6, 9, 12 months to implement it, it makes no sense at all, number 1.

No. 2, I didn't start here, but I have been convinced through this process that the do-it-yourself folks ought to be included in this proposal, and that it makes more sense. We've got to have an audit trail on that and an accountability function so that we're not using these potential valuable certificates in ways that work is not being done.

But I think we have worked and are still working and would welcome all of my colleagues' input on how we get it right so that do-it-yourselfers can be included in this initiative.

Just a couple other quick points. One, we've made enormous progress on gaining business support. I want to thank the Edison Electric Institute, which represents 75 percent of the ratepayers in this country. All 84 of their CEOs have signed on to the Home Star legislation and are advocates for this initiative.

I've got some other good news that I shared a little bit with the chairman yesterday, but actually now can confirm. I had a good conversation with, Senator Stabinow, your former Governor, John Engler, last night and the National Association of Manufacturers have now endorsed the Home Star initiative as well. We look for-

ward to working with them and I think we're going to have a number of other business groups working on this.

This is a bipartisan effort as well. Senator Graham has been working with us in our office as we try to kind of get some of these very valid concerns right, how do we get this implemented quickly, how do we make sure there's an audit trail, how do we make sure the do-it-yourselfers are included. I look forward to continuing work with him. I know I've had conversations with Senator Burr and other colleagues on the Republican side of the aisle to really make this a business, job-creating, hopefully no-brainer proposal. At some point we've got to make sure it's paid for, but I think we're making great, great progress.

Again, the statistics we all know. I think this is a wonderful area, not just in terms of short-term job creation, but long-term job creation as well. I was blessed to be involved in the wireless industry in the 1980s and the telecommunications revolution in the 1980s and then the Internet in the 1990s. So I'm a telcom and IT guy. But when I get a chance to talk to business folks these days, if I'm talking to a business school I would say the place to be in terms of job creation, of wealth creation over the next 25 years, I think is going to be the energy sector more than any other sector globally.

Right now we're not in the leadership role. China's eating our lunch. They may not be signing onto, although I guess they did sign on the other day to a variation on Copenhagen—they may not be signing onto all of the international accords, but they have made the policy choices, not only around retrofit, but around nuclear, around solar, wind, carbon sequestration, and they have made the business choice that this is where they are investing their policy choices and resources, and I think at our own peril if we don't act quickly.

As a matter of fact, they're investing ten times more as a percentage of GDP on energy and energy R and D and next generation energy solutions than this country. That should be a stunning statistic to us.

Home Star—and again, the next panel will go through the specific details on how the certificates will take place and the audit trails. But it will create jobs almost immediately. We estimate about 150,000 new jobs. I think we can retrofit about 3 million new homes. The construction industry, as we all know in our States, is probably the industry that has been most hard hit during this recession, 25 percent unemployment in the construction work force.

Unlike the weatherization program, this does not push these resources and these channels through government programs. It uses the private sector, some of our large-box retailers and others, working with the folks in the contracting side to get this out in an efficient way.

I think beyond the job creation fact, consumers will see long-term benefits as well. It's been estimated that over the next decade if we put this program in place it will actually save consumers about $9.5 billion off of their utility bills. My hope is that this will be kind of a jump-start. It will be targeted and timely. I don't envision this being a long-term program, but if we can use this initiative to jump-start this retrofit industry at the home level and, as Senator

Merkley will outline, at the construction level, and then wean ourselves off the program, but as people see these benefits, this could have enormous long-term impact.

While there is some risk involved, I think, as a former venture capitalist, this is a risk and the up side is so great that I believe it requires serious consideration. I hope we'll get the bipartisan support it needs. It will clearly create jobs in the hard-hit industry of construction. It will do a great job, I think, in terms of moving us toward more energy efficiency, and this is the area where we ought to be able to find that common ground and get it done and get it done quickly.

So, Mr. Chairman, again I thank you and the members of your committee for your leadership on this issue, and look forward to working with you and making sure we get all the kinks worked out and seeing if we can move aggressively and quickly on this item.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much.

Senator Merkley, go right ahead.

STATEMENT OF HON. JEFF MERKLEY, U.S. SENATOR FROM OREGON

Senator MERKLEY. Thank you very much, Mr. Chair and members of the committee, for the chance to testify on Building Star, and I want to thank the Rebuilding America Coalition, now more than 60 manufacturers strong. I'll submit the list for the record if that would be suitable. But manufacturers, contractor groups, financial service companies, efficiency advocates, and so on and so forth.

So many people are touched by seeking energy efficiency in our buildings. As the chair noted, buildings are approximately 40 percent of our energy use. Half of that is in the residential side and half is on the building side. So these twin programs here are going forward to tackle and capitalize on the opportunities in both locations.

The types of work that would be done are envelope insulation, mechanical insulation, windows, window films, doors, HVAC equipment, chillers, water heaters, boilers, variable speed drives for motors, which can very much enhance energy efficiency, energy audits, commissioning energy management and monitoring in larger buildings.

So much can be done to be smart with energy, and being smart on energy is smart for our economy. The type of impact we're talking about is, in parallel, 150,000 jobs on the residential side, 150,000 jobs on the commercial side. We would leveraging on the commercial buildings an $18 billion private sector investment.

The energy saved would equal 33, 300-megawatt power plants. I think that's a phenomenal number, 33, 300-megawatt power plants. The emissions saved would be equal to the emissions of 4 million cars. That's on the commercial side, very parallel to the residential side.

Some of the things I want to highlight: What is the impact on small business? More than 90 percent of the construction firms employ fewer than 20 people and more than 60 percent of the manufacturers that create the materials and equipment for retrofits em-

ploy fewer than 20 people. So these are key small businesses scattered throughout our communities across this Nation. Because commercial buildings are found everywhere, even in smaller towns, we are talking about something that impacts both urban and rural economies, which is I think something very valuable in this effort to take on the challenge to our current economy.

I also want to note that the savings to small businesses really mount up. One modeling exercise estimates that if a restaurant cuts its energy costs by 20 percent its profits rise by 30 percent, because energy is a very significant factor in the pro forma for our small businesses.

The structure is both rebates, up-front discounts, totaling up to 30 percent of the cost, and then low-cost financing. These 2 things work in parallel. The low-cost financing will stretch our tax dollars further, get more bang for the buck in terms of job creations and actual projects and energy savings.

Then I'd like to touch on a piece of this, including the fact that the vision is to take advantage of structures that are already in place, community bank lending, State programs, city programs, county programs, take advantage of on-bill financing. One of those is the PACE program, which is the Property-Assessed Clean Energy program, so that people, or in this case businesses, can actually have the loan paid through their property bills, making it convenient. That convenience has come back to us as a key factor in helping people overcome that up-front hurdle.

Two factors—one, the up-front costs and the rebates and the low-cost lending—address that up-front cost, and then the convenience factor. So I think both are important and very parallel to the residential side.

So I just want to conclude by saying, one, thank you, Senator Stabenow, for being a co-sponsor to the bill, and I encourage other folks to get involved. I think this is very much the type of smart effort that should be, could be a bipartisan, bicameral effort to put people back to work, to save energy, and to be good stewards of our environment.

Thank you, Mr. Chair.

The CHAIRMAN. Thank both of you for your testimony. It's very helpful. Thanks for your advocacy of these 2 pieces of legislation. So we'll allow you to go on to your other obligations and start in with—I think our first witness will be the CRS representative, Paul Parfomak, who is a specialist in energy and infrastructure, and he's going to give us a short seminar on how this Home Star program in particular would work. Then we will go on to Catherine Zoi, who is the Assistant Secretary for Energy Efficiency and Renewable Energy, and then to our second panel.

Dr. Parfomak, why don't you go right ahead. Is that the right pronunciation?

STATEMENT OF PAUL W. PARFOMAK, PH.D., SPECIALIST IN ENERGY AND INFRASTRUCTURE POLICY, CONGRESSIONAL RESEARCH SERVICE

Mr. PARFOMAK. It's "PARR-fo-MACK."

The CHAIRMAN. "PARR-fo-MACK."

Mr. PARFOMAK. We're the only ones in the world, so you wouldn't have heard it before.

The CHAIRMAN. Yes, it's not a name I hear a lot in New Mexico. But go right ahead.

Mr. PARFOMAK. Good morning, Chairman Bingaman, Ranking Member Murkowski, and members of the committee. My name is Paul Parfomak, Specialist in Energy and Infrastructure Policy at the Congressional Research Service. CRS appreciates the opportunity to testify here today about the proposed Home Star retrofit rebate program.

The Home Star program may present a significant opportunity for both energy efficiency and employment. The program targets one of the largest sources of cost-effective energy savings in the United States. It also builds on prior experience with residential energy programs, offering operating models that may be replicated nationwide. However, the program also contains untested elements and has very aggressive goals.

As Congress reviews Home Star, it may be useful to further consider 4 key aspects of the program: the 2-tiered rebate structure, rebate aggregation, technical standards, and expectations for program participation.

Home Star would employ 2 tiers of efficiency rebates. Its Silver Star program would offer up to $3,000 per home in prescriptive rebates. The Gold Star program would offer higher rebates for more comprehensive energy retrofits, but would require simulation modeling and documentation of actual energy savings before rebates would be paid.

Because Silver Star is simply, involves no simulation, no savings documentation nor performance risk, it may be more attractive to contractors than Gold Star. If homes participate only in Silver Star, some of their inefficiency might become locked in because more complex measures would become less cost effective once the low-hanging fruit of Silver Star measures were taken. Such cream-skimming behavior could affect the distribution of expenditures within Home Star and limit its impact on the energy efficiency of the Nation's housing stock.

Home Star's rebate aggregation function aims to ensure timely processing and payment of rebates. For similar national-scale programs, such functions typically are performed by professional fulfillment companies, which focus exclusively on rebate transactions, offering quick execution and economies of scale. The Home Star proposal differs from this approach by extending rebate aggregation to a range of providers and assigning to them responsibility for quality assurance.

Given multiple providers with inherently different starting capabilities, the Home Star program may face challenges ensuring speedy development and consistent delivery of these services. Any limitation or inconsistency in Home Star's rebate fulfillment could reduce the program's effectiveness.

Congress also may wish to examine how Home Star's technical standards may influence how quickly the program may be implemented. For example, Home Star's inclusion of multiple widely used home simulation software packages may facilitate contractor participation since many contractors may already be skilled in the

use of one or more of these software programs, but it may also complicate efforts at quality control because differences in the format, content, or transferability of information across these software programs may become a problem.

By comparison, Home Star's training requirements appear somewhat less inclusive since they do not explicitly authorize certain established weatherization training standards. If Home Star contractors believe they face redundant, time-consuming, or costly training requirements, they may forego training certification altogether, undermining the purpose of having training standards in the first place.

Home Star also may face challenges achieving the high levels of homeowner participation implied by its funding. Assuming full expenditure of its appropriations in the first 2 years, based on our estimates total participation would be nearly 2 million homes. By comparison, the Department of Energy's weatherization assistance program reached 2 million homes after 15 years. Over its first 9 years, New York's home performance with Energy Star program, which is similar to Gold Star, reached approximately three-quarters of a percent of targeted homes. Achieving this enrollment rate across the entire United States would yield approximately 728,000 participants.

These comparisons suggest that the level of homeowner participation implied by Home Star's rebate funding levels would far exceed that achieved by comparable programs in their initial years.

In conclusion, the Home Star proposal may offer a significant opportunity to improve residential energy efficiency and increase related employment, but it may be difficult to implement quickly on a national scale. Achieving the program's high expectations for homeowner participation would be unprecedented. Its 2-tiered structure, rebate aggregation function, and technical standards may present unanticipated obstacles to speedy and consistent implementation.

As Congress further examines the Home Star proposal, focusing on tradeoffs between rapid deployment, operational complexity, and energy savings may be important. Balancing the two goals of short-term job creation and long-term energy efficiency could be an ongoing challenge.

Thank you for the opportunity to appear before the committee. I'll be happy to address any questions.

[The prepared statement of Mr. Parfomak follows:]

PREPARED STATEMENT OF PAUL W. PARFOMAK, PH.D., SPECIALIST IN ENERGY AND INFRASTRUCTURE POLICY, CONGRESSIONAL RESEARCH SERVICE

Good morning Chairman Bingaman, Ranking Member Murkowski, and Members of the Committee. My name is Paul Parfomak, Specialist in Energy and Infrastructure Policy at the Congressional Research Service (CRS). CRS appreciates the opportunity to testify here today about the proposed Home Star Retrofit Rebate program detailed in the Majority Staff Draft provided to the service on March 2, 2010. This testimony discusses CRS's initial perspectives on the Home Star proposal, focusing primarily on operational and energy-efficiency aspects of the program. In accordance with its enabling statutes, CRS takes no position on this or any other legislation.

INTRODUCTION

The Home Star program is intended to achieve significant energy-efficiency improvements in American homes while generating new employment opportunities in the home remodeling, energy services, and related manufacturing industries. The program targets the residential sector, which numerous studies have shown to be among the largest sources of cost-effective energy-efficiency opportunity in the United States.[1] The program seeks to build on prior experience with both federal and state energy-efficiency programs to provide operating templates that may be replicated nationwide.

While the proposed Home Star program may present a significant opportunity for both energy-efficiency and employment—it also contains untested operational elements and has set aggressive goals for homeowner participation. CRS has identified four key considerations which may warrant further attention as Congress reviews the Home Star program. They are the two-tiered rebate structure, rebate aggregation, technical standards, and overall expectations for program participation.

TWO-TIERED REBATE STRUCTURE

Home Star's choice of direct consumer rebates over tax credits and other forms of incentive seeks to promote home efficiency retrofits as quickly as possible. The program would employ a two-tiered structure for energy-efficiency rebates. Its Silver Star program tier would provide up to $3,000 per home in prescriptive rebates for straightforward home upgrades, including insulation, efficient HVAC units, new windows and other measures. The Gold Star program tier would offer $3,000 rebates for more comprehensive energy retrofits achieving at least 20% energy savings, with rebates increasing up to $8,000 per home for retrofits achieving 45% energy savings. The Silver Star rebates would be paid automatically upon job completion and submission of a rebate request. In contrast, Gold Star rebates would require "testing out" to document actual energy savings before rebates would be paid.

While Home Star's two-tiered structure offers a mechanism to capture the highest levels of energy savings from very inefficient homes, Congress may examine whether this structure may unintentionally discourage energy-efficiency investments due to "cream skimming." Cream skimming of energy-efficiency opportunities, "in which relatively certain (but relatively shallow) energy savings opportunities are selected in favor of more promising but more complex and uncertain measures" has long been documented as a challenge to efficiency retrofits in buildings.[2] Because the Silver Star rebates are simple, require no simulation or testing capabilities, require no post-installation performance documentation, and involve no risk of underperformance, they may be substantially more attractive to general contractors than Gold Star rebates. Many contractors with no additional training could begin work under the Silver Star program immediately. Financially constrained homeowners might also prefer the Silver Star program because it would require less investment and less risk on their part. Consequently, Home Star may experience lower-than-anticipated participation in the Gold Star program.

To the extent that homes are highly inefficient, but participate only in Silver Star rebates, some of their energy inefficiency might become locked in because the measures would become less cost-effective to address later, after the lower-hanging fruit of Silver Star measures have been implemented. Such behavior, if it materializes under the Home Star program, might not impact the overall number of jobs associated with the program as a whole, but it could have important implications for the distribution of expenditures within the program, the immediate capture of energy savings, and its ultimate impact on the long-term energy-efficiency of the nation's housing stock.

REBATE AGGREGATION PROVIDERS

Rebate aggregation is a critical function of the Home Star program which aims to ensure the timely approval, processing, and payment of rebates to participating contractors. For similar national-scale rebate programs, such functions typically would be performed by professional rebate fulfillment companies using specialized Internet interfaces, administrative protocols, and data management systems to meet a range of operating requirements for various rebate program partners. Such fulfill-

[1] See, for example: McKinsey & Company, Unlocking Energy Efficiency in the U.S. Economy, July 2009, p. 10; National Academy of Sciences, Real Prospects for Energy Efficiency in the United States, National Academies Press, 2010, pp. 31-84.

[2] Evan Mills, Steve Kromer,Gary Weiss, and Paul A. Mathew, "From Volatility To Value: Analysing And Managing Financial And Performance Risk In Energy Savings Projects," Energy Policy, Vol. 34, No. 2, January 2006, p.191.

ment companies focus exclusively on rebate transactions and offer the advantages of quick execution, economies of scale, and the ability to adapt existing capabilities to accommodate new rebate programs. The Home Star program proposal differs from this approach by extending rebate aggregator eligibility to a much wider range of potential providers, including existing energy efficiency programs, utilities, and quality assurance provider networks. Furthermore, in addition to a purely transactional function, it appears that the program's rebate aggregators will be responsible for management and reporting of quality assurance inspections.

Given the range of providers with inherently different starting capabilities potentially eligible to serve as rebate aggregators, the Home Star program may face challenges ensuring speedy development and consistent delivery of these services for all contractors who seek them. Congress may wish to ensure that the program's quality assurance obligations do not deter professional rebate fulfillment companies from applying to serve Home Star. Such obligations may lie outside the scope of services they provide and may raise concerns about quality-related liability. Home Star's rebate aggregation provisions may therefore have the unintended consequence of discouraging direct participation by professional providers. Such companies potentially could partner with quality assurance providers to provide aggregation services, but establishing such relationships might be time consuming and could result in complicated rebate and quality assurance processes. Any limitation or inconsistency in the administration of the program's rebate fulfillment functions could create transactional bottlenecks or confusion among contractors and thereby reduce Home Star's overall market effectiveness.

TECHNICAL STANDARDS

Congress may wish to examine how the Home Star program's technical standards requirements may influence the speed and breadth with which the program might be implemented. For programs like Home Star, technical standards can help to ensure home services are provided at an appropriate level of quality and consistency across numerous contracting companies. The selection of particular standards for inclusion in the program also may determine which contractors initially will be eligible to participate in the program and what home energy information they will be able to provide for the purposes of program management and evaluation. Consequently, the choice of standards influences both the complexity of program deployment and its administrative needs.

Home Star's requirements for whole home simulation software to be used by contractors include (explicitly or by reference) software packages authorized by the Department of Energy's Weatherization Assistance Program, the Internal Revenue Service, and equivalent programs certified by states. These programs include various versions of EnergyPro, MICROPAS, EnergyGauge, REM/Rate, and other software packages. By adopting these widely used home simulation software packages, Home Star intends to facilitate contractor participation, since many are already skilled in the use of one or more of these software programs. From an administrative perspective, however, approving multiple software programs and versions on a national scale may also complicate efforts at quality control because of differences in the format, content, or transferability of home simulation information. Such differences also may make comparisons of buildings and contractors participating in Home Star more difficult.

Contractors who satisfy Home Star's training certification standards would face less frequent quality inspection than uncertified contractors. For certification, the program specifically authorizes existing skills standards established by the Building Performance Institute (BPI), North American Technician Excellence, and the Laborers' International Union of North America (LIUNA). Unlike the home simulation software requirements, however, there are other training standards in widespread use that are not initially approved for Home Star certification. One notable exclusion, for example, is training by the Home Builders Institute (HBI), the workforce development affiliate of the National Association of Home Builders (NAHB), which is one of eight National Training Contractors for the Department of Labor's Job Corps program. The Institute bases its home energy training curriculum on the National Green Building Standard, jointly developed by the NAHB and the International Code Council.

It is beyond the capacity of CRS to evaluate or recommend any particular technical standard. Nonetheless, it is worth noting that the National Green Building Standard has been accredited by the American National Standards Institute (ANSI),

while the BPI standard is still in the process of ANSI accreditation.[3] It may be that the HBI curriculum could eventually be authorized for Home Star under provisions proposed for "other standards" if approved by the Secretary of Energy, in consultation with the Secretary of Labor and the Environmental Protection Agency (EPA) Administrator. However, the Home Star proposal offers no process or specific criteria for such approval. As a result, contractors with HBI training and seeking Home Star certification may need to undertake additional, potentially redundant, training or wait for the program to accept HBI standards. Retraining or certification delays may put them at a competitive disadvantage.

Taken together, Home Star standards provisions for home simulation software and contractor certification illustrate the attempt to balance quick program execution against operational simplicity. If the proposal includes fewer standards, that might simplify program administration, but may put those contractors certified under an excluded program at a disadvantage; either additional training or more frequent inspections would be required. LIUNA's training curriculum for energy auditors, for example, requires seven weeks, and to date has been offered only in a few of the union's regional training centers.[4] As the EPA's recent experience with residential contractor certification under its 2008 lead rule demonstrates, such certification can be an unexpected bottleneck for program implementation. If contractors wishing to participate in Home Star believe they face time-consuming or costly training requirements, they may forgo certification altogether, accepting higher job inspection rates as an acceptable alternative. Such an outcome might undermine the intended purpose of the employee training standards—a more capable workforce, better contract work, and lower costs for quality control.

HIGH EXPECTATIONS FOR PROGRAM PARTICIPATION

In its first two years as a new federal energy-efficiency initiative, Home Star may face challenges achieving the high levels of homeowner participation implied by its level of appropriations. The Home Star proposal authorizes appropriations through FY2011 of $3.4 billion for Silver Star rebates and $1.7 billion for Gold Star rebates. Assuming average Silver Star rebates of $2,000, this appropriation would fund 1.7 million Silver Star homes. Assuming average Gold Star rebates of $6,000, the appropriation would fund an additional 280,000 Gold Star homes. Assuming full expenditure of the appropriated funds through 2010, and combining both Silver Star and Gold Star, total participation would be nearly 2 million homes in the first two years of the program or 1.6% of all U.S. residential housing units in 2008.

Experience with programs similar to Home Star offers some perspective on the aggressiveness of these participation goals. For example, under the U.S. Department of Energy's Weatherization Assistance Program (WAP), home weatherization projects directly funded by the program reached approximately 2 million in 1992, 15 years after the program was initiated (Figure 1)*.[5] The WAP program's peak year of annual participation was 1981, during which the program weatherized 353,000 homes. The American Recovery and Reinvestment Act of 2009 sharply increased funding for the WAP program and raised associated weatherization goals to 586,015 homes over the 3-year life of the act, but the program is not meeting these goals. Although weatherization rates under ARRA funding have accelerated in recent months, the Department of Energy's Inspector General reported last month that only 30,297 of the planned 586,015 weatherization projects were completed by February 16, 2010.[6]

New York's Home Performance with ENERGY STAR Program, which is similar in most respects to the Gold Star component of the Home Star program, served just under 30,000 homes over its first nine years of operation (Figure 2). This total represents 0.75% of the 4.0 million homes in New York potentially eligible for the pro-

[3] The American National Standards Institute (ANSI) is a private, non-profit organization overseeing development of voluntary consensus standards for products, services, processes, systems, and personnel in the United States. ANSI also coordinates U.S. standards with international standards.

[4] Laborers' International Union of North America (LIUNA), "Weatherization Training Program," Brochure, 2010, www.liunabuildsamerica.org/files/WeatherizationTrainingProgramBrochure.pdf; and LIUNA, "Information for Prospective Trainees," Internet page, 2010, www.liunabuildsamerica.org/weatherize/trainees.

*Figures 1 and 2 have been retained in committee files.

[5] The DOE estimates that approximately 2.8 million additional homes were weatherized through 2008 by state programs leveraging core weatherization funding from DOE.

[6] U.S. Department of Energy, Office of Inspector General, Progress in Implementing the Department of Energy's Weatherization Assistance Program Under the American Recovery and Reinvestment Act, OAS-RA-10-04, February 2010, Appendix II.

gram.[7] Achieving this enrollment rate among the 97.1 million similar homes across the entire United States would yield approximately 728,000 program participants.

Comparing participation rates expected for Home Star with those experienced by the WAP program or the Home Performance program in New York is only suggestive. There are significant differences in the structure of these programs as well as in their funding, target markets, and the time periods of their operation. In particular, it is possible that general economic conditions in the United States over the next few years may lead to comparatively higher or lower participation in Home Star than those realized by the WAP or New York programs. Nonetheless, these comparisons suggest that the level of homeowner participation implied by the rebate funding provisions in the Home Star proposal would far exceed that achieved by comparable programs in their initial years. Implementation experience and supporting infrastructure developed through the WAP program, Home Performance with ENERGY STAR, and similar state programs may help Home Star achieve higher market penetration more quickly than the earlier programs, but to what extent remains to be seen. Consequently, Congress may consider alternative options for Home Star program administration and funding if initial participation rates differ significantly from its initial goals.

CONCLUSION

The proposed Home Star program may present a significant opportunity to improve residential energy-efficiency and increase related employment, but it contains a number of operational elements that have yet to be tested—and may be difficult to implement—on a national scale. Achieving the program's high expectation for homeowner participation also would be unprecedented. Taken together, Home Star's requirements for key operational elements such as its technical standards, two-tiered rebate structure, and rebate aggregation function may present unanticipated obstacles to speedy and consistent program implementation across the country. As Congress examines details of the Home Star proposal, focusing on tradeoffs between rapid implementation, operational complexity, and energy-efficiency impacts may be important. Balancing the twin goals of short term job creation and long-term investment in cost-effective energy savings could also be an ongoing challenge.

Thank you for the opportunity to appear before the committee. I will be happy to address any questions you may have.

The CHAIRMAN. Thank you very much for your testimony. I think it's very useful. I assume you can make yourself available to all committee members for expert advice on each of the points you've made, which would be very useful to us.

But why don't—since we've got seven other witnesses, why don't we go ahead and ask the Assistant Secretary for the Department of Energy to come forward and give her testimony. Catherine Zoi is the Assistant Secretary for Energy Efficiency and Renewable Energy in the Department of Energy and we would like to hear her perspective on these proposals. Then we have a second panel with six additional witnesses after that.

Go right ahead. Thank you for being here.

STATEMENT OF CATHERINE ZOI, ASSISTANT SECRETARY, ENERGY EFFICIENCY AND RENEWABLE ENERGY, DEPARTMENT OF ENERGY

Ms. ZOI. Thank you for the invitation. Good morning, Chairman Bingaman, Ranking Member Murkowski, and distinguished members of the committee. Thanks for the opportunity to appear before

[7] U.S. Census Bureau, The 2010 Statistical Abstract, "Table 954—Housing Units by Units in Structure and State: 2007," 2010, http://www.census.gov/compendia/statab/2010/tables/10s0954.pdf. Potentially eligible homes are assumed to include 1-unit detached homes up to 4-unit attached homes. There are 5.2 million homes in these categories statewide in New York, but approximately 1.2 million homes are either ineligible for this program because they are in the service territory of the Long Island Power Authority, or are not targeted by the program for other reasons.

you today. I will make my remarks brief this morning, and I have submitted a longer statement for the record, as you know.

We have a tremendous opportunity right now to create jobs and save money for homeowners all across the country. There are approximately 130 million homes in the United States, very few of which are as efficient as they could be, although it sounds like Senator Murkowski's home might be becoming efficient right now. Almost all of these homes could benefit from additional insulation, caulking, upgraded HVAC systems, and other improvements. Just as critically, there's a work force standing by ready to make those improvements.

The overall construction sector currently faces a 27 percent unemployment rate. According to the Bureau of Labor Statistics, nearly 2 million construction jobs have been lost since December 2007. That's 2 million hardworking Americans who are ready and anxious to find ways to apply their skills to new jobs. With the home retrofit program, we can transform these 2 challenges into an enormous opportunity, tapping worker skills and availability to help American families save money and energy.

Americans are spending over $200 billion per year on energy, money that could pay for housing, tuition, or other basic necessities. As the President has said, if you saw $20 bills flying out your window you would try to grab them. So let's try to make it easier for American families to prevent their hard-earned cash from flying out of leaky, inefficient homes while we create good-paying jobs for folks across the country.

We can do just that through a home retrofit program like the one the President called for in his State of the Union. Last week the President outlined more details of what he has in mind for the Home Star program, including rebates delivered directly to consumers, $1,000 to $1,500 Silver Star rebates, $3,000 Gold Star rebates, oversight to ensure quality installations, and support for financing.

Through this program, we can create tens of thousands of jobs while achieving substantial reductions in energy use. Consumers taking advantage of the program are likely to save between $200 and $500 per year in energy costs, while improving the comfort and the value of their homes.

I want to thank the members of this committee and other Senators who have been working tirelessly on efforts to create legislative language that follows the President's vision. As the legislative process moves forward, we will continue to work with the committee on this bill until it is enacted. Today I'm glad the committee has convened a hearing and I'm happy to answer any questions regarding the Home Star proposal or how the Department would administer such a program were it to be signed into law.

Additionally, I understand that we will also be discussing Senator Merkley's Building Star bill and Senator Tester's bill for homes built before 1976. While I plan to focus predominantly on the Home Star proposal, I'm happy to provide feedback on those other bills for the record.

My goal as Assistant Secretary for Energy Efficiency and Renewable Energy is to harness the ingenuity and ability of the American work force to help families save energy and money. Retrofitting

millions of American homes can truly transform energy consumption throughout the Nation while putting people to work. Last year Secretary Chu said that: "In the next several decades, I believe that energy efficiency is our most powerful tool for reducing our carbon emissions and reducing our energy bills." Home energy retrofits could be critical to realizing both of those goals while supporting American job creation.

Thanks again for the opportunity to testify and I will gladly answer your questions.

[The prepared statement of Ms. Zoi follows:]

PREPARED STATEMENT OF CATHERINE ZOI, ASSISTANT SECRETARY, ENERGY EFFICIENCY AND RENEWABLE ENERGY, DEPARTMENT OF ENERGY

Good morning Chairman Bingaman, Ranking Member Murkowski, and distinguished members of the Committee. Thank you for the opportunity to appear before you today. I consider it an honor to lead the Administration's efforts to advance and deploy energy efficiency and renewable energy solutions at this historic time. As this Committee knows, we are in a moment of time that poses great challenges and opportunities in the energy field. I am excited about the opportunity to harness ideas and innovation to ensure our economic security, national security, and environmental security. Despite challenges, I am optimistic about the future and in particular about the areas where the Administration and Congress can work together to meet the Nation's energy challenges.

With tremendous support from Congress, both through the American Recovery and Reinvestment Act of 2009 (Recovery Act) and annual appropriations, we are transforming the clean energy landscape in the United States. In the Office of Energy Efficiency and Renewable Energy (EERE) alone, we are investing more than $16 billion in Recovery Act funding toward projects ranging from geothermal demonstrations in Alaska, New Mexico, and Utah to electric drive component manufacturing in Fargo, North Dakota, to large wind turbine blade testing in Boston, and the development of biorefineries in Ohio, Oregon, and elsewhere, and much more. These programs are creating jobs with investments in 56 states and U.S. Territories to encourage deployment of a full range of renewable energy sources and energy savings measures. In addition, EERE has provided support to the Department of the Treasury for $2.3 billion of grants in lieu of tax credits for projects that are expected to deploy more than 4 gigawatts of renewable energy, and another $2.3 billion in tax credits to domestic manufacturers of clean energy products.

In addition to investing in renewable technologies, EERE is engaging in a full court press on energy efficiency. As Secretary Chu is fond of saying, energy efficiency isn't just low-hanging fruit; it's fruit lying on the ground. By reducing our energy consumption, we can create and support clean energy jobs, reduce our reliance on foreign sources of energy and reduce greenhouse gas (GHG) emissions while saving money on the energy bills of everyday Americans.

HOME ENERGY RETROFITS

As you know, one of the best opportunities for energy efficiency is right in our own homes. Home energy retrofits can be a win-win-win. Consumers can win by cutting their utility bills and saving money, while getting a healthier, more comfortable living space for their families. Communities, employers, and employees can win by creating good jobs in the retrofit industry and at manufacturers that produce energy efficiency products, spurring the local economy and putting people back to work. The Nation can win by creating jobs, reducing our reliance on energy from foreign sources, reducing our carbon emissions, and slowing the effects of climate change.

There are approximately 130 million homes in the United States. These homes account for about 33 percent of the Nation's total electricity demand[1] and consume approximately 22 percent of the Nation's energy[2] while generating 21 percent of the

[1] Percentage derived from figures in the Annual Energy Review. Energy Information Administration. http://www.eia.doe.gov/aer/txt/ptb0201a.html. February 2010.

[2] Percentage derived from figures in the Annual Energy Review. Energy Information Administration. http://www.eia.doe.gov/aer/txt/ptb0201a.html. February 2010.

Nation's overall carbon footprint.[3] Roughly half of these homes were built before 1973, long before modern residential building codes came into effect.[4] With so many older homes, and with advances in building technologies, there is a tremendous opportunity to upgrade home energy efficiency by insulating; caulking; improving heating, ventilation, and air conditioning equipment (HVAC); tightening the building envelope; and adding other energy efficiency improvements. Existing techniques and technologies can reduce energy use by up to 40 percent per home and reduce associated GHG emissions by up to 160 million metric tons by 2020.[5]

This vast potential for savings can be tapped only with a strong, well-trained American work force. The overall construction sector currently faces a 27.1 percent unemployment rate.[6] Insulation-blowing trucks are standing idle, and many construction workers are anxious to find ways to apply their skills to new jobs. At the same time, Americans are paying over $200 billion per year in energy costs—money that could pay for housing, tuition, or other basic necessities.[7] As the President has said, if you saw $20 bills flying out your window, you would try to grab them. So let's try to make it easier for American families to prevent their hard-earned cash from flying out the doors, windows, and ceilings of inefficient homes.

CHALLENGES

To realize job creation, energy savings, and environmental benefits, making energy retrofits must be easier for homeowners. Three key barriers prevent Americans from taking advantage of cost-effective retrofits to their homes: difficulty finding information about which retrofit upgrades are best for their home; difficulty covering the up front cost of these investments; and difficulty finding knowledgeable, skilled workers.[8]

These three barriers were outlined in the Recovery Through Retrofit strategy document released by Vice President Biden's Middle Class Task Force. In close collaboration with other agencies, DOE is pursuing a comprehensive approach to address these three barriers, which includes:

- The creation of a home energy performance labeling system in collaboration with the Recovery Through Retrofit to provide consumers with building energy information;
- The expansion of rebate programs and appropriate financing mechanisms to provide homeowners with access to affordable mechanisms to cover the up front cost of energy efficiency improvements; and
- The establishment of voluntary national standards for retrofit workforce training and certification to help protect consumers.

DEPARTMENTAL RETROFIT SUPPORT

The inter-agency Recovery Through Retrofit initiative, coordinated by the President's Council on Environmental Quality, seeks to lay the groundwork for a self-sustaining home energy efficiency retrofit industry. Additionally, the Department actively supports home energy retrofits in other ways, including a new Retrofit Ramp-Up program and the ongoing Weatherization Assistance and State Energy Programs.

The Retrofit Ramp-Up program, the competitive portion of the Energy Efficiency and Conservation Block Grant program funded through the Recovery Act, could deliver important energy and monetary savings to communities that win awards. However, its greatest impact may be in demonstrating sustainable, replicable business models that other communities across the Nation can copy so that they can also drive job creation and energy savings in their own areas. The lessons learned from these projects—both successes and challenges—could enable the rest of the Nation to ramp up its energy efficiency efforts, fundamentally transforming the way the U.S. consumes energy.

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[3] Pew Center on Global Climate Change. Climate Change 101: Technological Solutions. January 2009.

[4] Energy Information Administration. Residential Energy Consumption Survey 2005: Home Energy Uses and Costs. http://www.eia.doe.gov/emeu/recs/

[5] President's Middle Class Task Force and Council on Environmental Quality. Recovery Through Retrofit report. October 2009.

[6] United States Bureau of Labor Statistics. Industries at a Glance: Construction: NAICS23. March 5, 2010. http://www.bls.gov/iag/tgs/iag23.htm

[7] Energy Information Administration. Residential Energy Consumption Survey 2005: Home Energy Uses and Costs. http://www.eia.doe.gov/emeu/recs/recs2005/c&e/summary/pdf/tableus5.pdf

[8] McKinsey & Company. Unlocking Energy Efficiency in the U.S. Economy. July 2009.

DOE will soon award up to $390 million of Recovery Act funds for this program, targeting whole-neighborhood building retrofits. The Department's goal is to fund projects demonstrating models for providing cost-effective energy upgrades for a large percentage of the residential, commercial, and public buildings in communities. EERE received a large volume of excellent proposals, far more than we will be able to fund. There is no shortage of good ideas or enthusiasm, and we hope to leverage the Recovery through Retrofit experience into a long term model where communities can sustain the efforts to retrofit whole blocks at a time.

The Weatherization Assistance Program is currently retrofitting thousands of homes each month, utilizing $5 billion of Recovery Act funds and $210 million from Fiscal Year 2010 appropriations. This program primarily reaches low-income families, the elderly and the disabled, helping those with significant financial need save money on their energy bills.

Some states are using portions of the $3.1 billion in Recovery Act funds allocated to the State Energy Program to create revolving loans funds that finance the deployment of energy efficiency technologies and support long lasting job creation.

CURRENT PROPOSALS

During the State of the Union, the President called on Congress to pass a program of incentives for homeowners who make energy efficiency investments in their homes. Last week, the President outlined more details of a new "HOMESTAR" program that would help create jobs by encouraging American families to invest in energy saving home improvements.

Key components of the HOMESTAR Program include:

- Rebates delivered directly to consumers: Like the Cash for Clunkers program, consumers would be eligible for direct HOMESTAR rebates at the point of sale for a variety of energy-saving investments in their homes. A broad array of vendors, from small independent building material dealers, large national home improvement chains, energy efficiency installation professionals and utilities (including rural utilities) would market the rebates, provide them directly to consumers and then be reimbursed by the Federal Government. The rebates would also be marketed by the Environmental Protection Agency and trade associations whose member contractors participate in the program.
- $1,000—$1,500 Silver Star Rebates: Consumers looking to have simple upgrades performed in their homes would be eligible for 50% rebates up to $1,000—$1,500 for doing any of a straightforward set of upgrades, including: insulation, duct sealing, water heaters, HVAC units, windows and doors. Under Silver Star, consumers can chose a combination of upgrades for rebates up to a maximum of $3,000 per home. Rebates would be limited to the most energy efficient categories of upgrades—focusing on products made primarily in the United States and installed by certified contractors.
- $3000 Gold Star Rebates: Consumers interested in more comprehensive energy retrofits would be eligible for a $3,000 rebate for a whole home energy audit and subsequent retrofit tailored to achieve a 20% energy savings in their homes. Consumers could receive additional rebate amounts up to $8,000 for energy savings in excess of 20%. Gold Star would build on existing whole home retrofit programs, like the Environmental Protection Agency's successful Home Performance with Energy Star program.
- Oversight to Ensure Quality Installations: The program would require that contractors be certified to perform efficiency installations. Independent quality assurance providers would conduct field inspections after work is completed to ensure proper installation so consumers receive energy savings from their upgrades.
- Support for financing: The program would include support to State governments to provide financing options for consumers seeking to make efficiency investments in their homes. This will help ensure that consumers can afford to make these investments.

The program may result in the creation of tens of thousands of jobs while achieving substantial reductions in energy use—up to the equivalent of the entire output of three 500 megawatt coal-fired power plants each year. Consumers in the program are anticipated to save between $200—$500 per year in energy costs, while improving the comfort and value of their homes.

I am sincerely grateful to the members of this Committee and other Senators who have been working tirelessly on efforts to create legislative language that is consistent with the President's vision. I believe they have done a tremendous job turning a concept into language, and I have the utmost admiration for them and their

staffs. As the legislative process moves forward, we will continue to work with the Committee on this bill until it is enacted.

I am happy to answer any questions members of this Committee may have regarding the proposal or how the Department would administer such a program were it to be signed into law.

Additionally, I understand that a panel later today will also examine S. 3079, Senator Merkley's "Building Star" bill, and S. 1320, a bill introduced by Senator Tester for homes built before 1976. As I mentioned earlier in my testimony, both commercial buildings and older homes are major challenges in terms of energy efficiency, and I salute these Senators for their efforts to find solutions. While I plan to focus on the Home Star proposal today, I am happy to provide feedback on these additional proposals for the record.

CONCLUSION

Retrofitting millions of American homes may truly transform energy consumption throughout the Nation. It may also put people to work in good, domestic jobs while saving Americans money and enabling significant contributions toward GHG emissions reduction targets. Public investments can lay the foundation for a vibrant private-sector led retrofit industry. Workers can get trained and certified, small contractors can grow their businesses, and millions can save money on their energy bills.

On October 19, 2009, Secretary Chu stated, "In the next several decades, I believe that energy efficiency is our most powerful tool for reducing our carbon emissions and reducing our energy bills." Home energy retrofits could be critical to realizing both of those goals, while supporting American job creation. I thank the Committee for its hard work on energy efficiency and specifically in crafting the legislative proposal being considered today. I sincerely hope I have the opportunity to implement this program soon with the aim of achieving our interconnected goals of creating good clean energy jobs, reducing our reliance on foreign sources of energy, and reducing our greenhouse gas emissions.

Thank you again for the opportunity to testify on this topic. I will gladly answer your questions.

The CHAIRMAN. Thank you for being here.

Let me start with a couple of questions. One of the issues that I think we need to just be aware of, we've got in place a variety of tax incentives to encourage—we've got some to encourage alternative energy production in your home, if you want to put solar panels on or a geothermal heat pump, for example, and there are other examples. We have other, less generous tax incentives if you want to pursue energy efficiency in your home, or at least that's my general understanding of where things are.

I think this proposal, this Home Star proposal, contemplates that a person, an individual homeowner, would have to choose: Do you want to take advantage of those tax incentives or do I instead want to participate in this rebate program under the Home Star? I'm just wondering how you think people would come down in making those judgments as you see it?

Ms. ZOI. The way the program is structured or is contemplated is that the rebates are available for the eligible list of measures. Those are generous, point-of-sale rebates that would be taken advantage of. If those same measures are eligible under the 25 [c] tax code, you cannot double-count or double dip for the same technology.

The CHAIRMAN. Right.

Ms. ZOI. If, however, you take advantage of the rebate program for, say, a new efficient furnace, but decide to do a ground source heat pump or a set of solar panels under the tax code, that is allowable. So what we don't want is to have double dipping for the same technology, and the rebate program as proposed is structured

to be generous enough so that you would actually bump up against the ceiling for that set of technologies.

The CHAIRMAN. OK. How would something like a geothermal heat pump fit into that? if a person was thinking that would be a way to reduce my energy bill, how would they benefit either through the Home Star program or the tax credits in that regard?

Ms. ZOI. I'm a geologist and I'm a big fan of ground source heat pumps. It's a fantastic technology. As you know, the ground source heat pumps are eligible under 25 [c] and they would be——

The CHAIRMAN. I think they're eligible for an uncapped tax credit.

Ms. ZOI. For the Silver Star program, they are a higher capital cost item than most of the eligible technologies that have been identified for the Silver Star program. But they would be a logical fit conceivably for the Gold Star program, which has a higher ceiling. But again, we'd probably want to make sure that if you reached your ceiling on the ground source heat pump in the Home Star rebate program that it would be counted against or offset with the tax program.

The CHAIRMAN. Dr. Parfomak was making a point there about this 2-tiered rebate structure. I think he diplomatically suggested that the Silver Star part of this thing would detract from the overall impact of it some way or other because people would—that's the low-hanging fruit and people would choose that and not do some of the other things. Is that—what's your understanding of that concern and whether it's a valid one?

Ms. ZOI. I'm really excited about the way we've structured this program, because I think it elegantly combines the things that are simple and straightforward, that consumers can immediately go and purchase without a home energy audit, that make good economic sense for them measure-by-measure, that will create jobs immediately, will put construction workers back to work immediately, that with the more sophisticated Gold Star program that involves a bigger capital investment and a more sophisticated modeling approach. It involves a bigger appetite for doing the whole home at once and will take more time and more money.

I actually think that because this program is designed to be both a jobs program and an energy efficiency program, we're in a good spot.

Second, in terms of the cream-skimming, I would say that the measures that have been chosen and identified for Silver Star in no way can be construed as cream-skimming. Eighty percent of American homes are either uninsulated or underinsulated. That's something that we need to take advantage of right now, and you could do that through the Silver Star program—furnace upgrades, the variety of measures that are on that list.

So I would actually take issue with that. I don't think that's cream-skimming. I think those are measures that are going to create jobs and save American homeowners money immediately.

The CHAIRMAN. Senator Murkowski.

Senator MURKOWSKI. So to meet my Vern standard, how can we with the proposal that we have in front of us, how do we deal with the do-it-yourself individual who's working to bring about those ef-

ficiencies within their home, but as I read through the proposal we really don't allow for that level of participation; am I correct?

Ms. ZOI. The current proposal does not allow that.

Senator MURKOWSKI. Why the decision to go that direction?

Ms. ZOI. Again, I think it's because the purpose of the bill is 2-fold. One is to create jobs immediately; and second is to make homes energy efficieny. Regarding job creation—because the measures that are eligible have an installation component that's significant, you'll note that white goods, for example, that can just be plugged in are not part of the Home Star proposal because there is very little labor content.

It wasn't what was originally contemplated. I think Senator Warner's suggestion is that he's open to thinking about that. The administration will be as well. But the original idea was to have this focus on the job creation that comes with the installation of the particular goods.

Senator MURKOWSKI. But that job creation is—that's kind of the immediate opportunity, if you will. I think if we're looking at this program and the value that we're really going to be gaining long-term, it is that we are creating greater efficiencies within our homes and commercial properties for a long, long time to come.

So my question is how we can do more to help incent those to do right within their own home as they're working their remodeling projects?

Ms. ZOI. It is an important issue. The other piece that we have been very mindful of is oversight and quality assurance. So to the extent that we add a DIY component to the legislation, what we need to be sure of is that the projects are actually getting installed in the homeowner's homes themselves, that it's not someone buying a whole bunch of insulation to store in a warehouse somewhere.

We at the DOE are very, very mindful of waste, fraud, and abuse, not that DIYs would, but we need to set up a system to ensure——

Senator MURKOWSKI. There has to be some kind of——

Ms. ZOI [continuing]. That the taxpayer money is getting invested appropriately.

Senator MURKOWSKI. I would agree with that and I think Senator Warner recognized that as well.

I think one of the things that, as I looked through the legislation itself, I looked at it and I thought, boy, is this getting more complicated and more onerous just in terms of how the process would come together. I think when we put together programs such as what we're looking at with Home Star, you want it to be somewhat expedient, easy to use, the user-friendly type of an approach.

I've heard from some that they're really quite concerned that we've got a creation of bureaucracy that's going to make this more complicated. I'd like you to address that.

I'd also like you to address the comment from Dr. Parfomak about the high expectations that we clearly have within this program in terms of how many homes can actually be retrofitted. He seemed to suggest that we are overly, overly ambitious with this and that—he didn't say that we needed to narrow the expectations, but I think it was pretty clear he didn't think that it was achievable.

Can you comment on both?

Ms. ZOI. Sure. With respect to if we have concocted a structure that's overly complicated from a bureaucratic standpoint, what we've tried to do is the antithesis of that. This program is closer to the Cash for Clunkers, single point rebate processing system than it is to the other efficiency programs that the DOE currently administers through States and local governments and everything else.

So what we envision is by establishing this notion of a rebate aggregator, there are thousands and thousands of contractors across the country who are working with or for utilities, big box retailers, independent sort of regionally based energy efficiency companies. Those contractors are certified, licensed, and bonded. Those entities will do the work when a customer asks for it. Once the work's done, that gets submitted to a rebate aggregator, who basically does the quality control for us.

Senator MURKOWSKI. Does DOE currently use a rebate aggregator for any of the other programs that you operate?

Ms. ZOI. No, this is actually a brand new concept. Again, because we're standing up something from scratch, we have the capacity to design a system that we think will really work.

Now, the rebate aggregators are network specialists. They're sector specialists. For example, Lowe's and Home Depot have vast arrays of contractors that work for them. They know them, they're used to this. So the idea of setting up sector specialists that can aggregate the rebates so that when a reimbursement request is submitted to the Department of Energy basically we have a business-to-business relationship with those folks. Rather than dealing with thousands and thousands of contractors across this country and cutting checks and making sure that the quality assurance is undertaken, we are dealing with a couple of hundred rebate aggregators who are sector specialists. We're actually really excited about that.

Senator MURKOWSKI. These already exist, the rebate aggregators?

Ms. ZOI. We've invented this name for them. But sure.

Senator MURKOWSKI. But I mean, are these new jobs that we're creating? Is this a whole new program that we're creating? Or are there rebate aggregator systems that are in existence now?

Ms. ZOI. There are functions that are undertaken by utilities that currently run rebate programs, by State governments that currently run Home Performance with Energy Star programs, by big box retailers, and by contractors who are operating regionally across the country. So those sorts of activities exist. Where they're supervising a variety of contractors, they subcontract out, they collect the data, they get reimbursed. So yes, that's a familiar function.

What we're overlaying on top of it is an incentive for consumers to get active and invest in energy efficiency savings in their home. So we think that we've got a structure on the rebate aggregator side that is the antithesis of bureaucracy. It's actually streamlined, with experts who understand the field.

The second part of it is standing up a quality assurance scheme, which is again very, very important to us. If we're investing the

taxpayer money, we want to know that the investments are actually yielding the results that the statute prescribes. So we want to work with the States, who are closer to the building home inspection industry, to oversee the quality assurance piece of this.

So again, we think that we've got a streamlined structure that is very, very different than the typical programs that have been administered out of the Department of Energy through the Recovery Act and otherwise.

To your second question on the ambition on numbers, one of the things that we're most excited about is harnessing the marketing potential of the private sector players. The programs that the previous witness, Mr. Parfomak, talked about that had been going along at a particular level, we've never had the marketing machinery behind those programs. We have not had, historically, the amount of investment and the attention. We also obviously have leadership in Washington that's talking a lot about this.

We have an appetite for energy efficiency, and I've been in the arena for 18 years. It's almost revolutionary, the amount of appetite that I've seen increase over the past couple of years.

So I think that we may be ambitious on numbers, but they are ambitious and achievable. But as you'll note, the legislation also allows for if the money does not get invested the money goes back to the Treasury.

The CHAIRMAN. Thank you, Mr. Chairman.

The CHAIRMAN. Senator Stabenow.

Senator STABENOW. Thank you very much. Thank you, Mr. Chairman, very much.

Welcome. It's great to see us talking about something that will both create jobs and also focuses on some very important goals of energy efficiency, saving money. I'm a very strong supporter of both Home Star and Building Star and I want to see both of these go forward.

I want to talk a little bit more in terms of administration because, as the Senate author of Cash for Clunkers, I was deeply, on a daily basis, involved after we passed it in terms of what was happening to reimburse our dealers and to make this work. So I guess I have a couple of questions.

That is, when we talk about, particularly if we're talking about Home Star or Building Star, they have to have timely reimbursement to businesses, particularly when we're talking about small businesses. It's going to be important for widespread participation to know that this is something that is very timely back to the business. This will be—I will just—that's my advice to you at this point. This is going to be very, very important.

Secondly, we've got to make sure we're promoting the high quality of work so that we're instilling confidence in the potential of home retrofits to capture real energy savings and reduce homeowners' energy bills, so that they are seeing that actually happen, so again people will use that program.

So I wonder if you might speak to that in terms of the current discussion draft. Do you think it adequately addresses both of those things, and particularly a system that will allow that timely reimbursement, which is going to be critical from a cash-flow standpoint for businesses to be able to participate?

Ms. ZOI. Yes, absolutely. Thank you for the questions, Senator Stabenow. The administration shares your total commitment to timely reimbursement. What we have constructed is something that dovetails existing systems of how contractors work with the people to whom they contract. The rebate happens right at the point of sale for the consumer, so that's instantaneous.

As soon as the work gets done, which is what we envision, the contractor submits the rebate form. We will have given them a template. We will say we need these fields of information filled out, and it will probably a dozen things: Is it an eligible technology? Where was the work done? Where was the customer, and the signature of the customer.

That gets submitted to a rebate aggregator. These rebate aggregators will have systems to pull all this together. On a weekly basis, it will get submitted to the Department of Energy, where we will have a system that processes those rebates, and then the checks will be sent out.

So we have a system that we think might even be faster than what contractors in the field, at the coal face, are actually used to. That's absolutely what we have in mind. These are going to be small contractors that are doing this work and it's very, very important that they're not hanging out there with month on month delays of getting the money back. So that's sort of the first thing.

On the work quality, again we are completely committed to ensuring that there is a quality program. That's one of the reasons that we're excited about having this rebate aggregator concept. If you just had a professional rebate fulfillment house aggregating these things, and it was not aware of some of the ins and outs of what happens when you actually have a retrofit that gets done, what it is like to insulate a home, what certifications you need to have to connect a heat pump water heater, then we would be a little less comfortable. But by constructing a situation where there are a couple hundred rebate aggregators who are basically managing their networks, then we feel comfortable that—and having a list of criteria—in order to perform Silver Star, you have to be licensed, bonded, and warranted. In order to do Gold Star, you have to have Building Performance Institute certification or some other certification that the Secretary deems is appropriate. We feel like we are going to have good quality work that gets done.

Even so, as you know, the program includes a quality assurance scheme where 20 percent of the jobs that get done get field audited. Again, that's very, very important to us to create the comfort in the consumers that this is a good program that's going to be reliable and that's going to save them money.

Senator STABENOW. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you.

Senator Burr.

Senator BURR. Welcome, Secretary Zoi. Thank you for your insight on this.

Let me ask very candidly, with the right structure does the Department of Energy support a DIY option?

Ms. ZOI. I think that the answer for the moment would be for us to work with the committee on that, because, as I say, it would be less about the near-term jobs then.

Senator BURR. I realize I asked a little more pointedly than Senator Murkowski asked. But let me assure you—and I'm only speaking for one member of the Senate—if DIY is not part of this program, then I don't see how I could support this program, even consider it. It's beyond any comprehension that I've got as to how we could leave that segment of the marketplace out of a program if in fact the intent is to make a program successful.

Ms. ZOI. We would want to work with you on the provisions that we discussed a little earlier with Senator Murkowski, making sure that the quality control is there, that the oversight is appropriate.

Senator BURR. Share with me, if you will, since we have an Energy Star program, why are some of the Energy Star products excluded from this Home Star program?

Ms. ZOI. The Home Star program is designed to get efficient technologies into people's homes quickly. Some of the Energy Star standards, levels of what is eligible for Energy Star, are being reviewed right now and they probably need to be upgraded and updated. At the moment the industry got together, again a bipartisan group from industry and from the environmental community and energy efficiency advocates, and came up with a level for each of the technologies that, in some cases, is beyond what Energy Star is, just because Energy Star has a bit of catch-up to do.

Senator BURR. Let me go back to your statement. You said repeatedly: We've got to make this simple and understandable. We now have over a decade, if not 2 decades, of driving Energy Star product into the American people, and now you're saying: Oh, I'm sorry, that Energy Star product is not going to be included because it doesn't meet the new standard that we've set to be included in this program.

I think that just contributes to I think what CRS said, that we've got a grandiose goal that we're shooting for and a historical understanding that we're not going to get there. I've not sure that we've met the threshold of simple and understandable if in fact we use definitions that are common with the American people and we say, well, no, that's not the definition we're using any more, this is now a new standard that we've set, and you should feel OK because everybody's agreed to it. I just say that as a precautionary thing.

The Home Star proposal authorizes $6 billion for the program. Of that $6 billion, how much is targeted for the administrative costs of the program?

Ms. ZOI. I don't know that number off the top of my head. Do you know the answer?

Senator BURR. I'm told it's $600 million.

Ms. ZOI. OK.

Senator BURR. I find that to be incredibly high.

For the rebate aggregators, do you know what the average reimbursement would be for processing of a claim by a rebate aggregator?

Ms. ZOI. I think the current proposed legislation has $25 per transaction.

Senator BURR. I'm told that in the marketplace that can be done for $1.50.

Ms. ZOI. That's something that we can look at.

Senator BURR. I'm trying to ask the appropriate questions that are going to be asked as this legislation moves through.

Now, you're targeted in this to—and I want to get a clarification—create 168,000 jobs. Is that create or is that create or save?

Ms. ZOI. The administration has not been terribly specific on the precise number of jobs created. We say tens of thousands of jobs will be created. The 168,000 figure I think has come from the Home Star Coalition.

Senator BURR. From the Home care——

Ms. ZOI. Yes. So I think maybe one of the future witnesses could talk about what the methodology they used to come up with that number.

Senator BURR. OK. If I told you that that was $35,714 per job, would you think that that's probably high?

Ms. ZOI. Interestingly, what we're finding in the weatherization assistance program that, at the moment, it's about $42,000 per job. The average——

Senator BURR. Given the number of houses that we've weatherized, I could find that to be possible.

Ms. ZOI. Actually, can I take a moment and talk about where we are on weatherization?

Senator BURR. Sure. We went through a hearing the other day and I walked away from that just as confused as I was when I went in.

Ms. ZOI. All right. I actually would love to take a moment with it because, while the program has been slow to get going, the Congress allocated 25 times the budget that the weatherization program had ever had in the past. So there were obviously going to be ramp-up and scale-up issues. In addition, there were the new Davis-Bacon provisions that had to be worked out.

So the weatherization structure is that the Department of Energy allocates money on a formula basis to the States and the States then allocate the money to 900 community action agencies to do the weatherization work. During the summer and autumn months in 2009, essentially what most of those community action agencies did was that they staffed up, they trained new people, and they bought equipment.

In the last quarter of 2009, we tripled the number of homes that were done during that quarter. Our target is to get between 20,000 and 30,000 homes a month to meet the President's objectives. In December we were up at about 7,000. In January we were up at between 15,000 and 17,000. This is not the official audited reports. This is why I have to be a little bit vague. So we actually had jumped. We were on the proverbial hockey stick to meet our targets.

The community action agencies—and I just spoke to them at their gathering in Washington last week—they are quite certain that they will be able to meet their targets, their State-based production targets, some time in the March-April time frame.

So it has been slow to start. Nobody is happy about that. But, it has turned a corner, and I think that we will, by March 2012, meet the President's objective of weatherizing about 600,000 low-income people's homes.

Senator BURR. I appreciate that and I think, knowing the community action agencies like I do, I don't think that theirs was a hesitation to start the program. It was waiting for the Department of Energy to put the rules and the regulations together.

I look at another program that lacks the clarity right now for me to be assured that we're going to go out and this is going to be a growth curve like this, even if the retailers believe it. I'm happy to support it if I think it will work. But they don't have any skin in the game, so they're going to be supportive of anything. I hope you will take to heart the 3 things that I mentioned: the DIY——

Ms. ZOI. Yes.

Senator BURR [continuing]. The Energy Star inclusion, and the confusion that that will send; and what I think is an unacceptable 10 percent devoted to administrative costs in a program that, as CRS said, the more complicated you get it, the more difficult it is for a customer to understand it, the less participation you're going to have. Even if it was perfect, his estimate was that we fall woefully short of what the target is.

I thank you.

Ms. ZOI. If I could just qualify the $600 million, because I've just been passed a note which has the actual breakdown. That $600 million is not just the Federal Government administration. It also includes $200 million that goes to States for financing and the quality assurance functions and the marketing and education functions that happen. So part of it is administration and part of it is those other very important pots of money.

The CHAIRMAN. Senator Shaheen.

Senator SHAHEEN. Thank you, Mr. Chairman.

Thank you to Assistant Secretary Zoi for being here today. Let me just reaffirm what you had to say about the impact that the weatherization program is having across the country. I visited a number of sites in New Hampshire. I've seen the savings that families are realizing and the benefits to the quality of their lives and their homes because they're more efficient, and have talked to some of the people who are working now because of that program. So it's been a big success, and obviously we have a lot more to do. Fortunately, the number of homes that are being retrofitted are going up every month.

I would like to add a caution to follow up on Senator Stabenow because, as we've discussed, one of the concerns that we've heard from the CAP agencies has been around the clarity of rules governing the program. I think we all appreciate the need for accountability, but the rules of the road need to be very clear at the outset so that people know what they're getting into and know how they have to respond.

So I would just urge as part of this program that that be very well thought out and clear, so that they're not changed in the middle of the program and there's no ambiguity about it.

Let me also say that, because New Hampshire has a higher than national average share of individual homes and dwellings, that a program like this is particularly important to our State. I'm very happy that biomass and wood pellet appliances are included in the proposal. That's something that we care a lot about in New Hampshire.

My question is that, I understand that EPA maintains a list of wood and pellet stoves that are based on emissions. One of the things that I think people are interested in as they're thinking about this program is how to be as efficient as possible. So the efficiency of those wood stoves and appliances are going to be very important to people. Are you envisioning that DOE will maintain some sort of rating on the efficiency on these kinds of appliances or has any thought been given to that and how can we accomplish that, so that people will have that information as they go to buy their wood stove or appliance?

Ms. ZOI. I think our expectation is that the list of eligible appliances is written down in the statute and that we would formalize that in a rule with more specificity. But what we would really like is to give the Secretary the discretion over 6 months to adjust those if the market circumstances change, just to determine if there is an efficiency adjustment that needs to take place.

Senator SHAHEEN. My concern is not so much that there be those adjustments, but that whatever is available is transparent to the public so they can get that list, so they know what they're buying, just as if they go out and buy a refrigerator they know what the efficiency is on that appliance.

Ms. ZOI. Absolutely. I think what we need to do is make it easy for consumers to understand what's eligible under Home Star.

Senator SHAHEEN. Thank you.

Let me just also address another issue, because I know the hope is that Home Star can be part of the look at how we get this economy moving going forward and any kind of a jobs bill. One of the other areas that I think is very important is looking at how we address efficiency in public buildings, because that's a huge energy use. I know that the energy efficiency and conservation block grant program has been slow, relatively slow to get up and running. It's my understanding that now we've turned a corner and that we are getting money out the doors. Is that something that you would agree with?

Ms. ZOI. Yes, absolutely. We've got 1,200 activities that are already under way and, hand on heart, we will clear out the backlog this quarter, because I share your commitment to getting the money out the door in EECBG.

Senator SHAHEEN. You agree that this is another way that we can put people to work, that we can save on energy costs, and that we in most cases can help communities and school districts, because they're the big users of energy in those public buildings.

Ms. ZOI. Absolutely. The list of projects that are under way already through EECBG and SEP covers schools, public libraries, a variety of public buildings. Again, it's going to create jobs, and it's going to reduce the burden of energy bills for local governments, which is incredibly important.

Senator SHAHEEN. Absolutely. I'm hopeful that as we proceed with this effort that we can include public buildings also as part of those energy efficiency savings. I'm certainly willing to work with the Department as we figure out how to do that.

Ms. ZOI. Great. Thank you.

Senator SHAHEEN. Thank you.

The CHAIRMAN. Senator Risch.

Senator RISCH. Thank you.

Just briefly, I can tell you that the home weatherization program's well up and running in Idaho. It was slow getting going, like it was everywhere else. Apparently they were complaining about having to fight the Davis-Bacon battle, and once they got that behind them they're off and running.

I was a little bit surprised that the average saving—and they told me what it was and it's in my mind right now, but I don't want to quote it because I'm not exactly certain. But I remember being a bit surprised that the average annual saving was as low as it was on a residence. Particularly with the kind of structures that they're working on, it would have seemed to me that the savings would have been a lot more, particularly with the amount of the investment.

Go ahead.

Ms. ZOI. If I may, the tricky part with the low-income is that sometimes the energy savings aren't as much as you might have thought because now—it's almost a lifeline comfort thing. People were not using energy and it was actually a health issue. So now when they have an efficient home, it's more efficient than it would have been otherwise, but it's a comfortable home.

Senator RISCH. That makes perfect sense. But anyway, that's something you might want to—if it was private industry doing it, I have no doubt that they would keep a very close eye on what that efficiency is.

So thank you so much for what you're doing.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you very much.

Senator Sanders.

Senator SANDERS. Thank you very much, Mr. Chairman.

Let me begin by just thanking you for working with our office to include financing support in the Home Star program. We appreciate that very much.

Ms. Zoi, thanks very much for being with us. Let me begin by saying that, Mr. Chairman, I'm glad that we're focusing on energy efficiency because as we transform our energy system probably the most important thing that we can do is make this Nation a lot more energy efficient. I'm very proud to say—and I argue with Barbara Boxer about this a bit, but we think Vermont may in fact be leading the country in that direction.

Having said that—and the results of that is that, with our economy not being any worse off than other economies in the recession, we are now—our major utilities now sell less electricity in Vermont than they used to. So the potential for energy efficiency is extraordinary, and I'm glad that we are focusing on it. I think we've got a long way to go.

I would pick up from Senator Risch's point about what he's seeing in Idaho, we're seeing in Vermont, the weatherization program being very, very valuable. I don't remember the numbers as well, but I think they're higher in Vermont than what you were quoting. I was just in Berry, Vermont, where they've hired a number of people. They have a long waiting list. People are now getting their homes—and I think they're able now to put more money, do a more comprehensive weatherization approach than they used to. The re-

sults in my memory is 20 or 30 percent cuts in people's energy consumption.

For every dollar we spend on that, I think in terms of job creation, in terms of cutting greenhouse gas emissions, in terms of saving fuel, I think it's a dollar very, very well spent. So I would hope, Mr. Chairman, that we can fight as hard as we can to put money in weatherization. That is clearly I think one of the most cost-effective Federal programs that exists.

Ms. Zoi, could you talk a little bit about the potential of the Home Star concept and say a few words about how you see the Department of Energy working with us on that?

Ms. ZOI. We think that there's a unique opportunity to quickly re-employ construction workers, contractors, idle folks, that know how to do these things, but have never focused on the energy efficiency sector per se, with a longstanding opportunity to make our homes in America more efficient.

There are 130 million homes in America and, as I said at the beginning, few of them are actually as efficient as they could be. Almost every one of us has an energy efficiency opportunity. But it's been a little bit of a pain in the neck to take advantage of some of those things.

What this program does is it makes it easy for consumers—through point-of-sale rebates—to obtain technologies that are tried and tested, using skilled labor to get those things installed. It's just the beginning of a transformation that I think will take hold. This is a burst that will create a sector that will continue to do this after the program is gone. At least that's our hope.

Senator SANDERS. We agree with you, and thanks for your support. We're interested also in the PACE concept. Actually, my city in Burlington just in March Meeting Day a few weeks ago passed language to go forward on that, I think one of a dozen cities in America that's doing that.

What I like about it, Mr. Chairman, is here you have a situation where many people want to improve their homes in terms of sustainable energy or energy efficiency. They don't have the up-front capital, they don't have the $10,000 or $15,000 that they need to make that transformation. If they did have it, they would save money over a period of years, just not having that initial amount of money.

So if we can get that money to them and have that paid off over a period of years in property taxes or paid off in electric bills, they would be able to do the work.

So all that I want to say is I am a very—I think we are at the cusp of transforming our energy system. Energy efficiency is at the heart of that. Sustainable energy is at the heart of that. I think, as the President has indicated many times, this can be an enormous step forward for our economy in creating millions of good-paying jobs, not importing oil from abroad, not wasting energy.

So we look forward to working with you and we thank you for what you're doing.

Ms. ZOI. Thank you.

The CHAIRMAN. Senator Udall.

Senator UDALL. Thank you, Mr. Chairman. I thank you and the ranking member for holding this important hearing.

If I might, if hopefully I'm not going to transgress the committee rules, I'd like to acknowledge Tom Plant, who's in the audience, who heads Governor Ritter and the State of Colorado's Energy Office. Ms. Zoi, I think you know Mr. Plant and you know what a great advocate he's been of putting people to work in just the ways that you and Senator Sanders just discussed.

I agree with all of the comments that have been made that this is such an opportunity for us, and of course the cheapest ton of coal, the cheapest barrel of oil, the cheapest megawatt, is the one you don't use. I think frugality and conservation have long been an America value, particularly in the great State of Vermont and the great State of New Hampshire—the Yankee spirit of doing more with less.

Your efforts are very, very important, and we are waiting for further resources to enter the pipeline and take advantage of what I think is a pent-up demand, frankly. I hear it all the time from my constituents. There are a lot of small businesses that are poised to go to work.

In that spirit, I want to ask a little bit about the Water Sense concept and the Water Sense label and certification process, which would save water, particularly in a place like the West, where water's the most precious commodity we have. Have you done any studies on what we could save as a country in terms of energy, water, even pollutants that are avoided, if we had a serious sustained effort to retrofit our buildings with water efficient products, such as Water Sense?

Ms. ZOI. That's an excellent question, and the administration is obviously committed to not just energy conservation, but water conservation as well. I would have to get back to you on that. I don't know that the Department of Energy has done a study to link the energy savings with the water savings in any particular way. But that's an answerable question that I will find out and will get back to you.

Senator UDALL. I was just in a skyscraper in New York City last week. I won't mention the owner. But it had been remodeled significantly, a very tall building, and with some very interesting water collection systems, reusing the rain water as grey water, then eventually putting it into the city's waste water treatment systems. But they avoided a lot of runoff from storms, and we know the problems that are associated with that, and it was a net energy reduction. It was also a net cost reduction for this skyscraper. It was really exciting to see.

Ms. ZOI. At the other end of the spectrum, not a Manhattan skyscraper but in a low-income weatherization program, water-saving features are part and parcel to what we do. So shower heads that actually conserve water means conserving the heat that it takes to heat excess water, and then aerators for the faucets. Those are just standard measures that get installed in low-income people's homes during the weatherization program.

Senator UDALL. I even saw an almost science fiction-like technology the Japanese use where they actually capture the little bit of energy that results from water flowing through the toilet itself. So I think that that is perhaps science fiction at this point in time,

but every bit of energy we can harvest after we capture it we understand is meaningful.

Let me turn to the National Renewable Energy Lab as the clock continues to run. The gap between science and applied research needed to bring energy efficiency technology to the marketplace at speed and scale is really the focus of the work there. I know you see that as an important goal. Thank you for your support of NREL. Of course we're very proud to have it in Colorado. I hope you've had a chance to visit.

Ms. ZOI. Of course I have.

Senator UDALL. I hope you'll come back.

We also with the NREL model have in Colorado and I know other States, I know the State of Michigan—Senator Stabenow speaks powerfully and passionately about what they're doing in Michigan—have created these collaborative efforts between labs and universities and industry. What more can we do? What are you doing at DOE to create and promote that kind of an approach?

Ms. ZOI. Under Secretary Chu's leadership we are pushing for collaborative research efforts. He often harkens back to his experience at Bell Labs, which was sort of an under one roof scientists coming together of multidisciplines. His notion of the hubs is very much about capitalizing on lab research, university research, and applications, and getting things into the marketplace more quickly.

So we are very, very excited about that. All of the solicitations that I have been involved in since coming to the Department 7 months ago have basically tried to find the best and the brightest from labs and from universities, so we are no longer just focusing on one single sector to get the best outcomes.

I think it's right from the top of the Department to say, let's get the best, let's get labs, let's get everybody working together. ARPA-E has some joint work between labs and businesses, which again should compress that time it takes normally to get from discovery to marketplace.

Senator UDALL. I don't know why I'm doing this because I have no voters in all these States I'm mentioning, but I also acknowledge that Senator Bingaman and Senator Murkowski have great efforts under way in their States, which thank God for federalism and hopefully the Federal Government will begin to lead again, too, in the near future as we look at a comprehensive energy bill, hopefully a price on carbon that will emerge from the Senate.

Ms. ZOI. Absolutely.

Senator UDALL. Thank you.

The CHAIRMAN. Let me just ask members. We have another panel of six witnesses here and I would go to those, unless someone has a burning question they need to ask the Secretary that we haven't.

Senator MURKOWSKI. Mr. Chairman.

The CHAIRMAN. Yes, go ahead.

Senator MURKOWSKI. I have a whole series of questions, but in the interest of time and knowing that we do have a full panel, I'll just submit those to Ms. Zoi. Thank you.

The CHAIRMAN. Thank you very much for being here and testifying and your advocacy for this set of proposals. We appreciate it.

Ms. ZOI. Thank you.

The CHAIRMAN. The second panel is—let me introduce the folks. It'll be: Larry Laseter, who is President of Masco Home Services in Atlanta, Georgia; Stacey Epperson, who is Executive Director of Frontier Housing in Morehead, Kentucky; Jeffrey DeBoer, who is President and Chief Executive Officer of the Real Estate Roundtable; Phil Giudice, who is the Commissioner of the Massachusetts Department of Energy Resources; Bob Hanbury, President of the House of Hanbury Builders, on behalf of the National Association of Home Builders.

I was informed that Senator Stabenow wanted to introduce the witness we have here from Michigan. So why don't you go right ahead.

Senator STABENOW. Thank you, Mr. Chairman. I just wanted to welcome Terry Mierzwa, who is the Executive Manager of Marketing, Energy Efficiency, and Research at Consumers Energy in Jackson, Michigan. We're very pleased. He has testified in the State legislature and a number of other forums, and very pleased that he's here as a part of this effort.

I also want to say that Masco, Mr. Laseter, is connected with a great Michigan company as well. So welcome to all of you.

The CHAIRMAN. All right. We will take the full written statement that each of you have prepared and include them in the record. But if you could take about 5 minutes each and sort of tell us what the main points are that you think we need to understand about these legislative proposals, that would be very useful.

Why don't we start with you, Mr. Laseter, and just go right down the table there.

STATEMENT OF LARRY LASETER, PRESIDENT OF WELLHOME, ON BEHALF OF THE HOME STAR COALTION, ATLANTA, GA

Mr. LASETER. Thank you, Mr. Chairman, Ranking Member Murkowski, and members of the committee. I'm Larry Laseter. I'm President of Masco Home Services. We're also known as WellHome, and our company is a home performance contractor. We're an operating company of Masco Corporation, which is a Michigan-based Fortune 500 company and one of America's largest manufacturers of products for the home. Masco is better known by our leading brand names, such as Behr Paint, Delta Faucets, Craftmade Cabinets, and many others, and we are the Nation's largest installer of insulation, focused on the new home industry.

But I'm here today to speak on behalf of the Home Star Coalition. This is a broad group of industry, labor, energy, and environmental supporters, including more than 600 small businesses representing all 50 States. We stand together in support of the Home Star program, which would deliver a rare triple win for the American people in the form of jobs, savings for customers, and a positive impact on the environment.

Let me begin with jobs. Make no mistake about it, the construction industry is in the midst of a one-industry depression. The unemployment rate in construction is 27 percent, almost 3 times the overall jobless rate. This rate is higher than our Nation's unemployment rate at the height of the Great Depression. At Masco Corporation, our parent company, we have felt the pain of this indus-

try downturn firsthand. We've lost over 27,000 jobs and over 40 percent of our work force.

However, these construction workers have the know-how and experience for home energy retrofits and they're ready to get to work in jobs that cannot be outsourced overseas. Home Star will create jobs for these workers and drive increased demand for manufactured products and building materials that are almost universally made in the United States, supporting further job growth and economic impact and putting idle plants back to work.

Now, for the American homeowner the benefit comes in the form of 10 to 40 percent annual energy savings. These savings are equivalent to a $500 stimulus check that a participating homeowner would receive every year for years to come.

Of course, energy efficiency improvements will support energy independence and the environment. Home energy represents 22 percent of our carbon output, twice that of automobiles, and more than two-thirds of America's over 100 million homes were built before modern energy codes. There's clearly a need, and Home Star will simplify and lower the cost of these home improvements, things like drafty windows, leaky ducts, installing insulation, high-efficiency heating, air conditioning, undertaking whole home energy efficiency retrofits.

Home Star is also establishing up-front processes and systems to maximize the impact of the program and ensure its accessible to all. For example, we all know that many middle class Americans are squeezed by the economy and the credit crisis, which could prevent them from paying the homeowner's share of the efficiency improvements. That's why the Home Star proposed legislation allocates $200 million for State programs to facilitate home retrofit financing.

Home Star also establishes a quality assurance system based on rigorous proven technical standards to deliver on the promise of energy savings. This system establishes industry performance standards, ensures that a portion of all jobs are inspected by credentialed professionals after project completion, and offers an additional incentive to contractors that invest in a properly trained and certified work force.

Now, most importantly, this program can move quickly, with a minimum of red tape, and show immediate measurable results that will create a platform for a long-term sustainable home energy retrofit industry. Home performance improvements work. The building science and the energy savings are proven, and we have tremendous opportunity to make huge energy efficiency gains through this program.

Now, while the current bill, draft bill, is excellent, we believe as the Home Star Coalition that there are 2 important changes that could be made to enhance the legislation. First is the addition of a targeted incentive for customer-installed measures, or the DIY measures, under the Silver Star program; and the second is the integration of the Home Star incentives with existing 25 [c] tax credits. These 2 changes will expand consumer awareness of the Home Star program and ensure its success while reaching more Americans.

I would like to conclude by affirming that Home Star is a win-win-win for jobs, for the American consumer, and for the environment. It will put an estimated 168,000 skilled Americans back to work in the hardest hit part of our economy, the struggling construction and its related manufacturing sector. It will help more than 3 million American families retrofit their homes for energy efficiency, saving them as much as $9.4 billion in energy costs over 10 years, a return greater than the cost of the program itself. It will positively impact the environment and America's energy independence.

So on behalf of the current and future workers represented by the 600 businesses that make up the Home Star Coalition and the millions of households which will benefit in every community in America, I encourage you to move this bill forward without delay.

Thank you for the opportunity to testify and for your important leadership on behalf of the American people.

[The prepared statement of Mr. Laseter follows:]

PREPARED STATEMENT OF LARRY LASETER, PRESIDENT OF WELLHOME, ON BEHALF OF THE HOME STAR COALTION, ATLANTA, GA

OVERVIEW

HOME STAR is an incentive program that will deliver a rare triple-win for the American people in the form of jobs, savings for consumers, and a positive impact on the environment.

HOME STAR will create jobs that can be filled immediately using a skilled and ready construction workforce—workers idled by the recession who are now most in need of help. It will drive increased demand for manufactured products and building materials, supporting further job growth and economic impact. HOME STAR will result in energy savings for homeowners and higher home values. And longterm efficiency gains will support energy independence and the environment as we reduce our carbon output. Importantly, the program can move quickly, with a minimum of red tape, and show immediate, measurable results that will create a platform for long-term development of a high-quality and rapidly growing home energy retrofit industry.

HOME STAR puts Americans back to work now and will create jobs in existing industries by providing short-term incentives for energy efficiency improvements in residential buildings. The program is designed to jump-start construction and manufacturing jobs by offering rebates to consumers who invest in home energy improvements and energy-efficient products and services. Demand will rise for skilled construction labor and advanced building materials as homeowners make improvements to their homes. Manufacturing inventories will be restocked and assembly lines for advanced materials and U.S. technology will start rolling again. Investment and capital will begin to flow to millions of idled construction and manufacturing workers and create new demand to retrofit homes for energy performance—now and into the future.

HOME STAR is a timely program that builds on existing policies and initiatives that have already demonstrated effectiveness. It has won widespread support from the HOME STAR Coalition, which is comprised of national retailers, building products manufacturers, labor advocates, environmental and energy efficiency groups, state agencies, contractors and more than 600 small businesses from every state. The Coalition views HOME STAR as a win-win-win. It will: 1) put an estimated 168,000 skilled Americans back to work in the hardest-hit part of our economy—the struggling construction and manufacturing sector; 2) help more than 3 million American families retrofit their homes for energy efficiency, saving them as much at $9.4 billion in energy costs over 10 years; and 3) positively impact the environment and create a healthier planet by removing the equivalent of 615,000 cars from the road. Now is the time for HOME STAR.

THE CRITICAL NEED

Construction: A One-Industry Depression

A program that incentivizes energy improvements would rapidly create jobs within the construction sector and in the manufacturing and retail industries that support it. These are areas of the economy that need help the most.

While the overall economy has begun a slow climb out of recession, the current state of the American construction and building materials industry remains depressed. Overall unemployment fell to 9.7% in January and February of this year, but unemployment in the construction industry has continued to rise, reaching 27.1% in February—meaning one in four American construction workers is currently out of work. This is a higher rate of unemployment than our country felt during the Great Depression.

Construction-related unemployment is significantly higher in some states, with catastrophic results for local economies. Arizona, Nevada, Michigan and Florida, for example, have lost over 40% of their construction jobs since the peak of the housing market.

As devastating as these numbers are, the unemployment figures for construction probably do not reflect the full magnitude of the problem, due to the large number of self-employed construction workers that do not show up in payroll statistics. Economic Census data shows that the self-employed share of workers is significantly higher in the construction industry than in other sectors (16.6% in 2008), so the jobs picture is even more dire than the statistics suggest.

Further, more than 90% of contractors in the construction industry are small businesses—another hard-hit segment of the economy. Building materials manufacturing is off by at least 40% from its capacity. The result is hundreds of factories that have closed or are running only part-time lines. This shocking drop in construction industry jobs and its reverberating impact on building products manufacturers, retailers, and specialty trades demands attention and an urgent policy response. It is hard to foresee a robust economic recovery in communities when these depression-level conditions persist within local construction job markets.

By the end of last year, 42 of the 44 states with available data had seen job losses in excess of 10% of total construction jobs since the last peak in construction employment; 31 states had lost more than 20% of their construction jobs; 11 states had lost more than 30%; and four states had experienced a shocking decline in construction employment of more than 40%.

Importantly, the vast majority of manufactured products and raw materials used in residential energy efficiency retrofits are produced domestically, so the dollars spent on HOME STAR improvements circulate primarily through the U.S. economy. In many categories of building materials, the rate of domestic production is over 92%.

America has millions of skilled construction and manufacturing workers who are unemployed and need relatively little re-training to enter the retrofitting industry. HOME STAR is a targeted program that will create hundreds of thousands of new jobs, and impact thousands of local businesses in every community in America.

ENERGY EFFICIENCY

Improving the energy efficiency and performance of existing homes could have a dramatic impact on the national consumption of energy. Two-thirds of the more than 100 million single-family homes in the United States were built before the adoption of modern energy codes.[1] These existing homes consume 22% of the nation's energy overall—approximately twice the carbon emissions produced by passenger cars.[2] This stock of older homes provides a prime market for energy efficiency upgrades.

If homes built before 2000 used as little energy per square foot (adjusted by region) as those built since 2000, residential energy consumption would drop by 22.5%. While this calculation does not account for differences between older and newer homes related to layout, location, and household behavior, it does illustrate the potential energy savings from retrofitting the existing housing stock.

Another important factor that reinforces the need to make our homes more efficient is the impact on affordability. The housing and mortgage crisis occurred at a time of skyrocketing energy prices that pushed many homeowners over the edge into default as they could not pay both their mortgages and high energy bills. HOME STAR can help to cushion working-and middle-class homeowners against future en-

[1] U.S. Department of Energy
[2] Pew Center on Global Climate Change

ergy price surges. Further, energy savings translate directly into lower bills and therefore greater housing affordability, helping to keep hard-pressed families in the homes.

The time for comprehensive home energy efficiency improvements is now, and HOME STAR offers Americans the opportunity to do their part in reducing energy consumption by improving the efficiency of their homes. HOME STAR offers significant and broad-based energy efficiency benefits. HOME STAR will help more than 3 million American families retrofit their homes for energy efficiency, saving them as much as $9.4 billion in energy costs over 10 years. This is the equivalent of removing 615,000 cars from the road or the energy generated from four 300-megawatt power plants. All supported technologies and improvement measures in HOME STAR are proven to provide the promised benefits.

BUILDING ON EXISTING STATE AND FEDERAL ENERGY RETROFIT PROGRAMS

There are many opportunities for homeowners to improve efficiency throughout their homes. The most successful campaigns have included the Home Performance with ENERGY STAR program managed by the Department of Energy and the Environmental Protection Agency, and state or utility programs that have focused on replacing old equipment and retrofitting homes. The structure of the HOME STAR program pulls heavily from the Home Performance with ENERGY STAR program operating in 29 states. States as diverse as Oregon, New York, Tennessee, Rhode Island, Massachusetts, Missouri, Arizona, and California have programs that demonstrate the effectiveness of the HOME STAR approach and can help jump-start nationwide participation.

THE SOLUTION

HOME STAR is the solution to the serious issues and challenges outlined above. HOME STAR is a fastacting, short-term job creation program that will drive private investment into the hard-hit construction and manufacturing sectors, while saving consumers money on their energy bills and reducing carbon emissions. It will build on current state programs and existing industry capacity for performing both retrofits and quality assurance, using federal standards and incentives as a common platform to lower program costs and increase consumer awareness. Strong consumer incentives to drive market demand, combined with meaningful standards and incentives for high-quality implementation of efficiency measures and verification of energy savings will ensure that the growing energy efficiency retrofit industry produces ongoing and measurable results while putting Americans back to work in long-term jobs.

In light of the fact that two-thirds of the more than 100 million homes in America were built before modern energy codes, there is a pressing need for the energy efficiency improvements HOME STAR will make possible. HOME STAR will simplify and lower the cost of home improvements such as fixing drafty windows and leaking ducts, installing insulation and high-efficiency heating and air conditioning equipment, replacing inefficient hot water heaters, or undertaking whole-home efficiency retrofits that can cut energy bills by 20% or more.

HOME STAR provides two types of consumer incentives:

- The SILVER STAR prescriptive path provides a near-term incentive for specific energysaving investments. The incentive is simple to administer and easily introduced into the existing marketplace. Homeowners receive between $1,000 and $1,500 for each measure installed in the home, with a benefit not exceeding $3,000 or 50% of total project costs (whichever is less). Covered measures include air sealing; attic, wall, and crawl space insulation; duct sealing or replacement; and replacement of existing windows and doors, furnaces, air conditioners, heat pumps, and water heaters with high-efficiency models. The legislation will utilize existing standards for qualifying products at a level sufficient to significantly increase consumer demand for highly energy-efficient building materials and mechanical systems. SILVER STAR improvements may be implemented by any appropriately licensed and insured contractor, but all participating contractors will receive information about opportunities for accreditation and training programs.
- The GOLD STAR performance path offers an incentive to households that choose to conduct a comprehensive energy audit and then implement a variety of measures that are jointly engineered to provide greater total returns in energy savings. This performance path represents the future of home efficiency: state-of-the-art building science is used to identify problems, present solutions, and deliver verifiable energy savings, generating confidence among homeowners and investors alike. This technology-neutral approach is based on performance,

not specific products, so market forces will direct funds to solutions that achieve the best results. A certified professional with accreditation from the Building Performance Institute (BPI), the Residential Energy Services Network (RESNET) or an approved equivalent conducts an energy audit before work begins, and a test-out when the performance retrofit is complete. Consumers receive $3,000 for modeled savings of 20%, plus an additional $1,000 incentive for each additional 5% of modeled energy savings, with incentives not to exceed 50% of project costs or $8,000 (whichever is less). Contractors implementing the GOLD STAR performance path must be BPI accredited.

HOME STAR will require skilled, trained workers to complete the improvements cited above. With the depression of the construction market, there is a large workforce across the nation ready and eager to get back to work. HOME STAR will also create manufacturing jobs for the dramatically increased levels of insulation, windows, HVAC equipment, caulk, tools and other products needed for retrofitting America's housing stock. More than 92% of these products are produced in the United States by American workers. In addition, the retail distribution of products through home improvement stores and lumber yards will play an important role in increasing jobs in this sector. Retailers also will facilitate consumer education and access to energy improvement products. More than 90% of the jobs created through home retrofits are in small businesses, a powerful engine of economic growth and job creation.

Financing of Consumer Investments

Many middle-class Americans are squeezed by a lack of access to capital, which would prevent them from paying the homeowner share of investment in efficiency improvements. The HOME STAR legislation addresses this challenge by allocating $200 million for state programs that facilitate home retrofit financing. This would be accomplished through a range of existing and new financing approaches that include specialized local and national bank programs, property tax and utility bill financing, as well as national specialty lenders through federal agencies such as Fannie Mae. In this way, working families will be able to participate in the HOME STAR program. In addition, financing measures will increase the number of jobs created through HOME STAR by bringing new private capital investments into building retrofits, expanding the leverage of federal investments, and increasing the level of energy and dollar savings per home. This allocation of financing subsidies will create up to $1.5 billion in low-interest consumer financing and support a wide variety of existing financial products, including (but not limited to):

- Property Assessed Clean Energy (PACE) Loans
- Fannie Mae loans
- Non-collateral loans
- Secured loan products
- On-bill financing

In most instances, energy efficiency savings will exceed the monthly loan payments and allow American families to achieve cash-flow-positive results on HOME STAR projects from day one.

Quality Assurance

HOME STAR establishes a robust quality assurance system based on rigorous technical standards to protect against waste, fraud, and abuse. This system establishes industry performance standards, ensures that a portion of all jobs are inspected by credentialed professionals after project completion, and offers an additional incentive to contractors that invest in a properly trained and certified workforce.

Contractors can enroll in the program by registering and presenting proof of licensing and insurance to a quality assurance provider. These quality assurance providers are already certified through the Building Performance Institute (BPI), the Residential Energy Services Network (RESNET) and other nongovernmental organizations. Homeowners may be contacted by a quality assurance provider for a field inspection after a job is completed to verify that work was done according to standards and as contracted. The program will guarantee minimum inspection rates sufficient to assure quality work and provide accountability for contractors.

Quality assurance programs managed at the state level will maintain lists of qualified inspectors, facilitate access to training and certification programs (including outreach to low-income workers and minority contractors), coordinate with existing state and local efficiency programs, and develop systems for monitoring and enforcement. To provide for the long-term sustainability of this new and growing mar-

ket, states will work with the Department of Energy to bring their quality assurance oversight up to a common national standard.

For GOLD STAR projects, contractors must submit a job completion checklist and work scope for each project, along with testing data, before the incentive is disbursed. SILVER STAR contractors are only required to submit a job completion checklist. For both the GOLD STAR and SILVER STAR programs, field quality assurance is conducted within 30 days on a sample of jobs to verify quality installation. Incentives will be paid to the contractors quickly so that their businesses will have adequate cash flow to operate efficiently and hire new workers.

Quality assurance requirements in HOME STAR will involve a simple paperwork review in approving individual rebates, with a minimum baseline protocol for field inspection that is sufficiently rigorous to ensure high-quality installation and appropriate consumer protection. In all cases, reduced inspection rates will apply for contractors employing a trained and certified workforce.

MEASURABLE OUTCOMES

One of the unique advantages of the HOME STAR program is that it will lead to measurable outcomes and the opportunity to quantify the benefits to job creation, consumer savings, energy efficiency, and environmental gains. HOME STAR will also help create a marketplace that is based on sound economics and that can stand on its own in the future without the need for permanent subsidies.

Jobs

HOME STAR is expected to create 168,000 construction, manufacturing, and retail jobs in local communities in every state.

These jobs will be quality, living-wage positions that cannot be outsourced overseas. Construction and manufacturing companies are poised to ramp up quickly to meet the increased level of demand for insulation, windows, HVAC equipment, caulking, tools, and other products needed for retrofitting America's housing stock.

This work is by its very nature local and requires skilled construction workers who are ready and available to fill the need. The HOME STAR legislation will create incentives for investing in a skilled and certified workforce that can build a long-term industry and provide good wages for skilled workers. Furthermore, most of the manufactured goods used to retrofit homes are produced domestically, with more than 92% of all the products incorporated into HOME STAR made in America.

The multiplier effect on jobs—from certified home performance advisors to installers, retailers, manufacturers, quality assurance contractors—coupled with its reach to literally every state and every community in America, makes the HOME STAR program a unique opportunity to put hundreds of thousands of people back to work.

Home Energy Efficiency

The HOME STAR program will help more than 3 million American families retrofit their homes for energy efficiency and save them as much as $9.4 billion over 10 years, while reducing their energy usage by 10-30%. This is the equivalent of an annual $500 stimulus per household that the homeowner will receive for years to come. Better use of energy in our homes could raise property resale values in a recovering real estate market, and offers an opportunity to confront climate change as it continues to threaten our environment and our national security.

In addition, smart investments in energy efficiency made today will pay for themselves through long-term energy bill savings. In fact, home performance improvements implemented according to the standards set by the Building Performance Institute (BPI), a key part of the HOME STAR program, have already resulted in a less than three-to four-year payback on a homeowner's investment in thousands of homes.

Infrastructure

HOME STAR will help to establish a national platform, with national standards, for an industry that has been in the making for nearly 30 years. Over the past three decades, industry pioneers have built the foundation for the home performance industry. National standards and credentialing are in place through the Building Performance Institute (BPI), Residential Energy Services Network (RESNET), and other organizations. The EPA and DOE have increased public awareness and established rules for executing Home Performance with ENERGY STAR programs across the country. Private-sector individuals and companies, working with early champions such as the New York State Energy Research and Development Authority (NYSERDA), have produced energy modeling software, productivity and project management software, and powerful training programs for the army of installers that will be needed to meet future demand. In New York, more than 30,000 GOLD

STAR-level retrofits have resulted in average annual energy savings of over 25% per household. They have also recorded and modeled the anticipated energy savings from retrofits and remodeling, proving that energy efficiency improvements are effective and have a tangible return on investment.

Environment

Basic efficiency improvements can reduce energy waste and greenhouse gas emissions in most American homes, often by 10-30%. This is particularly true in the nearly 80 million homes built before modern energy codes.

In total, household energy use accounts for more than one-fifth of U.S. carbon emissions—roughly twice the emissions produced by passenger cars. Spurred by HOME STAR rebates, home retrofits are projected to increase to 3 million a year from the current level of 200,000 a year, which could result in carbon output reduction equal to taking 615,000 cars off the road or the energy generated by four 300-megawatt power plants.

Energy Independence

By further scaling back America's dependence on fossil fuels, we reduce our vulnerability to an energy marketplace with extreme price swings caused by those outside of our country, who may be hostile to our interests. Reducing this dependence will not only improve our national security, but also the economic security of American families.

PROCESS & ADMINISTRATION

The fundamental success of HOME STAR relies on rapid deployment and ease of execution both for the consumers it intends to serve, as well as for the service providers and government administrators involved in delivery and oversight. The HOME STAR Coalition has brought together a diverse group to work through the many details required for rapid deployment to ensure this legislation can work quickly.

Administrative Process

The HOME STAR program must meet several overarching goals. To be successful, HOME STAR must rapidly put construction workers back to work and create good, living-wage jobs for American workers; generate a minimum of new government bureaucracy; provide clear lines of authority; and offer a transparent process for all participants.

HOME STAR is not dependent on whether authority rests with a particular federal agency; rather, authority could reside within a number of federal agencies without compromising the program goals. The federal government must, however, provide uniform guidance to establish consistent baseline resources and procedures for all states. States will take the lead in overseeing quality assurance programs, implementing financing plans, and coordinating with existing programs to avoid duplication. The ultimate implementation of this program will be driven by market transactions, and as such the program will set aside administrative funds to drive consumer awareness.

HOME STAR will provide rebates to consumers, which will be assigned to the contractors who complete the work, thus providing an instant price reduction at the point of sale. Rebate checks will be issued by the federal government through rebate aggregators that assist contractors in processing payments and data to ensure smooth and timely payments. Existing state and utility programs will participate in this role along with large retailers or national organizations. In any case, administrative procedures are designed for speed and efficiency to roll the program out rapidly and effectively and to avoid payment delays.

LEGISLATIVE IMPROVEMENTS

While the current draft bill is excellent, we believe that there are two important changes that could be made to enhance the legislation. First is the addition of a targeted incentive for customer-installed measures with educational materials for insulation. This helps to drive consumer awareness and consumer activity at the retail level that will translate into installed measures and program awareness. The second is the integration of the HOME STAR incentives with the existing 25C tax credits. Some incentives are currently available through tax credits, but many Americans cannot take advantage of these credits nor address the delays and uncertainties of their impact. These credits help but do not solve the goals of the HOME STAR program. It is paramount that consumers not be faced with uncertainty and confusion regarding energy efficiency tax credits and HOME STAR incentives. To avoid homeowner confusion, we recommend that the customer be able to take a 25C tax credit

on the net amount of the work after incentives but staying within the overall 50% cap. This would simplify and ensure easy coordination and application of both credits. The HOME STAR incentives have been calculated based on the use of this approach.

With these small improvements, we believe that the HOME STAR legislation will put Americans back to work in all 50 states and begin to address the depression in the construction and housing industries.

Thank you for the opportunity to testify on behalf of the HOME STAR Coalition.

[Graphs have been retained in committee files.]

The CHAIRMAN. Thank you very much.

Mr. DeBoer.

STATEMENT OF JEFFREY D. DEBOER, PRESIDENT AND CHIEF EXECUTIVE OFFICER, THE REAL ESTATE ROUNDTABLE

Mr. DEBOER. Good morning. Thank you, Chairman Bingaman and Senator Murkowski and members of the committee. My name is Jeff DeBoer and I'm President and CEO of the Real Estate Roundtable. The Roundtable is part of a broad-based coalition of labor, energy efficiency, environmental advocates, manufacturers, and we all enthusiastically support the bill that Senator Merkley introduced along with a half a dozen other Senators, including Senator Sanders and Senator Stabenow of this committee. We thank you very much for that focus.

Building Star, as Senator Merkley talked about—and I may underscore some of his statistics here—it's a very powerful piece of legislation, we think. It would fit nicely in a comprehensive energy bill or a jobs bill. Building Star would establish a rebate and a financing program to help make our existing commercial and multifamily buildings more energy efficient.

It would assist building owners by covering a portion of the cost to install state-of-the-art energy efficient equipment and materials, like insulation, boilers, chillers, HVAC systems, variable speed drivers, low slope roofing, other things, in existing buildings. The program also would encourage energy audits and worker training programs to ensure that peak operations for energy efficiency can go forward on an ongoing basis. This would help ensure that in the future our buildings are as energy efficient as possible.

I want to bring to your attention a study by Lawrence Berkeley which indicates that by the end of 2011 approximately 9 percent of all U.S. commercial buildings in America would receive some benefit from this program. This would yield about $3.3 billion in energy savings. These savings would go to business, tenants and hopefully families in multifamily structures.

Building Star energy efficiency measures would result in greenhouse gas reductions, as Senator Merkley pointed out, the equivalent of taking about 4 million cars off the road, the equivalent of removing 33, 300-megawatt power plants from service.

We estimate that it would create between 150,000 and 200,000 jobs. As has been noted, these jobs would be in the construction industry, which is very hard-hit, about 25 percent to 27 percent unemployed right now, nearly 2 million Americans out of work. This would get these skilled laborers back to work, we think, quickly.

By the way, it should be noted that 90 percent of the contractors that perform work in commercial buildings are themselves small businesses that have less than 20 workers, and the manufacturers

who are manufacturing the insulation and the doors and so forth are likewise small businesses.

It's also, obviously with me being here today, Building Star would help the commercial real estate sector, which today is struggling. I want to point out buildings—sometimes it's misunderstood—these are very dynamic assets. To maintain their competitive edge, owners must continually find capital to repair and replace obsolete equipment and systems. This is very difficult in today's business environment. Building Star will help address that problem. The resulting activity in commercial real estate we think will help stabilize values, spur transactions, create jobs, stabilize some tax bases where local communities need to raise money to provide services we all like.

Building Star is a fast-acting rebate program. It's simple. There is a simple application, approval, and verification process that's envisioned in Senator Merkley's legislation. We think the building owners and contractors could easily structure an incentive plan to take advantage of this. They're used to doing it now in State rebate programs and they could do it here.

In conclusion, Building Star we believe, our coalition—and in my written statement we have a list of all of the various industries and companies that support this—we believe this deserves the approval of this committee. Obviously you want to have a lot of input into it, but we think the concept is good and should be approved and put into law. We think it will help create jobs, assist small businesses, whether they're construction or manufacturing or whether they're simply tenants in these buildings.

A couple of other points. Building Star we think will help contribute to overall energy independence and reduce our carbon footprint. As I said, it's important to note that this is designed to be up and running. In the draft legislation, it's called for to have the regs or the process out within 60 days. It would layer on existing programs. There is an aggregator type feature that's already in place out there, so that would help.

So I would conclude by just thanking you for the opportunity to express our enthusiastic support for this. Happy to answer any questions you have. Thank you.

[The prepared statement of Mr. DeBoer follows:]

PREPARED STATEMENT OF JEFFREY D. DEBOER, PRESIDENT AND CHIEF EXECUTIVE OFFICER, THE REAL ESTATE ROUNDTABLE

INTRODUCTION

Thank you Chairman Bingaman, Ranking Member Murkowski, and Members of the Committee, for conducting today's hearing on legislative proposals designed to create jobs and enhance energy efficiency.

I am Jeffrey D. DeBoer, the President and Chief Executive Officer of The Real Estate Roundtable, an organization that represents the leadership of the nation's top 130 privately-owned and publicly-held real estate ownership, development, lending and management firms, as well as the elected leaders of the 16 major national real estate industry trade associations. When I speak of the commercial real estate sector I am referring to six principal property types—apartments, offices, retail, industrial, health care and hotels.

Collectively, Real Estate Roundtable members hold portfolios containing over 5 billion square feet of developed property valued at over $1 trillion, over 1.5 million apartment units, and in excess of 1.3 million hotel rooms. Participating Roundtable trade associations represent more than 1.5 million people involved in virtually every aspect of the real estate business.

I am pleased to testify on behalf of Building STAR, a program designed to modernize existing commercial and multi-family structures through energy efficiency retrofits. These building upgrades will help quickly generate jobs, conserve energy, and save money, all to fuel our nation's economic recovery. Building STAR serves as a complement to the Home STAR proposal, which is also a topic of this hearing and provides incentives for energy efficient upgrades for the single-family residential market.

The Real Estate Roundtable is proud to be part of a broad-based coalition that supports Building STAR. We urge Congress to enact, authorize, and fund this program swiftly. As this statement will explain in greater detail, Building STAR will:

- Create jobs.—As a public-private incentive proposal, a $6 billion public investment in Building Star will yield $18—$24 billion in total program spending. This will create between 150,000—200,000 jobs between 2010 and 2011, especially in the hard-hit construction industry.
- Benefit small businesses.—More than 90 percent of the contractors who perform commercial and multi-family building retrofits employ fewer than 20 workers. Even where large firms hold the primary contract, much of the work is subcontracted to smaller firms.
- Save energy and money.—Based on a study by the American Council for an Energy Efficient Economy (ACEEE), a coalition member, Building STAR would yield $3.3 billion in energy savings annually between now and 2011.
- Reduce carbon emissions.—ACEEE projects that the full suite of Building STAR's energy efficiency programs would result in greenhouse gas reductions equivalent to taking nearly 4 million cars off the road, and removing 33 300-Megawatt peaking power plants from service.
- Help a capital-starved industry.—Credit markets remain tight, dampening activity in the commercial real estate sector. Moreover, as our country's building stock ages, the value of those assets will continue to fall and their ability to produce income will remain constrained. Building STAR will inject much needed capital to modernize commercial properties, so that our real estate market can regain its competitive edge and once again realize a fuller potential to generate income.

Building STAR grew out of the efforts of the Rebuilding America coalition. In 2009, Rebuilding America worked to develop a comprehensive national strategy to transform the energy efficiency market and mobilize a retrofit industry that could renovate 50 million commercial and residential buildings by 2020—accounting for 40% of the nation's building stock. This was based on a goal established by the City of Chicago, which would cut the renovated buildings' energy consumption by 30 percent.

Rebuilding America's policy priorities were then adapted and expanded to include a near-term jobs package, which became the Building STAR program. Building STAR would provide the struggling commercial real estate sector with a lifeline that would take immediate effect. It would jump start manufacturing and get the building trades back to work by installing energy-saving equipment in commercial and multi-family buildings across the country. As I will explain in more detail below, through a quick survey of a sample of Roundtable members, we have learned that many building owners, managers, contractors, and other professionals can take advantage of the rebates offered in this program right away. This means a skilled labor force would be put to work immediately, to manufacture and install the equipment and materials for which Building STAR's rebates are offered, and conduct services to ensure that buildings perform to their optimal energy efficiency capacities. This program would also generate additional jobs for painting, drywall, and other laborers.

Building STAR was introduced as a stand-alone bill—S. 3079, the "Building STAR Energy Efficiency Rebate Act of 2010"—last Thursday, March 4, by Senators Merkley, Pryor, Brown of Ohio, Stabenow, Sanders, and Cardin. S. 3079 consists of a number of rebates and a financing title for commercial and multi-family retrofit projects. I want to thank Senator Merkley for his leadership in introducing this important legislation and all of the original co-sponsors for sharing that vision. I especially want to thank Senators Stabenow and Sanders of this Committee for being original co-sponsors, and appreciating the immense importance of this legislation for job creation—in their states and across the nation—as reflected by all of the co-sponsors' geographic diversity.

Public funding of $6 billion for Building STAR would leverage private capital and spur $18 to $24 billion in total program spending. This injection of stimulus will create 150,000—200,000 jobs, particularly in the hard-hit construction industry, as well as manufacturing and other sectors. The construction industry has suffered tre-

mendously, resulting in high unemployment and leaving unused significant available manufacturing capacity. Today, an average of 1 in every 4 constructions workers (25 percent)—over 1.9 million people—is unemployed. Many of these are skilled members of the building trades who have worked on commercial, institutional, and large residential buildings. The manufacturing sector has also been hit hard by the recession: building materials manufacturing is down by 40 percent, and 1.8 million manufacturing jobs have been lost since the downturn began. I will discuss how Building STAR can help redress these staggering unemployment numbers further below.

An impressive, diverse group of stakeholders has rallied around Building STAR. It is the product of a wide consultation among members of Rebuilding America, a coalition of more than 80 business, real estate, financial, labor, consumer, environmental, and advocacy organizations. Furthermore, S. 3079's technical specifications are drawn from a spectrum of outside energy efficiency and construction experts, such as the Associated General Contractors (AGC) of America, the National Association of State Energy Officials (NASEO—also testifying here today), the Association of State Energy Research and Technology Transfer Institutions (ASERTTI), the American Council for an Energy-Efficient Economy (ACEEE), and the Alliance to Save Energy (ASE). Advocates for Building STAR also include labor and manufacturing representatives, such as the Sheet Metal and Air Conditioning Contractors' National Association (SMACNA), Sheet Metal Workers' International Association (SMWIA), the Polyisocyanurate Insulation Manufacturers Association (PIMA), and the Council of North American Insulation Manufacturers Association. Companies like GridPoint, Intel, and Johnson Controls, the National Association of Energy Service Companies (NAESCO), the U.S. Green Building Council, the American Institute of Architects, also rank among Building STAR's supporters. Representatives of end users such as the Consumer Federation of America and the National Restaurant Association endorse Building STAR as well. Appendix I* to this statement lists the members of the impressive and diverse coalition that has formed to urge Congress to enact Building STAR into legislation.

COMMERCIAL REAL ESTATE AND THE RESIDENTIAL MARKET

Building STAR could play a significant role in the economic recovery of the commercial real estate sector. My industry's vitality is critical to ensuring that our state, national and global economies function and thrive, especially considering the value, jobs and income produced by commercial real estate.

- Value.—Commercial real estate represents $6.7 trillion in value, constitutes as much as 13% of GDP, and supports $3.5 trillion in debt.
- Jobs.—About 9 million jobs can be attributed to a healthy real estate sector. A gamut of professionals depends on prospering commercial developments, such as construction workers, land use planners, investment brokers and lenders, realtors, building owners and managers, architects and interior designers, environmental and energy consultants, maintenance and security contractors, engineers, landscapers, plumbers, lawyers, and accountants.
- Income.—The distinguishing characteristic of commercial (as opposed to residential) property is that it is designed to generate income. As the Congressional Oversight Panel observed last month:

> Commercial properties are generally income-producing assets, generating rental or other income and having a potential for capital appreciation. Unlike residential property, the value of a commercial property depends largely on the amount of income that can be expected from the property.

Congressional Oversight Panel, February Oversight Report: "Commercial Real Estate Losses and the Risk to Financial Stability," Feb. 10, 2010, at 7. Moreover, commercial real estate is financed in a manner to primarily reflect that the sine qua non of such properties is income generation. Accordingly, commercial property owners use the income created from their holdings (that is, rents, leases, retail sales, hotel stays, etc.) to pay debt service, whereas homeowners generally use their personal income to pay off their mortgages.

This brings us back to the first item bulleted above: value. The amount of income generated by a commercial property directly correlates to that asset's value. Lower real estate values result when a commercial property produces insufficient income to service any outstanding mortgage. In turn, default and foreclosure risks run higher, skittish banks are less inclined to extend favorable (or any) refinancing for a

*Appendixes 1–3 have been retained in committee files.

"troubled asset," and a commercial property with greater debt compared to its worth will find itself "under water."

This is precisely why Building STAR comes at a crucial time for my industry. The rebate and financing programs provided by S. 3079 will play a major role in improving the value, or income-producing qualities, of commercial properties. Buildings are dynamic assets. To maintain their competitive edge, building owners and managers must continually find means of financing and capital to repair and replace obsolete equipment and systems. While the seizure of credit markets is becoming slightly more relaxed, lending will remain tight as long as the value of underlying collateral deteriorates.

Commercial properties need new means of reinvestment to attract office tenants, renters, shoppers, and travelers, who are more discerning than ever with their own spending. They demand state-of-the art buildings that use less energy. They want tangible benefits like savings on utility bills. And they seek intangible appeal in properties to accommodate their more socially conscious green aesthetic.

On these points, Building STAR delivers. S. 3079's rebates will stimulate energy efficiency projects across all commercial building types. Upgrades will attract companies to lease retrofitted Class A offices, residents to purchase units in efficient multi-family high-rises, and business travelers to stay in renovated hospitality space. All of this activity will improve property values and lubricate financing, which can lead to new developments and more jobs down the road.

I do not mean to suggest that there is a silver bullet to erase all of commercial real estate's woes, or that Building STAR is the sole answer to our nation's economic crisis. But insofar as we are concerned with improving the underlying asset value of commercial properties, S. 3079 is significant legislation. Furthermore, as I explain below, Building STAR will operate as a major job creation measure—especially for the hard-hit construction industry—and will support thousands of small business contractors who will install and perform those retrofit components contemplated by the bill. Because these rebates can be utilized immediately following enactment of this legislation, people can be put back to work in short order. Finally, Building STAR will present substantial energy savings and environmental benefits by encouraging commercial building modernization.

Before I provide information on the jobs and environmental benefits of S. 3079, let me take this opportunity to explain the nuts-and-bolts of Building STAR—specifically, the types of rebates offered by the program, and a description of the application process to receive Building STAR rebates.

BUILDING STAR PROGRAM—WHAT IT IS AND HOW IT WORKS

Building STAR would authorize a rebate program for building owners and managers who install or implement nearly 20 different types of energy-efficient equipment, materials, and services during 2010 and 2011. The Building STAR rebates would cover approximately 20-30 percent of the cost of installing energy efficient products and/or services (such as building performance audits) during 2010 and 2011. Rebates are capped at 50 percent of the total cost of the product or service for a given building. Moreover, they are largely based on proven, existing rebate programs offered by some states and utilities.

The Building STAR rebate program would cover the following products and services:

- Building envelope insulation;
- Mechanical insulation;
- Windows and window films;
- Low-slope roofing insulation;
- HVAC equipment, chillers, water heaters, and boilers;
- Duct testing and sealing;
- Variable speed drives for motors;
- Interior and exterior lighting;
- Building energy audits, retro-commissioning plans, tune-ups for heating and cooling, and building operator management training and certification; and
- Energy management and monitoring systems.

It is critical to understand that Building STAR's retrofit components are code-stretching measures. They are not geared to simply meet minimum building code requirements. Similarly, older, leaky roofs too often are patched using temporary repair methods rather than removed and properly retrofitted. As a result, potential energy savings are lost, the building environment continues to degrade, and the roofs are ill-equipped to handle new energy technologies such as solar panels. The specific equipment, materials and services within S. 3079's purview—including, for

example, roofing retrofits—will push commercial buildings to the next level of energy efficiency, thereby generating greater savings on utility bills and more reductions in greenhouse gas emissions. However, because these state-of-the-art technologies come at a significant cost, it is not as though commercial real estate operators would install or pursue these extra measures in all cases. This is precisely why Building STAR's incentives will prove so valuable. The legislation's rebates and financing provisions will provide the means for building owners to go beyond current regulations and bring their assets to higher strata of energy performance.

Once enacted into law, the Building STAR program could be up and running within 30 to 60 days, using public funding to leverage three to four times as much private investment. The service providers (e.g., contractors or energy service companies) will be the primary marketers of these commercial rebates, so Building STAR has natural "aggregators" that reflect the existing means by which commercial property owners already contract with firms in the energy services arena to perform retrofit projects. Indeed, some Real Estate Roundtable members retain firms precisely for the purpose to navigate energy efficiency rebate programs. I fully expect these established relationships will be fully mobilized to capture any available incentives that S. 3079 offers.

Building STAR will help drive demand for commercial building efficiency upgrades, because its rebates are based on, and can be claimed in addition to, successful incentive programs currently operated by states and utilities. I want to reiterate this latter point: S. 3079's rebates would not supersede existing programs but, rather, are designed to complement those successful utility and state rebate measures that are already in place.

Rebate Process

S. 3079 directs the federal government to establish rules within 30 days after enactment, to swiftly implement the Building STAR rebate program. A simple and straightforward process is in order and can be easily accomplished, to replicate existing procedures that building owners and their contractors already manage through state and local rebate measures. Commercial real estate professionals are already accustomed to seeking rebates for the complete array of products and services in S. 3079, such as lighting, energy audits, windows, insulation, and more. Moreover, many Roundtable members have senior sustainability managers whose very job is to ensure maximum energy savings, greenhouse gas emissions reductions, and overall environmental performance. They already navigate energy efficiency rebate programs with great sophistication and ease.

S. 3079's implementing procedures should track the following simple steps:

1. A building owner (or its designee contractor) will propose energy-efficient upgrades using the list of products and services set forth in S. 3079. Alternatively, the building owner could find a licensed contractor, energy service company (ESCO), or other provider to propose performance improvement measures, using this same list. The rebate levels for these products and services are already established in the Building STAR legislation, after months of collaboration among engineers and other experts who developed the bill's precise equipment and services specifications. This up-front work was undertaken to avoid the need for federal officials to determine appropriate rebate and performance levels, and the time delays that such a deliberation would entail.
2. The building owner electronically submits an application (as described in the legislation) to the federal government to be placed in a "pipeline" for this rebate. Applications in the pipeline are prioritized on a first-come, first-served basis and enable the government to gauge the number of applicants and determine how many projects the program will be able to fund.
3. The federal government then sends an electronic confirmation to those building owners whose projects will, in fact, be funded.
4. A building owner then installs the equipment or undertakes the services for which rebates are sought—except for that portion covered by Building STAR's incentives.
5. The building owner signs a confirmation certifying that the work specified in the application has been completed according to the requirements outlined in S. 3079. Alternatively, the building owner has the option to have a third-party verifier confirm that the work has been properly completed. Either way, the confirmation is then sent electronically to the government.
6. An independent third-party verifier contracted by the government reviews the confirmation to ensure its accuracy. If the confirmation is accurate, the rebate money is then disbursed to the building owner (or in a given case, where it has been assigned to a contractor), within 30 days of receipt of the confirmation.

7. Following the completion of the retrofit, 10 percent of the projects participating in this program will undergo an on-site evaluation by a certified independent entity to verify that the project complied with the application submitted to the government and the program's requirements. If the verification process finds evidence of fraud or falsification in the process, building owners are subject to legal penalties as prescribed in S. 3079.

Aside from the rebate components of S. 3079, the financing provisions of this bill are similar to those in the Home STAR program. The Building STAR legislation proposes to create mechanisms by which commercial real estate owners can obtain capital to cover, and re-pay, the costs of any retrofit project not covered by rebate dollars. While some commercial building owners might not need financing for the remaining non-rebate portion of an upgrade project, the synergies created by S. 3079's financing title and its proffered rebates will spur other real estate professionals to act on the full suite of retrofit measures under the Building STAR umbrella.

BUILDING STAR'S JOB CREATION, ENERGY, AND ENVIRONMENTAL BENEFITS

Job Creation Potential

Building STAR is a cost-effective way to create thousands of American jobs by helping make commercial buildings more energy efficient. As noted earlier, funding of $6 billion for Building STAR would spur $18 to $24 billion in total program spending, creating 150,000-200,000 jobs. Appendix II (attached) shows the job creation potential, including for small businesses, in the states represented by every Member of this Committee.

While the rest of the job market appears to be slowly stabilizing, construction unemployment is still on the rise. Unemployment within the industry rose from 18.7 percent in November to 27 percent today. In February, non-residential specialty contractors shed 1,500 jobs per day.

Energy efficient retrofits provide a prime opportunity to provide jobs for high-skilled workers, and also to help property owners and low-income people in multi-family residential buildings save substantial amounts on their energy bills.

Expanding Opportunity for Small Businesses

Small businesses are essential engines of job growth and economic recovery. So it comes as good news that Building STAR will directly benefit thousands of high-skilled sheet metal, electrical, mechanical, plumbing, painting, finishing and other contractors who perform the work of retrofitting commercial and multi-family buildings. Indeed, some 91 percent of these firms have fewer than 20 employees. On the very largest commercial retrofit projects, much of the work is normally sub-contracted to dozens of small firms. Moreover, approximately 63% of the manufacturers that would provide materials and equipment for retrofits are firms that employ less than 20 people making insulation, doors, windows, or parts for durable equipment.

Finally, thousands of small businesses are likely to benefit from reduced energy bills and operating costs that result from an energy efficiency retrofit under Building STAR. For example, EPA experts estimate that if a restaurant cuts its energy costs by just 20 percent, profits could increase by 30 percent or more. Industry-wide, that is a savings of $1.6 billion a year. That is why the National Restaurant Association endorses Building STAR.

Ability to take advantage of Building Star's rebates now

At the Real Estate Roundtable, we conducted an informal survey of a portion of our Sustainability Policy Advisory Committee members to get a sense of how they would greet Building STAR rebates, whether the incentives would truly be useful, and how long it would take to start building modernization projects and hire workers. The responses we received were highly enthusiastic. We found that the vast majority of respondents would be able to take advantage of these rebates immediately. That is, there are a substantial number of projects ready to be implemented that will utilize S. 3079's rebates and financing opportunities. The results of our informal survey are attached at Appendix III and show:

- Respondents identified 19 office and multifamily projects that would seek rebates across all of Building STAR's various energy efficiency components.
- These projects would modernize buildings that cover almost 4.2 million square feet in space.
- This universe of respondents would seek approximately $1.55 million in rebates for these projects, with total renovation costs approaching $8 million.
- Building STAR rebate dollars for these projects can be quantified at $0.37 per square foot, compared to total retrofit project costs of $1.90 per square foot.

Should Building STAR be enacted into law, building owners, contractors, ESCOs, manufacturers, and others would immediately begin implementing this program. Painters, drywallers, and related industries would benefit from such retrofits as well, boasting a "multiplier effect" due to Building Star upgrades. In addition, based on a study by Lawrence Berkeley National Laboratory, we believe that a $6 billion public investment in Building STAR would result in improvements in about 425,000 buildings by the end of 2011—or, 9 percent of U.S. commercial buildings.

Energy and environmental benefits

Occupants and tenants in commercial buildings, and their electricity demands and usages, account for 46 percent of all building energy use in the United States. The American Council for an Energy-Efficient Economy (ACEEE) estimates that Building STAR would yield $3.3 billion annually in energy savings between now and 2011. Modernization projects undertaken as a result of S. 3079 would result in greenhouse gas reductions equal to taking 3.95 million cars off the road. This is also equivalent to avoiding the fossil fuels that would be burned from 33 300-megawatt peaking power plants.

The Air Conditioning, Heating, and Refrigeration Institute indicates that, with the Building STAR or similar provisions, we could retire—and replace—as many as 4,000 ozone-depleting CFC chillers across North America. This would achieve energy savings of 15 trillion BTUs per year and save the amount of energy equivalent to that consumed annually by approximately 151,000 average U.S. households. It also would reduce CO_2 emissions by an amount equivalent to removing 18,864 passenger vehicles from the road (2007 data). It also would save building owners $430 million per year in energy costs.

Another area where there is significant potential for energy savings is commercial roof replacements. The replacement of 6% of commercial roof space in the U.S. each year with high efficiency roof systems insulated at levels required under Building Star would result in a CO_2 emissions savings equivalent to the annual emissions of roughly 27 coal fired power plants or 105 million metric tons of CO_2. The 10-year cumulative energy cost savings in this country would be $12.2 billion. Energy savings would be 648 trillion Btu (0.65 quads) for site energy or 1,464 trillion Btu (1.46 quads) for source energy.

Building STAR rebates would facilitate energy efficient retrofits that also would create better air quality, healthier workplaces, and other positive attributes. Because retrofits frequently replace failed building components that have degraded the interior environment, they can improve air quality and occupant health. In addition, the installation of new energy-saving technologies such as daylighting and advanced climate controls can increase worker productivity.

CONCLUSION

The Building STAR program proposed by S. 3079 picks up where Home STAR leaves off. Building STAR provides significant incentives to modernize the vast and diverse commercial real estate stock in the United States, with high efficiency equipment, materials, and services. This Committee is right to consider legislation that furthers job creation, lowers energy costs, and curtails fossil fuel dependence. Building STAR would stimulate the economy, put people back to work, save energy and money, and reduce greenhouse gas emissions. Simply put, however, those critical objectives cannot be fully realized unless Congress authorizes energy efficiency incentive programs that address both the commercial and residential sectors.

The CHAIRMAN. Thank you very much.

Ms. Epperson.

STATEMENT OF STACEY EPPERSON, EXECUTIVE DIRECTOR, FRONTIER HOUSING, MOREHEAD, KY

Ms. EPPERSON. Thank you, Chairman Bingaman, Ranking Member Murkowski, and members of the committee, for the opportunity to provide testimony supporting efforts to replace old substandard mobile homes with new Energy Star manufactured housing. I represent Frontier Housing, part of a nonprofit network helping low-income families purchase quality affordable homes. Today I also speak for a larger group of nonprofit housing and asset agencies, energy efficiency advocates, and the manufactured housing industry.

Nationwide, more than 2 million families live in old energy-inefficient mobile homes. Most are found in economically depressed rural areas and are home to families that are near or below the poverty line. These households often fall through the cracks of Federal programs. Yet they may be trapped in a cycle of very high energy bills with little or no resources to make efficient improvements.

For many years housing nonprofits have struggled with how to solve this problem. Maybe in some parts of America this problem is less visible, but in Kentucky there are nearly 90,000 old mobile homes. They are part of my landscape.

Fortunately, Frontier Housing is able to help families like Phyllis Kelly. Mrs. Kelly was living in a small 1970 mobile home on her own land. Her income was only $889 a month. Her monthly energy bill was $326. That's 37 percent of her income. We needed a home that balanced housing affordability and energy efficiency. The only solution was a manufactured home that met the Energy Star qualified standard, and Mrs. Kelly said: "Dreams come true."

Mrs. Kelly's old home was passed its useful life. Weatherization was not an option. Mrs. Kelly's monthly kilowatt usage fell from 6,000 to 1,600 a month. In an unusual twist, the rural electric coop sent a staff person out to investigate as they thought her home was abandoned.

We have dozens of these success stories, but funding to replace mobile homes with Energy Star homes is very limited. The solution is a targeted program championed by Senator Tester. It will provide the following assistance: First, $7,500 to help low-income buyers qualify for financing to afford the monthly payments for an Energy Star home; second, $2,500 to cover the cost of decommissioning, removing, and recycling the old home; and third, access to ARRA weatherization funds to further close the gap between the cost of the new home and the homeowner's income limitations.

The benefits of a national program are a compelling trifecta because it will create jobs, conserve energy, and provide quality affordable housing. An investment of $500 million a year for 3 years will: No. 1, jobs—provide 51,000 manufacturing, construction, and financing jobs all in the U.S. We estimate that there will be 1.1 new jobs per home built.

In addition to the creation of much-needed manufacturing jobs, the down payment assistance will generate more than $8 billion in construction-related spending. This in turn creates significant new tax revenue. Businesses build homes, sell those homes, and pay Federal corporate income tax. The businesses pay salaries to workers, who will pay income and payroll taxes. The banks pay corporate tax. We believe this program has the potential to generate tax revenue exceeding the cost.

No. 2, energy savings. The program saves nationwide energy costs at more than $240 million a year. The average energy cost savings are about $1,800 per year or $150 a month for a family. We estimate a reduction of 1.4 million tons of greenhouse gas emissions.

No. 3, quality affordable homes. The program will enable nearly 135,000 struggling families to live in attractive and affordable homes that enable them to achieve greater financial security.

We appreciate the committee's commitment to finding solutions that address our Nation's economic and energy challenges and urge you to incorporate this initiative into the jobs bill. Thank you.

[The prepared statement of Ms. Epperson follows:]

PREPARED STATEMENT OF STACEY EPPERSON, EXECUTIVE DIRECTOR, FRONTIER HOUSING, MOREHEAD, KY

INTRODUCTION

Thank you Chairman Bingaman, Ranking Member Murkowski and members of the Committee for the opportunity to provide testimony supporting efforts to replace old, substandard mobile homes with new ENERGY STAR manufactured homes.

The organization I represent, Frontier Housing, is part of a network of non-profit housing organizations helping low-income families find quality, affordable homes that offer an opportunity to build equity while reducing homeownership costs. Today I also speak for a larger group of non-profits, including NeighborWorks Montana and Anchorage, the Environmental and Energy Study Institute and the Corporation for Enterprise Development. We have come together with representatives of the manufactured housing industry to support a mobile home replacement program. Our coalition includes the Manufactured Housing Institute (MHI) the national trade association representing all segments of the manufactured housing industry and the Systems Building Research Alliance. The Alliance is the research arm of the manufactured housing industry and US EPA's National Quality Assurance provider for ENERGY STAR qualified manufactured homes.

THE PROBLEM

Nationwide, more than two million families live in old, and often dilapidated, mobile homes. These homes are among the nation's most energy inefficient. Most are found in economically depressed, rural areas and commonly are home to families that are near or below the poverty line. These households often fall through the cracks of federal government assistance programs yet they may be trapped in a cycle of very high energy bills with little or no resources to make efficiency improvements in their own homes.

Additional taxpayer supported investments for energy improvements and weatherization is not a long-term solution: these homes can never be made energy efficient. Built prior to the federal code that regulates the construction of manufactured housing, they have degraded to the point where it is more prudent and less costly to simply replace the home than make the sizable investment in the insulation, windows, new equipment, and envelope repair that would be needed.

Rarely are there opportunities for so dramatically reducing home energy use and home operating costs and, in the process, improving the quality of life for American families that have few other options.

LOCAL PERSPECTIVES

This is not a fringe issue nor is it limited to one state or one region of the nation. For example:

- In the state of Montana, one out of every 12 homes (8%) is a pre-code mobile home.
- Over half of the factory-built homes in Alaska, New Jersey, Montana, Wyoming, Idaho, North Dakota, Colorado, Utah, New Hampshire and ten other states were built prior to the enactment of the HUD code.
- Nearly every state has thousands of mobile homes built prior to the enactment of energy standards. A few states, like North Carolina and Arizona, have more than 100,000 homes that fit this criterion.
- Households who live in pre-1980 manufactured housing generally have incomes well below the state median. In New Hampshire and Utah, for example, nearly 90 percent of families living in old mobile homes are below the state median income.
- In the states of Tennessee, Kentucky, Arkansas, West Virginia, and Missouri more than 90 percent of mobile homeowners have incomes below the national median.

THE SOLUTION

The solution is a targeted program to help income-qualified homeowners that help them purchase a new and affordable ENERGY STAR manufactured home. We believe the program should provide the following assistance:

1. To help the buyers qualify for financing and afford the monthly payments, a direct incentive of $7,500 to be applied against the purchase price of a new ENERGY STAR manufactured home. Funds for home financing should be available at the time of home purchase (that is, subject to advanced availability).
2. To cover the additional cost of removing and recycling the old home, a grant of up to $2,500 to be provided upon proof of decommissioning.
3. To further close the gap between the cost of the new home and the homeowner's income limitations, we urge that the replacement of substandard mobile homes be included as an eligible use of ARRA weatherization funds.

With limited funding, several non-profit housing agencies have already taken steps to implement programs modeled on this concept. For example,

- In 2007, NeighborWorks Montana received $350,000 to fund a pilot program for the decommissioning and replacement of older manufactured homes. The study identified nearly 30,000 pre-1976 manufactured homes in Montana, for which the cost of weatherization improvements often exceeded the value of the home.
- Maine's state housing authority operates a mobile home replacement program that incorporates an ENERGY STAR mortgage product. Maine's program will track energy savings created by replacement efforts.
- Affordable Housing Alliance, New Jersey is replacing pre-1976 units in a community in Eatontown with ENERGY STAR units as part of the state's affordable housing initiative.
- New York recently created a program that commits $5 million to replace pre-HUD Code homes with ENERGY STAR rated manufactured homes.

These efforts provide valuable lessons for the proposed program.

The benefits of a national program are compelling. It will provide: substantial and sustainable energy savings and reduction in greenhouse gases, a powerful engine of job creation in the United States, and, improved affordability and financial stability for families most in need.

Specifically, we anticipate the following outcomes from the program:

THE BENEFITS

Energy and Environment

- Households participating in the program will save an average of $1,800 per year in energy costs, savings that could be better applied to offsetting the new home monthly mortgage costs and therefore building equity.
- Nationwide savings of more than $240 million a year in reduced energy costs. Within six years of roll out, the program will have paid for itself and continue to pay dividends.
- Reduction in greenhouse emissions of about 1.4 million tons.

Jobs

Adding demand for new manufactured homes at a time when construction is deeply depressed is a very effective mechanism for getting Americans back to work. Half of the new jobs created would be in factories as plants staff up to meet demand, and about half would be in construction support services. Each new affordable, manufactured home constructed adds more than one new job. At a program annual budget of $500 million per year, over the next three years more than 51,000 new jobs will be created in home manufacturing and related construction in the US. One of the advantages of factory construction is the short time within which demand turns into production accelerating the pace of new domestic job creation.

Home Affordability and Quality of Life

- Replacement of old mobile homes with new ENERGY STAR units substantially reduces energy use and improves home affordability, easing the financial burden on families struggling to meet monthly homeownership costs.
- The program will provide an opportunity for families to build equity in their homes and increase their families' wealth. The financial assistance will help families achieve security of tenure, build wealth and achieve financial stability
- Replacement will eliminate problems that chronically plague old mobile homes that are detrimental to family health, such as poor indoor air quality, leaking roofs, collapsing floors and unvented appliances.

CONGRESSIONAL ACTION

We thank Senator Tester and his staff for their commitment. We also appreciate the involvement of the staff of the Committee for working closely with us as the elements of this program were crafted. This program is part of an innovative recovery plan that will help revive the economy and put Americans to work in our new clean energy economy. Senator Tester's bill, the Energy Efficient Manufactured Housing Act of 2009 (S. 1320) has received bipartisan support and we strongly request its inclusion in the Jobs bill.

A replacement program was also included in δ203 of the American Clean Energy and Security Act of 2009 (HR 2454) and passed by the House of Representatives.

CONCLUSION

We recommend that Congress appropriate $1.5 billion over three years to the Department of Energy to provide assistance to eligible homeowners to replace substandard mobile homes with ENERGY STAR manufactured homes.

We appreciate the Committee's commitment to finding solutions that address our nation's energy and economic challenges and urge you to incorporate this initiative into the Jobs bill to create jobs, save energy, reduce greenhouse gas emissions and enable low-income families to afford decent housing and achieve financial security. You may contact any of the coalition members at the contact information below. Thank you.

The CHAIRMAN. Thank you very much.

Mr. Giudice, go right ahead.

STATEMENT OF PHILIP GIUDICE, COMMISSIONER, MASSACHUSETTS DEPARTMENT OF ENERGY RESOURCES, AND CHAIR, NATIONAL ASSOCIATION OF STATE ENERGY OFFICIALS, BOSTON, MA

Mr. GIUDICE. Thank you. Good morning, Chairman Bingaman, Ranking Member Murkowski, and committee colleagues. My name is Phil Giudice and I'm here today on behalf of NASEO. I am the chair of the board of the National Association of State Energy Officials. I'm also here on behalf of Governor Patrick. I am a Commissioner of the Massachusetts Department of Energy Resources. Under Governor Patrick's leadership, we're excited to be giving a race to Vermont and California to be the most energy efficient State in the Union.

Last week my colleague Malcolm Woolf, NASEO's vice chair and Director of Maryland Energy Administration, testified on behalf of the stimulus money that we are putting to work, and things are going quite well there and I look forward to responding to any questions that may come up in that matter.

But today we're here to discuss several proposals that really have very exciting opportunity for us. We see these as a further bridge to our cleaner energy future, creating jobs now, and with the success of both the energy stimulus investments and these jobs investments we will have a compelling basis for the important work into the future to leverage private financing and carry on this work to create a much better energy circumstance for us.

NASEO fully supports the Home Star program and urges Congress to adopt the proposal, including the $6 billion funding level, which will quickly lead to creating jobs and serve as a step to implement the longer State-based energy efficient building programs that were included in both the energy bill passed by this committee in June last year, which I was thankful to have an opportunity to testify in support of, as well as the REAP provision which is included in the House-passed energy and climate bill.

But a couple of points. It is critical that the Home Star program be carefully coordinated in collaboration with the States that are already—and integrated with the comprehensive State energy programs. We're confident that there will be methods that we can make that happen.

In addition, we suggest 3 changes. One, the Home Star program should be treated in the same manner as the weatherization program with respect to NEPA and Buy American. We have learned from some of the experiences of the stimulus and we know that in this program delay is simply not acceptable, so we encourage simply adopting parallel language to make sure that those issues do not become challenges to move forward on this program.

Second, also to avoid delay, we include—we would request you to include a waiver position to be built into the statute in order to permit minor changes in State programs implemented under Home Star so that implementation can be speedy.

Lastly, as a prior speaker indicated, it is critical that the Home Star program be coordinated with section 25 [c] of the residential energy—residential existing home energy efficiency tax credit, so that the Congress can ensure ongoing viability of the tax credit is accommodated in this program.

Next program, Building Star. NASEO also strongly supports Senator Merkley's and colleagues' Building Star legislation, a program to offer rebates for owners of commercial and multifamily buildings for efficiency improvements. The delivering of rebates through that program structure is very straightforward and many buildings we expect will take the utilization of that. They are constrained now by lack of financing, by low value of these properties, and by challenges that they're facing in the commercial sector, and this Building Star program will have significant benefits for them.

It will also leverage a significant amount of public financing to make this work. This means that each dollar of public investment in rebates will spur $2 to $3 of private investment in making these buildings more efficient.

The third program, NASEO also supports Senator Tester's proposal to address the urgent need of our pre-1976 manufactured housing and replacing it with Energy Star housing. We think that the programs that are laid out in that proposal are helpful in that degree to move us forward.

Lastly, we encourage the committee to take up a proposal to look at the industrial energy efficiency programs. Investments made in industrial energy efficiency pays multiple dividends. It improves our manufacturers' global competitiveness, it improves our trade balance, stems the jobs loss in manufacturing, enables our economy to be somewhat less dependent on just consumer spending for its health, and both creates jobs in implementing the efficiency projects as well as reducing energy emissions.

Under ARRA, my State and many States was gigantically oversubscribed in the programs and the funding that was available to help our industrial infrastructure become energy efficient. Only a small fraction of the opportunities, the submitted proposals, were able to be funded. So NASEO supports providing $4 billion for this program pursuant to Subtitle D of Title 4 of the Energy Independence and Security Act. This will make sense from both a global

competitiveness perspective as well as an energy perspective as well as a jobs perspective.

I look forward—I thank you for the opportunity to testify today and I look forward to taking your questions.

[The prepared statement of Mr. Giudice follows:]

PREPARED STATEMENT OF PHILIP GIUDICE, COMMISSIONER, MASSACHUSETTS DEPARTMENT OF ENERGY RESOURCES, AND CHAIR, NATIONAL ASSOCIATION OF STATE ENERGY OFFICIALS, BOSTON, MA

Mr. Chairman, my name is Philip Giudice and I am appearing today on behalf of the National Association of State Energy Officials (NASEO). I am Chair of NASEO and the Commissioner of the Massachusetts Department of Energy Resources, so I am proud to be here representing Massachusetts Governor Deval Patrick. Today, I am testifying on behalf of a variety of legislative provisions to encourage creation of jobs.

NASEO represents the energy offices in the states, territories and the District of Columbia. We provide an ability to shape policies and practices among all of the states to implement a balanced national energy policy. At the present time, the Association is proactively working with the states in ensuring that the energy portion of the stimulus funds directed to state activities is effectively put to work as quickly and productively as possible. We are also working to ensure that as we look to the future, we have established the basis for our transition to a clean energy economy.

Last week, my colleague Malcolm Woolf, who serves as NASEO's Vice-Chair and is Director of the Maryland Energy Administration, testified with respect to ARRA implementation. As Malcolm testified, the states have energetically committed, obligated and are spending the $3.1 billion in ARRA funds under the State Energy Program (SEP). Over one-half of those funds are already committed, despite the delays caused by NEPA reviews, Davis-Bacon, Buy-American concerns and procurement issues. The $5 billion provided to the Weatherization Assistance Program is projected to hit the target of projected homes consistent with the state goals. The $3.2 billion in funds under the Energy Efficiency and Conservation Block Grant (EECBG) is moving forward for the 2,300 direct recipients, and the states are allocating their funds rapidly. The $300 million Energy Star Appliance Rebate Program is planning to spend most of the funds by the end of the first quarter of this year. ARRA funds are having a direct impact on the economy and are producing real jobs. I am proud to say that, thanks to the leadership of Governor Patrick and his entire recovery team, my own state of Massachusetts is hard at work deploying stimulus funds to create jobs and deliver energy benefits. We are on track to have 97% of our SEP funds and the state portion of the EECBG funds under contract with recipients or in negotiations by the end of this month.

The proposals we are discussing today will help serve as an important bridge to a cleaner energy future and will create jobs very quickly. We know that our economy today wastes enormous amounts of energy. We are in the process of building a substantial track record of success with the stimulus funds to demonstrate how prudent investments in efficiency pay dividends for the economy in reducing energy waste. These jobs proposals will broaden and deepen our track record for success and will both raise awareness, as well as develop the delivery models to provide for increased energy efficiency. With the success of the energy stimulus investments and these jobs investments we will have a compelling basis for continuing this important work far into the future by leveraging private financing.

HOME STAR

NASEO supports the Home Star program and urges Congress to adopt the proposal, including the $6 billion funding level. This initiative will put people to work and will move aggressively to improve the energy efficiency of our existing homes. The "prescriptive" (Silver Star) proposal and the "performance-based" (Gold Star) proposal together constitute a short-term, first step to be implemented over a two-year period. This "first step" is significant as we prepare to hopefully implement a longer-term, state-based energy efficient buildings program included in both the energy bill passed by this Committee in June 2009 (S. 1462) and the "REEP" provision included in the House-passed energy and climate bill (H.R. 2454).

The state role in Home Star includes managing the necessary quality assurance activities, promoting use of financing programs to expand the reach of Home Star and finally to serve as Rebate Aggregators in certain jurisdictions. Language is also contained in the legislative draft that strives to ensure that existing state-based energy efficient building retrofit programs are not compromised and will move forward

toward their already-established goals without delay, interruption, or complication. Under ARRA, approximately $800 million in new residential energy efficiency retrofit programs are being implemented under SEP and EECBG. These programs are expanding existing, established programs, that are already being deployed in states like Massachusetts, New York, Oregon, California, Wisconsin, and elsewhere. It is important that any final legislation in this area maintain the highest energy efficiency levels possible—of the type contained in the present draft of the bill.

In my own state of Massachusetts we have been running comprehensive home retrofit programs for three decades, and are at this very moment in the process of expanding them three-fold. After a comprehensive stakeholder planning process led by my office over the last 18 months, our efficiency program administrators (primarily the investor-owned utilities) developed three-year, statewide energy efficiency programs that have received the endorsement of key stakeholders, including the Associated Industries of Massachusetts, our state Attorney General's ratepayer advocate office, environmental organizations and others. The plan will deliver nearly $6 billion in benefits to all energy customer classes, save more than 30,000 GWh and nearly 900 million therms of natural gas and reduce GHGs by about 15 million tons. These programs reflect the combined efforts of thirteen different efficiency program administrators who have agreed to integrate efficiency delivery across service territories and across fuel sources (combining electric and gas savings wherever appropriate) in order to deliver comprehensive and coordinated building improvements that are targeted to meet customer needs. Approximately 40% of the funding is focused on residential efficiency, and the bulk of that is in building retrofits.

In addition we are aggressively pursuing adoption of strong energy codes including an optional "stretch" code that cities and towns can adopt; a funded training program for local code inspectors to enhance code compliance; a robust zero net energy building program in state government and for the private sector; a GHG review requirement for major development projects which is improving the quality of buildings at the design stage; and many other steps to promote building energy performance improvements.

It is critical that the Home Star program be carefully tailored to ensure that it maximizes benefits to taxpayers and energy customers by requiring integration and coordination with existing comprehensive state programs. Anything less risks disrupting the progress that states are already making to achieve the employment, energy and climate goals we all share. DOE and the rebate aggregators must coordinate with these comprehensive state programs. We certainly do not want consumers facing confusing offerings.

In addition, three changes are necessary to this legislative draft. First of all, we feel strongly that for purposes of NEPA and Buy-American, the Home Star program should be treated in the same manner as the Weatherization Assistance Program. As Malcolm Woolf testified last week, the federal and state governments have learned a great deal through the implementation of ARRA. One thing we learned is that further delay is not acceptable. Home Star is a residential energy efficiency retrofit programs: Weatherization is a residential energy efficiency retrofit program. Home Star should be treated in the same manner for purposes of these important statutes.

Second, again in order to avoid delay, a waiver provision should be built into the statute in order to permit minor changes in state programs implemented under Home Star to be implemented quickly.

Third, it is critical that the Home Star program be coordinated with the Section 25C residential existing homes energy efficiency tax credit, so that Congress can ensure the ongoing viability of this tax credit while advancing this new rebate which will benefit many more homeowners and provide immediate job growth. The rebate levels in the draft bill need to be increased in light of the treatment of the 25C tax credit under this legislation.

BUILDING STAR ENERGY EFFICIENCY REBATE ACT OF 2010

NASEO also strongly supports Senator Merkley's (along with Senators' Brown (OH), Cardin, Pryor, Sanders and Stabenow) Building STAR legislation; a program to offer rebates to the owners of commercial and multi-family buildings for efficiency improvements. The Building STAR rebates are modeled on successful programs that states, such as Massachusetts, have created to offer energy efficiency rebates to commercial building owners. This gives me confidence that Building STAR would work and immediately spur new projects and new jobs. Delivering the rebates will be simple and straightforward, because many commercial building owners and contractors are already very familiar with how to select and implement such efficiency measures and apply such rebates.

The economic opportunity in the commercial building sector is great. Nearly 2 million people have lost high-skilled, non-residential construction jobs since the beginning of the economic downturn—an unemployment rate of 24.7%, or nearly 2.5 times the national average. Nationally, commercial buildings consume 46% of energy, and, as recent job data indicate, unemployment is high in the construction industry.

But commercial building owners, most of whom understand the great benefits of energy efficiency to their buildings, often are unable to conduct energy efficiency retrofits or upgrades, due to a variety of market barriers, including tight credit markets, low property values, and confusing landlord-tenant issues on energy bills.

If Building STAR is fully funded at $6 billion, consumers would save $3.3 billion per year on their energy bills, more than 190,000 new jobs would be created, and the equivalent of nearly 4 million cars worth of carbon dioxide emission would be avoided by the end of 2011. Building STAR will put highly-skilled people in the badly-hit construction industry back to work conducting energy efficiency retrofits and help turn the economic tide. It would help the small construction businesses—91% of construction firms have fewer than 20 employees. Building STAR would help create manufacturing jobs (e.g., for windows, lighting, and so on), construction jobs and more in every state across the nation.

Building STAR is a package of rebates for energy efficient equipment, materials and building services designed to meet the unique needs of the commercial and multi-family residential building sector. It is the product of a broad coalition of more than 80 unions, contractor groups, manufacturers, financial services companies, consumer groups, distributors, technical experts and efficiency advocates that would hit the ground running to deliver new work, new jobs and significant energy savings in the short run.

Rebates are offered for twenty different activities, including improving the building envelope, installing more efficient lighting, high efficiency HVAC and other equipment as well as performing audits, commissioning, and training. In general, the rebates are designed to cover 20% to 33% of the installed cost of each measure. That means that each dollar of public investment in rebates spurs $2 to $3 of private sector investment.

The need is great. In January alone, a worker from the specialty trades sector filed an initial unemployment claim every four minutes. An overwhelming majority; 91%, of the commercial contractors that employed this workforce are small businesses that are now severely under-utilized and in trouble. The story is the same in the manufacturing sector, which has also lost about 2 million jobs over the last two years.

ENERGY-EFFICIENT MANUFACTURED HOUSING ACT OF 2009 (S. 1320)

NASEO also supports Senator Tester's proposal to address the urgent need to replace pre-1976 manufactured housing with Energy Star manufactured housing. There are over 2 million of these pre-1976 manufactured housing units in use in the United States today. Prior to 1976 there were no effective energy efficiency standards for these homes. In many areas, low-income and elderly Americans (especially in rural areas) live in these manufactured housing units. They tend to use far more energy than the average home because of little insulation or other energy savings measures. Targeting homeowners with a minimum of $7,500 per home in the form of a rebate or down payment assistance will help move this critical effort forward. This program should be especially helpful in rural areas.

INDUSTRIAL ENERGY EFFICIENCY PROGRAMS

Investments to improve industrial energy efficiency pays multiple dividends. It improves our manufacturers' global competitiveness which helps to improve our trade balance, slows jobs lost in manufacturing, enables our economy to be somewhat less dependent on just consumer spending for its health and both creates jobs in implementing these efficiency projects as well as reducing emissions. Under ARRA, my state like virtually all others was widely over-subscribed when we issued RFPs for certain kinds of projects, including industrial energy efficiency projects. In addition, at the federal level, funds were provided at DOE's discretion for industrial energy efficiency activities such as plant retrofits and modernization to promote industrial energy efficiency. This protects these manufacturers from fuel price volatility and increases competitiveness. These federal funds were also sufficient to fund only a small fraction of submitted proposals. We have project plans on the shelf from industrial facilities across Massachusetts who tell us they are ready to move forward in the next few months with efficiency investments if they could get access to additional support. We think that $4 billion should be allocated for this program,

pursuant to subtitle D of title IV of the Energy Independence and Security Act of 2007 (EISA)(42 U.S.C. 17111 et. seq.). Over ten states utilized ARRA funds directly for manufacturing retooling to promote energy efficiency. This makes sense from an energy perspective as well as a global competitiveness perspective.

Thank you for the opportunity to testify today.

The CHAIRMAN. Thank you very much.

Mr. Mierzwa.

STATEMENT OF TERRENCE J. MIERZWA, EXECUTIVE MANAGER OF MARKETING, ENERGY EFFICIENCY, AND RESEARCH, CONSUMERS ENERGY COMPANY, JACKSON, MI

Mr. MIERZWA. Good morning, Mr. Chairman. Thank you, and Senator Murkowski, members of the committee. Thank you, Senator Stabenow, for the introduction. As Senator Stabenow noted, my name is Terry Mierzwa, Executive Manager of Marketing, Energy Efficiency, and Research at Consumers Energy, headquartered in Jackson, Michigan. Consumers Energy provides service to 1.8 million electric customers and 1.7 million gas customers in Michigan.

I thank you for this opportunity to testify today on the proposal to implement a Home Star program. Consumers Energy is a strong supporter of energy efficiency. Recently we worked with our State legislature and many interested parties to help craft and pass legislation that requires Michigan energy utilities to achieve annual energy savings targets through programs we offer to our customers. With strong bipartisan support, Governor Granholm signed Public Act 295 into law in October 2008.

After approval from the Michigan Public Service Commission, we launched a portfolio of new programs in late July and, despite having only 5 months to do so, I'm proud to say we exceeded our 2009 energy savings targets by about 25 percent. We're off to a great start in 2010 as well.

Clearly, our customers appreciate these programs and are taking advantage of them. We estimate that more than 170,000 residential customers participated in at least one program last year and about 9,500 commercial industrial customers did so as well, including a number of public customers. We heard earlier about schools. We have many of those participating in our programs. Our customers look to us as a trusted resource for expert energy advice and the measures they have installed will help them save money on their energy bills for many years to come.

I might add that the other major energy utility in Michigan, DTE, has followed a similar path, as have all the smaller utilities. This is truly a statewide effort.

Michigan is certainly not the only State in which energy efficiency investment has been growing. A new report by the Consortium of Energy Efficiency shows that since 2006 the combined budgets for electric and gas energy efficiency programs in the United States have more than doubled, growing from $2.6 billion to $5.3 billion.

It is clear that energy utilities are well positioned to play a critical long-term role in delivering energy efficiency. In a recent Edison Electric Institute power poll, a national sample of residential consumers was asked what groups or organizations would they look to for more information on how to use electricity more efficiently.

Almost 60 percent said they would look to their electric utility, which was 2 and a half times as many who mentioned the second most popular choice, which was retailers.

Successful implementation of energy efficiency programs by utilities has required development of the infrastructure necessary to bring them to market. We have hired implementation contractors, developed detailed policies and procedures, built web sites, established call centers, built tracking systems, established rebate processing capability, and recruited and trained thousands of trade allies. These trade allies include big box retail stores, architectural and engineering firms, energy auditors, and electrical home improvement and heating and cooling contractors across our State. Our programs are operated in an open and transparent manner, with independent third party evaluation of the results.

We believe this Michigan model for operating energy efficiency programs is working quite well, given the energy savings results achieved thus far, and it will continue to get even better with more experience. But this model is far from unique. More than 20 other States have legislated energy savings targets that are being achieved through similar programs and infrastructure.

The new legislation being proposed to this committee can offer enhanced opportunities for our customers to become more energy efficient and we believe that is a worthy goal. Improvements in energy efficiency are good for the economy as well as the environment. We appreciate the changes that have been made since the original draft and note that many align with our priorities. To that end, we have 2 key requests, as follows.

No. 1, we want to ensure that the infrastructure we already have in place is not duplicated in the Home Star program. We believe it is important that energy efficiency be achieved in a cost-effective manner in that States in which utilities are operating successful energy efficiency programs are especially well positioned to ensure that outcome. Home Star could and should supplement and augment what we already have in place.

No. 2, it is critical that Federal legislation be harmonized with existing State legislation that has already set energy efficiency requirements for utilities. This can be done by making it very clear that utilities are allowed to participate in and coordinate their programs with Home Star. That clarity will help us to implement quickly and therefore promote quicker job creation, while also demonstrating to our commission that we have a role to play and should receive appropriate credit toward our State energy saving goals.

It's my understanding that the House version of this bill has some clarifying language around utility participation and credit that I think is helpful in that matter.

We very much appreciate that the drafters of this legislation have incorporated many of our suggestions and incorporated language that would give States such as Michigan the option the flow much of this activity through the existing infrastructure that has already been created by the utilities and has enabled each of us to operate successful cost-effective energy efficiency programs. We hope that as this proposed legislation undergoes debate within this

committee and later in the full Senate this option to take advantage of existing utility program infrastructure is preserved.

Thank you for your attention.

[The prepared statement of Mr. Mierzwa follows:]

PREPARED STATEMENT OF TERRENCE J. MIERZWA, EXECUTIVE MANAGER OF MARKETING, ENERGY EFFICIENCY, AND RESEARCH, CONSUMERS ENERGY COMPANY, JACKSON, MI

Good morning. My name is Terry Mierzwa, Executive Manager of Marketing, Energy Efficiency, and Research at Consumers Energy Company, headquartered in Jackson, Michigan. Consumers Energy provides service to 1.8 million electric customers and 1.7 million natural gas customers in Michigan's Lower Peninsula.

Thank you for this opportunity to testify on the draft text of a legislative proposal to implement the Home Star program.

BACKGROUND

Consumers Energy is a strong supporter of energy efficiency. It is a key component of our Balanced Energy Initiative for meeting our customers' energy demands. In 2007 and 2008, we worked with our legislature and many interested parties to help craft and pass legislation that requires Michigan energy utilities to achieve annual energy savings targets through programs we offer to our customers. With strong bipartisan support, Governor Granholm signed Public Act 295 into law in October 2008.

We subsequently developed a comprehensive six-year plan for investing $508 million in electric and gas energy efficiency programs for our residential, commercial, and industrial customers. The Michigan Public Service Commission approved our plan as filed in late May 2009. We launched our portfolio of new programs in late July and, despite having only five months to do so, I am proud to say we exceeded our 2009 energy savings targets of 108,000 MWh of electricity and 300,000 Mcf of natural gas each by about 25%. We are off to a great start in 2010 as well.

Clearly, our customers appreciate these programs and are taking advantage of them. We estimate that more than 170,000 residential customers participated in at least one program last year, whether it was buying and installing compact fluorescent light bulbs, purchasing a high-efficiency furnace, or letting us pick up and recycle an old second refrigerator from their basement or garage. Similarly, about 9,500 commercial and industrial customers took advantage of our programs. They ranged from an elementary school in Swartz Creek that is saving $2,300 annually after installing 22 occupancy sensors in 16 classrooms to a General Motors plant in Flint that is saving $125,000 annually after replacing nearly 1,200 light fixtures with higher efficiency units. Just this month, we launched a new program called Think! Energy targeted at 4th through 6th graders throughout our service territory. We fully subscribed this program within a month and are now in the process of visiting 121 schools and making energy efficiency presentations to 13,000 students. In addition, each child will receive a Take Action! Kit to take home to review with their family. The kit contains two compact fluorescent light bulbs, a high-efficiency showerhead, a faucet aerator, and other easy-to-install measures. Our customers look to us as a natural resource for expert energy advice, and the measures that all of these customers installed will help them save money on their energy bills for many years to come.

I might add that the other major energy utility in Michigan, DTE, has followed a similar path as have the smaller investor-owned utilities, municipal utilities, and electric cooperatives. It is truly a statewide effort.

Michigan is certainly not the only state in which energy efficiency investment has been growing. A new report by the Consortium for Energy Efficiency shows that, since 2006, the combined budgets for electric and gas energy efficiency programs in the United States have more than doubled, growing from $2.6 billion to $5.3 billion.

It is clear that energy utilities are well-positioned to play a critical long-term role in delivering energy efficiency. In a recent EEI Power Poll, a national sample of residential consumers was asked what groups or organizations they would look to for more information on how to use electricity more efficiently. Almost 60 percent said they would look to their electric utility, which was two-and-a-half times as many (23%) who mentioned the second most popular source, retailers.

PROGRAM INFRASTRUCTURE

Successful implementation of energy efficiency programs by all of these utilities required development of the infrastructure necessary to bring them to market. We have hired implementation contractors, developed detailed policies and procedures, built Web sites, established call centers, built tracking systems, established rebate processing capability, and recruited and trained thousands of trade allies. The trade allies include "big box" retail stores, architectural and engineering firms, energy auditors, electrical contractors, home improvement contractors, and heating and cooling contractors across the state. Our programs are operated in an open and transparent manner with independent, third-party evaluation of the results. All of this activity is conducted under the oversight of the Michigan Public Service Commission, which has responsibility for ensuring the prudency and cost-effectiveness of our energy efficiency investments. The Commission also plays an important role by its operation of various energy efficiency collaboratives through which utilities can better coordinate their program offerings and the public can provide its input.

We believe this Michigan model for operating energy efficiency programs is working quite well given the energy savings results achieved thus far, and it will continue to get even better with additional experience and collaboration. This model is not unique. More than twenty other states have legislated energy savings targets that are being achieved through similar programs, infrastructure, and collaboration.

COORDINATION WITH FEDERAL LEGISLATION

The new legislation being proposed to this Committee can offer enhanced opportunities for our customers to become more energy efficient, and we believe that is a worthy goal. Improvements in energy efficiency are good for the economy as well as the environment. We appreciate the changes that have been made since the original draft and note that many align with our priorities. To that end, we have two key requests, as follows:

1. We want to ensure that the infrastructure we already have in place is not duplicated in the Home Star program. We believe it is important that energy efficiency be achieved in a cost-effective manner, and that states in which utilities are operating successful energy efficiency programs are especially well-positioned to ensure that outcome. By taking advantage of the infrastructure the utilities already have in place, we can avoid the creation of redundant infrastructure and administration, which means more of the money appropriated for this effort will flow directly to the consumers who want to improve the energy efficiency of their homes. It also means that the jobs created by these federal programs can be brought to market more quickly. Home Star will supplement and augment what we already have in place.

2. It is critical that federal legislation be harmonized with existing state legislation that has already set energy efficiency requirements for utilities. This can be done by making it very clear that utilities are allowed to participate and coordinate their programs with Home Star. That clarity will help to enable us to implement quickly and promote job creation, while showing our Commission that we have a role and should receive appropriate credit toward our energy savings goals. Otherwise, the federal dollars will be competing with our programs, making them less cost-effective, and potentially causing us to suspend them while federal incentives are in place. This would serve neither our customers nor trade allies well because they seek assurance of a sustained effort rather than a boom and bust cycle.

We very much appreciate that the drafters of this legislation have incorporated many of our suggestions and incorporated language that would give states such as Michigan the option to flow much of this activity through the existing infrastructure that has already been created by the utilities and has enabled each of us to operate successful, cost-effective energy efficiency programs. We hope that, as this proposed legislation undergoes debate within this Committee and later in the full Senate, this option to take advantage of existing utility program infrastructure is preserved.

Thank you for your attention.

The CHAIRMAN. Thank you very much.

Mr. Hanbury, you're the final witness here. Go right ahead.

STATEMENT OF BOB HANBURY, PRESIDENT, HOUSE OF HANBURY, AND BOARD MEMBER, NATIONAL ASSOCIATION OF HOME BUILDERS, NEWINGTON, CT

Mr. HANBURY. Great, thank you. Good morning, Mr. Chairman and members of the committee. My name is Bob Hanbury. I'm a custom design remodeler from Newington, Connecticut with over 34 years experience and I'm a board member of the National Association of Home Builders, NAHB, and I'm pleased to testify today on the Home Star Act of 2010.

NAHB supports incentives for retrofitting older homes.

We believe that this approach is the best way to achieve meaningful energy savings in the residential sector. Professional remodelers like me have been retrofitting homes for years and our expertise is an asset to a national retrofit program.

We have demonstrated success managing federally funded retrofit programs. For example, the Builders Association of Minnesota administered a retrofit program called Project Re-Energize in late 2009 with a grant from the stimulus bill. In just a few short months, the builders retrofitted over 1,400 homes, employed 800 contractors, and returned nearly $3 million in consumer rebates for energy efficiency upgrades. This is a model of efficiency and success that we believe is a perfect part for the Home Star program.

Despite our hope for Home Star, I can tell you that there are barriers to its potential success. As an EPA-certified lead firm, I am fully ready to comply with the new EPA rule covering renovation, weatherization, and retrofit work in pre-1978 houses beginning in 42 days on April 22, 2010. Unfortunately, EPA does not have enough certified renovators that can legally work to retrofit and weatherize older housing stock that the Home Star program hopes to incentivize. Contractors that cannot meet EPA's certification requirements for the lead renovation, repair, and painting rule by April 22 will be breaking Federal law if they work in pre-1978 homes.

Even without a multi-billion dollars retrofit program like Home Star, EPA is far from meeting its stated compliance needs of more than 200,000 certified renovators by the deadline. As of February 19, EPA reports only that about 14,000 certified individuals—there are about 14,000, with some States still having no accredited training providers. As you can see, a substantial retrofit program like Home Star only magnifies these compliance issues.

Without a delay in the effective date of the rule, I believe it will derail the success of Home Star or, vice versa, these incentives may lead contractors to potentially violate the law by working in older homes without proper certification to take advantage of Home Star. NAHB supports lead-safe work practices as well as retrofit incentives, but unless the compliance issues with the lead rule are addressed I believe it will cripple Home Star before it really has a chance to work.

In addition to the issues with the EPA's lead rule, NAHB also hopes to ensure that the Home Star program is equally accessible by all qualified highly trained contractors that have undertaken legitimate work force training and possess appropriate skills, job skills, in weatherization. We're concerned that there are limitations on both the certification requirements as well as the labor pool in

the current draft legislation. The amount of energy lost on older homes is significant, as are the job losses in construction, and Congress should not limit in any way the ability of qualified highly skilled and eligible workers to execute a comprehensive home retrofit program.

Specifically, NAHB requests the inclusion of the Home Builders Institute, or HBI, in addition to the named training programs as a qualified work force development program. HBI is the largest Job Corps partner with the U.S. Department of Labor and has developed a robust weatherization curriculum that creates a clear path for professionals doing retrofit work well into the future. HBI is a legitimate work force training program that deserves equal consideration with the others.

NAHB is also concerned that minimum prequalification requirements under section 8 for work after January 1, 2011, precludes participation by certain eligible contractors. Specifically mandating accreditation and only properly classified employees seems to preclude contractors based on certification credential and employment status. NAHB has sought clarification on the reason behind qualifying contractors based on employment status, but has not received justification for this inclusion. Unless there is an objective reason for limiting the pool of available workers in this regard, it seems fair and appropriate to remove such mandates provided contractors can demonstrate sufficient job skills and work force training that otherwise would qualify them to do the work.

NAHB fully supports retrofitting older homes and we are truly experts in this field. We support the benefits both in job creation and energy savings that a program like Home Star could deliver. But we are wary of the pitfalls. The chief obstacle to Home Star's success is the effective date of EPA's lead rule and the lack of certified renovators. This rule must be delayed until a sufficient number of contractors have the opportunity to be certified by EPA.

I appreciate the opportunity to be here to present our thoughts on this legislation and we look forward to working with you. I'd be happy to answer any questions.

[The prepared statement of Mr. Hanbury follows:]

PREPARED STATEMENT OF BOB HANBURY, PRESIDENT, HOUSE OF HANBURY, AND BOARD MEMBER, NATIONAL ASSOCIATION OF HOME BUILDERS, NEWINGTON, CT

Chairman Bingaman, Ranking Member Murkowski, and members of the Committee, my name is Bob Hanbury. I am President of House of Hanbury, a third generation contractor based company in Newington, Connecticut. I have over 34 years experience specializing in design-build remodeling and I am a board member of the National Association of Home Builders (NAHB). I am pleased to have the opportunity to testify today, on behalf of the 175,000 members of NAHB in regards to the Home Star Act of 2010 and to express our support for incentives to retrofit older homes and buildings to improve energy efficiency and performance. Through my experience in the housing industry, I am intimately familiar with the struggles facing residential construction and I am eager to have meaningful job creation take place in our industry. NAHB members, like me, are already experts on the type of jobs that the Home Star proposal seeks to promote. I believe we can be both assets and allies for creating a robust national retrofit program like the one envisioned in the draft Home Star legislation.

In addition to the great promise I see in the Home Star proposal, I also see potential barriers to its success. For example, there are potential conflicts between Home Star and an environmental rule—e.g., the EPA's Lead: Renovation, Repair and Painting Rule (LRRP)—that may create a serious compliance problem whereby it becomes illegal to work on any pre-1978 without certification by EPA in Lead Safe

Work Practices (LSWP) as of April 22, 2010. Further, precluding access to the program by qualified contractors that receive appropriate job skills training via "other" workforce training programs is problematic. Similarly, requiring all contractors after the initial implementation period to be on a restrictive "pre-qualification" list will also limit the impact of the program.

This statement details our concerns about the implementation of the EPA's LRRP that I believe will cripple the success of a Home Star retrofit program before it really has a chance to begin. Additionally, I have provided specific comments on the draft Home Star legislation outlining areas of concern and recommendations for improving the proposal. In both areas, NAHB looks forward to working with you to create a successful retrofit program that provides equal access for all qualified and properly-trained contractors and a true incentive to renovate the oldest, least-efficient housing stock.

SUPPORT FOR RETROFIT INCENTIVES AND PROJECT REENERGIZE

NAHB has consistently supported incentives for improving the energy efficiency of existing homes as part of a balanced energy efficiency policy for the building sector. In collaboration with several environmental and efficiency leaders, NAHB jointly advocated for the extension and expansion of tax credits under Section 25C and Section 25D of the Internal Revenue Code that support both efficiency upgrades and the installation of advanced renewable energy systems in homes. These two incentives were used by more than 4 million taxpayers in 2007 alone. Incentives for efficiency upgrades in existing homes are particularly meaningful because those projects are not normally as visually appealing as a state-of-the-art-kitchen.

Remodelers and renovators have been undertaking retrofit projects for years and have established networks to deliver large-scale projects, like Home Star, already in place. Despite the dramatic downturn in housing, our industry is poised to implement a retrofit program that employs the skills and expertise already mastered by builders and remodelers who rely upon the delivery system and supply-chain that runs between renovation contractors and product manufacturers. NAHB members have a proven track record of success in programs like this, primarily because we have been doing this work for years.

An example of a retrofit success that is particularly relevant to the draft Home Star legislation is Project Reenergize—www.projectreenergize.org. This successful retrofit program was administered and managed by the Builders Association of Minnesota (BAM) under a grant from the American Reinvestment and Recovery Act (ARRA). This program leveraged just $3 million dollars of ARRA funding into a consumer rebate retrofit program that not only provided high-quality efficiency upgrades to consumers in Minnesota, but also delivered additional remodeling work to contractors that exceeded the promotional items as well. In a few short months at the end 2009, Project Reenergize completed 800 retrofit projects on over 1,400 homes with an average rebate to the consumer of $2,300.

The success of Project Reenergize is not only that it moved rapidly with remarkable results, but also that it was managed efficiently and did not suffer the same bureaucratic issues that plagued other ARRA weatherization-type projects. First, as a consumer rebate program, Project Reenergize was not subject to Davis-Bacon wage requirements, as every other weatherization project faced, because it was awarded an exemption by the Department of Labor. Secondly, because the State of Minnesota did not have the network available to deliver the funding quickly, it allowed the BAM to administer the rebate program, similar to the proposed Rebate Aggregator role in the draft Home Star legislation. BAM verified that the contractors were appropriately trained and qualified to do the work, as well as reviewed all quality control paperwork and any field inspections prior to issuing the rebates. BAM was uniquely positioned to be the link between the manufacturers, distributors, retailers, contractors, and trainers in this regard. Thus, NAHB believes that the success of Project Reenergize should be a model for how a larger, national rebate program should function and that there is a key role for the other 800+ state and local home builder associations across the U.S.

IMPLEMENTATION OF THE EPA'S LEAD: RENOVATION, REPAIR AND PAINTING RULE

I am concerned with the implementation of the EPA's Lead: Renovation, Repair and Painting Rule (LRRP) and the potential conflict with the roll out of a multi-billion dollar retrofit program like Home Star. As a professional remodeler and an EPA "certified renovator" in Lead Safe Work Practices (LSWP), I am trained and ready to continue working in pre-1978 homes, in compliance with the LRRP rule, after April 22, 2010. Despite attempts to get EPA to act quickly and train enough professionals in time to meet the deadline, I believe thousands of contractors may

be accused of doing illegal work on older homes as they assist homeowners in taking advantage of retrofit incentives, or that the LRRP rule, and the liability that accompanies it, will deter work in pre-1978 homes after April 22, 2010.

EPA finalized the LRRP rule in August 2008 covering all renovation work in homes built before 1978 to "minimize exposure to lead-based paint hazards created during renovation, repair, and painting activities in all housing and other buildings frequented by children under age 6." NAHB, along with several others, participated as a stakeholder in the development of the LRRP rule and supported its intent, as originally proposed. NAHB believes in the benefits of training contractors in LSWP. Therefore, NAHB has been consistently disappointed with the amount of time it has taken EPA to begin training, approve and accredit training programs and training providers, and approve online training courses for the portion of the certification protocol that does not require "hands-on" observation. This lack of attention has led to serious deficits in providing enough "certified renovators" to meet the compliance demands of the LRRP rule, and worse yet, it could now derail the success of a retrofit program to create jobs, like Home Star.

Obviously, the homes in the most desperate need of retrofit are those built prior to the introduction of energy codes in the late 1970s. This substantial segment of the housing stock—about 68% of all existing homes—numbers roughly 79 million. In order to address these millions of older homes, EPA estimated that it would need 212,000 certified firms and 236,000 certified contractors prior to the April 22, 2010[1]. Additionally, EPA proposed adding an amendment to the LRRP rule in October 2009, which substantially increases the number of homes subject to the rule, thereby increasing the need for additional trained firms and contractors by 110,000 and 115,000, respectively, all prior to the April 22, 2010 deadline[2]. As of February 19, 2010, EPA reported that is has certified 13,669 renovators in LSWP [See Appendix I].

Furthermore, EPA reports that some States still do not have any accredited training providers to offer the EPA training, including the States of Arizona, Louisiana, Oklahoma, Rhode Island, South Dakota, West Virginia, and Wyoming[3].

EPA has not given contractors the adequate means to comply with the LRRP rule, a problem which will be magnified if the Home Star program is enacted into law. EPA did not begin accrediting training providers until July 2009 and since that time has only accredited approximately 135 firms and 13,669 individuals, far below the 236,000 threshold it set for itself in March 2008. Additionally, EPA has generally been deficient in its efforts to inform the regulated community about the LRRP rule, only starting its advertising campaign for compliance at the end of February 2010. Thankfully, NAHB and the remodeler members of our state and local home builder associations began working to try to have as many contractors as possible trained prior to EPA's ad campaign and have already held 231 training courses with another 500 planned.

With little effort to effectively train and inform the regulated community, EPA has done virtually nothing to inform the public about the LRRP rule. Consumer awareness of this regulation is negligible, at best, and with the heavy media campaign that will undoubtedly accompany Home Star, homeowners will rush to call contractors to perform efficiency upgrades in older housing, not realizing that many of those contractors could be doing the work illegally if they are not EPA certified. While the consumer would not bear the liability for violations, contractors that violate the statute are subject to fines and civil penalties (under Toxic Substances Control Act, $37,500 per violation, per day[4]), which will provide a disincentive for working on pre-1978 homes.

Regardless of the certification, pre-qualification and training requirements as prescribed for contractors working on Home Star projects, all contractors must comply with the LRRP rule. In order to comply, contractors must belong to a "certified firm," which requires paying a fee to EPA or delegated State program, and "certified firms" must have at least one trained "certified renovator" that must be present at the outset and completion of renovation work in housing subject to the rule[5]. Since EPA has publicized a plan showing that it expects only a portion of the regulated community to be able to comply with the LRRP rule by the effective date under nor-

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[1] U.S. Environmental Protection Agency, Economic Analysis for the TSCA Lead Renovation, Repair, and Painting Program Final Rule for Target Housing and Child-Occupied Facilities, (March 2008). table ES-4.

[2] U.S. EPA, Economic Analysis for the TSCA Lead, Renovation, Repair, and Painting Program Opt-Out and Recordkeeping Proposed Rule for Target Housing and Child-Occupied Facilities, ES-2 (October 2009).

[3] U.S. EPA, http://www.epa.gov/lead/pubs/trainingproviders.htm [accessed 9 March 2010].

[4] 40 C.F.R. §745.220(b)

[5] 40 C.F.R. §745.85

mal market conditions, NAHB doubts that it could accommodate the influx of new renovation contractors in the context of a multi-billion retrofit program that is specifically designed to create jobs working on the same housing stock covered by the LRRP rule.

NAHB believes that intervention to delay the effective date of the implementation of the LRRP is warranted and justified, especially in the context of promoting a retrofit program. Not only has EPA demonstrated a lack of capacity to provide adequate compliance pathways, but there are liabilities that accompany this program that could stymie the success of a planned retrofit program. Because of the implications of the compliance problems and potential liabilities, both in federal fines and lawsuits, NAHB believes the Committee should weigh in with the administration and the Office of Information and Regulatory Affairs at OMB to request a delay in the effective date of the LRRP rule.

A delay in the effective date of the LRRP rule is also critical because the statute under which the rule is promulgated allows for citizens to sue a regulated contractor after providing notice to EPA if the EPA declines to pursue an enforcement action or civil action against that contractor. Thus, even if EPA exercised its discretion and chose not to actively pursue enforcement actions against remodelers and other contractors alleged to be in violation of any part of the LRRP rule, an individual could file a lawsuit against the contractor. For example, if a contractor were unable to attend certified renovator training by April 22, on April 23, anyone meeting the Toxic Substances Control Act's specifications can file notice of their intent to initiate a lawsuit to "restrain a violation," which would likely prohibit the contractor from working on any home built before 1978[6].

NAHB believes that delaying the effective date of the LRRP rule is appropriate and that there is sufficient precedent for taking such action. In 2000, the Department of Housing and Urban Development (HUD) faced a similar problem implementing a lead rule that covered federally-owned housing due to lack of trained (certified) personnel. The rule was finalized on September 11, 2000, but due to the lack of certified professionals to implement it, an extension, of sorts, was granted whereby program participants that had properties built after 1960 were granted a "transition assistance period" and could file a "statement of inadequate capacity" that essentially indicated their intent to comply with the rule once enough certified professional were available to do the work. As the need dictated, these transitional periods continued to be available until January 10, 2002, when it was determined that there was finally enough capacity to comply with the rule. If this process was appropriate to establish compliance for federally-owned housing stock, it seems justifiable for use in this case where substantially more homes are affected.

COMMENTS ON DRAFT HOME STAR LEGISLATION

NAHB fully supports retrofit efforts like Home Star and has experience successfully implementing federally-funded retrofit projects, but we believe the current draft Home Star legislation may not provide equal access to all trained contractors and could potentially limit the eligible labor pool. As drafted, only certain organizations qualify by name under the workforce development training section of the draft legislation. Furthermore, by 2011, no contractors working on any "federally assisted residential retrofit work" will be authorized to participate unless those contractors are pre-qualified and the pre-qualification minimums are needlessly exclusionary. In order to be truly successful, both in the number of jobs that can be created, as well as the amount of energy that can be saved, the Home Star program should be accessible to every contractor that has been trained in a legitimate workforce training program, or that has the appropriate job skills to perform the work. Whether or not he or she is affiliated with a specific credentialed organization, as listed in the draft, should be irrelevant.

[6] The Toxic Substances Control Act (TSCA) allows citizens satisfying Constitutional article III requirements to pursue civil actions against persons alleged to be in violation of the act or a regulation or order promulgated pursuant to the act. TSCA § 20; 15 U.S.C. § 2619(a). Section 20 provides that "any person may commence a civil action (1) against any person. . .who is alleged to be in violation of this chapter or any rule promulgated under. . .subchapter. . .IV [Lead Exposure Reduction] of this chapter to restrain such violation." See id. In order to pursue litigation against an alleged violator, the citizen plaintiff must first notify both EPA and the alleged violator 60 days before filing a complaint. TSCA § 20(b)(1)(A); 15 U.S.C. § 2619(b)(1)(A). If EPA has already commenced "and is diligently prosecuting" an enforcement or civil action against the alleged violator, then the citizen plaintiff cannot bring suit. TSCA § 20(b)(1)(B); 15 U.S.C. § 2619(b)(1)(B). If EPA initiates action after receiving notice of the citizen plaintiff's intent to sue, then the plaintiff may intervene in the proceeding.

Home Builders Institute (HBI)

One specific omission in the draft Home Star legislation is the exclusion of the Home Builders Institute (HBI) from the definition of a "certified workforce" in Section 2(4). HBI is the largest Job Corps partner with the U.S. Department of Labor and is currently structured to serve workers from youth to adults; providing a career path for the residential construction (and home weatherization) industry. Because HBI is already a recognized partner with the federal government, it is a legitimate workforce program that provides the same skills training and job preparation that the draft Home Star legislation seeks to promote.

Beginning in 2001, HBI developed a craft trade specific training program focusing exclusively on the residential construction industry. The Residential Construction Academy Series published by Delmar Learning, a leading trade textbook publisher, features textbooks and electronic teaching materials in the subjects of Carpentry, House Wiring, Plumbing, HVAC, Masonry and Facilities Maintenance. "Basic Principles for Construction" serves as an introduction to the curriculum. Weatherization and retrofit strategies and practices are imbedded throughout the RCA Series' trade titles, many of which are in their 2nd editions. The training is based on national skill standards identified by residential builders, remodelers and educators. RCA Series materials are used in high schools, two-year colleges and workforce preparedness programs, including Job Corps, throughout the U.S.—(www.residentialacademy.com)

HBI provides certification for both instructors and students who utilize its materials through the National Occupational Competency Testing Institute (NOCTI). NOCTI is a leading provider of high-quality occupational competency assessment products and services to secondary and post-secondary educational institutions in the U.S. and worldwide. In 2009, HBI correlated all of its training materials used in Job Corps training, as well as its Pre-Apprenticeship Certificate Training (PACT) used to train disadvantaged audiences, to the ANSI approved ICC-700-2008 National Green Building Standard™. These materials present entry-level, pre-apprenticeship training on craft trades involved in the weatherization of existing homes. Furthermore, HBI also created a 40-hour training certification on weatherization and retrofitting for industry practitioners, which includes includes classroom and hands-on training and an associated certification. This training can be administered through home builder associations or community colleges throughout the U.S. In the last 28 years, HBI has trained well over 150,000 professionals—youth to adults—in the residential construction industry.

NAHB recommends including the Home Builders Institute (HBI) workforce development training program in addition to Building Performance Institute (BPI), North American Technician Excellence, and Laborers International Union of North America, as a qualifying program for a "certified workforce." This is particularly important, as the ongoing Quality Assurance Framework, under Section 8 of the draft Home Star legislation, demands the use of a "certified workforce" as a minimum component of pre-qualification. NAHB does not believe that relegating the inclusion of HBI to a decision by the Secretary to use "other standards" is sufficient to guarantee meaningful consideration because of the length of time that a deliberative agency consultation and/or rulemaking process might take. NAHB respectfully requests that HBI be listed by name along with the other named training programs under Section 2(4)(A).

Certified Workforce

In addition to limitations on the types of workforce training that could be considered qualified under a "certified workforce," NAHB notes that there are limitations on the types of contractors that can be used in any longer-term retrofit projects under Section 8. This provision requires that by January 1, 2011, all States must submit plans to implement a "Quality Assurance Framework" for any "federally assisted residential retrofit work"—both Silver Star and Gold Star—that is "administered, supervised, or sponsored by [the] State." This mandatory requirement establishes pre-qualification minimums for all contractors and are exclusionary and restrictive.

Under Section 8(3) of the draft legislation, minimum pre-qualification requirements for authorized contractors include "accreditation" and "proper employee classification," among others. NAHB believes that the accreditation requirement, as defined under Section 2(1)(B) of the draft, limits consideration to those that are accredited by "BPI" or "other." NAHB has concerns that restricting access to only "BPI" contractors could limit the program reach, as there may be instances where BPI-accredited contractors are not serving every residential retrofit market in the U.S.

More importantly, NAHB is extremely concerned with language in Section (8)(3)(C) that mandates "proper classification of employees." Despite repeated attempts to clarify the intent of this language, NAHB has not been able to determine the objective of mandating a "proper" way to classify an employee's status for participation in this program. Unless an objective reason for including this language exists, it should be removed so that the intent is clear and that every properly-trained and qualified contractor can participate, despite classification status, as should be the parameters of a program like Home Star. Included with this Written Statement is a compilation of NAHB's specific comments on the legislation and the corresponding sections with recommendations for changes [See Appendix II].

CONCLUSION

NAHB fully supports the approach that the Committee is considering with providing incentives for consumers in older, existing homes to be able to improve energy efficiency and performance. NAHB has consistently advocated for these types of incentives and will continue to push for expansions and extensions of such incentives. By far, the housing and residential construction industry has experienced the worst of the economic downturn and job creation is critical for professionals, like me, who have worked for years to retrofit and remodel homes. We look forward to working with the Committee, Congress, and the administration as they put the finishing touches on a retrofit program.

Furthermore, in order to ensure that the Home Star program does not magnify the compliance issues that renovators are already facing with the EPA's LRRP rule, NAHB respectfully requests that the Committee and Congress ask for a delay in the effective date of the LRRP rule—currently April 22, 2010. NAHB supports the use of contractors trained in LSWP and similarly supports retrofitting existing homes for improved energy efficiency, however, without intervention and a delay, these two initiatives may cripple one another. NAHB believes that without a delay, compliance with the LRRP rule will effectively limit the reach and potential success of Home Star, or rather Home Star will create incentives for contractors to perform illegal work on older housing by not receiving appropriate certification from EPA in time.

NAHB believes that crafting a retrofit program, modeled after the success of the Builder Association of Minnesota's Project Reenergize program, is the right way to include equal access to highly-qualified, trained contractors and builders. Limiting the program to certain groups of people with explicit certifications, employment status, or specific credentials is short-sighted and would reduce the impact on jobs and energy savings. We look forward to working with the Committee and Congress on this issue. Thank you.

APPENDIX I

EPA LEAD: RENOVATION, REPAIR AND PAINTING (LRRP)
RULE STATS, AS OF 2/19/10

(Data from U.S. EPA)

State	Certified Renovators	Courses by State
AK	97	10
AL	163	10
AR	40	2
AZ	55	3
CA	742	60
CO	378	41
CT	239	22
DC	35	2
DE	56	12

EPA LEAD: RENOVATION, REPAIR AND PAINTING (LRRP)
RULE STATS, AS OF 2/19/10—Continued

(Data from U.S. EPA)

State	Certified Renovators	Courses by State
FL	468	48
GA	289	16
HI	21	3
IA	75	1
ID	204	20
IL	356	27
IN	343	28
KS	62	4
KY	149	9
LA	103	7
MA	389	39
MD	461	39
ME	188	11
MI	588	57
MN	569	42
MO	187	12
MS	76	6
MT	6	0
NC	542	45
ND	70	5
NE	515	37
NH	124	7
NJ	259	21
NM	91	6
NV	17	2
NY	976	84
OH	1004	71
OK	119	2
OR	289	26
PA	407	32

EPA LEAD: RENOVATION, REPAIR AND PAINTING (LRRP) RULE STATS, AS OF 2/19/10—Continued

(Data from U.S. EPA)

State	Certified Renovators	Courses by State
RI	12	0
SC	166	19
SD	147	7
TN	94	13
TX	670	61
UT	6	0
VA	323	23
VT	44	4
WA	245	27
WI	1170	59
WV	21	1
WY	6	0
Canada	1	0
Null	12	4
TOTAL	13669	1087

APPENDIX II.—NAHB COMMENTS ON THE HOME STAR ACT OF 2010

General Comments

- NAHB supports making program rebates non-taxable income to consumers and also supports allowing consumers to continue to utilize credits under Section 25C of the IRS Code of 1986, supplementary to the rebate program.
- NAHB also supports efforts to increase the universe of Quality Assurance Providers (QAPs), but shares concerns related to the interplay between QAPs, Rebate Aggregators, and Contractors, as defined in the draft.
- NAHB insists that the Home Builders Institute (HBI) should qualify by name under the definition of a "Certified Workforce" in Section 2(4)(A) of the draft, as it is an existing workforce development and training partner with the U.S. Department of Labor and has an existing weatherization and retrofit curriculum.
- NAHB asserts that the mandatory minimum requirements for prequalification of contractors under Section 8(c)(3) for use in any State "administered, supervised, or sponsored" quality assurance programs covering "all federally assisted residential retrofit work" (both Silver Star and Gold Star) prohibitively limits the labor pool and precludes equal participation by qualified and highly-trained contractors.

Section 2. Definitions

- Subsection (4)(A)—page 2, lines 19-25. The definition of a "certified workforce" rests upon certification in job skills training that is offered by three named programs—(BPI, NATE, and LiUNA)—and relegates all other legitimate programs to an "other" category under 4(B). The process by which DOE and DOL would have to consult and approve "another standard" would be lengthy and likely fall outside of the design of the program for quick implementation. NAHB insists that in cases where the DOL or DOE have already partnered with, and work with, a legitimate workforce development program (training and job skills pro-

gram; retrofitting/weatherization), that those programs also be listed by name in order to speed the implementation and availability of additional trained contractors for eligibility under the certification program requirements. In this regard, NAHB requests the addition of "(iv) the Home Builders Institute" after line 25, page 2 of this subsection.

- Subsection (10)—page 3, line 10-page 4, line 2. NAHB believes the definition of "home" in this subsection is very broad and in order to focus the government's limited resources on the least-efficient stock, there could be an additional qualification that limits eligibility to older housing stock. As drafted, any home built before the enactment of the bill—including green homes and advanced energy-code compliant homes, would qualify. This is not a major sticking point, but it should be noted that other successful home retrofit programs have successfully limited participation by house size and/or year of construction to older stock as a means of delivering a larger return on investment in terms of energy savings. NAHB suggests additional qualification requirements to target resources to the older, least-efficient housing stock by deleting the words "the date of enactment of this Act" on page 4, line 2 and inserting a year of construction that predates enactment by at least five or ten years.

Section 5. Silver Star Home Energy Retrofit Program

- Subsection (b)(6)—page 16, lines 4-12. It should be noted that the window and skylight specifications for qualification under this subsection are both inconsistent with existing federal incentive programs and geographically inappropriate for some climate zones. For example, the specifications require compliance with criteria in Section 25C of the IRS Code and skylights do not qualify at all under Section 25C, therefore it is impossible to qualify skylights under this subsection. Furthermore, Section 25C criteria requires windows with a 0.30 U-factor and a 0.30 solar heat gain coefficient. Unfortunately, these window specifications are generally too dark for northern climate zones where radiant heating in the winter is both warranted and beneficial. In order to improve access for consumers to affordable and available products, while still retaining the inclusion of a bona fide energy-efficient upgrade, NAHB requests a deletion of lines 8-12 on page 16 and insertion of the following: "(A) meets the criteria for such components established by the 2010 Energy Star Program Requirements for Residential Windows, Doors, and Skylights, Version 5.0 (or any subsequent version of such requirements which is in effect after January 4, 2010)."

Section 8. Quality Assurance Framework

- Subsection (a)—page-35, lines 17-20. This provision establishes an ongoing requirement that all State participation in any "federally assisted residential efficiency retrofit work" is incumbent upon States' submission of a list of pre-qualified contractors as part of a quality assurance program. Within 6 months, States must submit a plan for implementation by January 1, 2011—under subsection (b)(2). Because this provision says "all" work (page 71, line 6) and does not differentiate between Silver Star or Gold Star, it becomes a mandatory requirement for participation in any program that is "administered, supervised, or sponsored" by a State. NAHB requests clarification that any and all retrofit work that utilizes money from Home Star must comply with the framework and mandatory minimums for pre-qualification of contractors under this subsection as implied.
- Subsection (b)—page 35, lines 21
- page 36, line 4. This subsection mandates States comply with the implementation of an ongoing program via the word "shall"—page 35, line 21—by January 1, 2011. NAHB questions how quickly and effectively a State can elicit the required consultation for a mandatory program with the many stakeholder groups specified on pages 55-56, and still meet this deadline. NAHB requests removal of the January 1, 2011 deadline in order to give States additional time to consult the various stakeholders, including those not directly specified in this subsection—e.g., remodelers.
- Subsection (c)(3)—page 36, lines 13—20. The list of "minimum standards" to be a pre-qualified contractor is problematic. Because these are mandatory minimums—per the word "shall" on page 36, line 6—the type of contractor that can be prequalified becomes extremely important. Subsection (c)(3) lists those minimums as: "(A) accreditation; (B) legal compliance procedures; (C) proper classification of employees; . . ." NAHB believes that items (A) and (C) are exclusionary to the universe of contractors, possibly independent contractors, who perhaps are not "properly classified employees," as well as those not accredited by BPI (per Section 2(1)(B). If the intent of Subsection (c)(3)(C) "proper em-

ployee classification" is to provide reporting information about a contractor's status, NAHB suggests including that item as a reportable instance under Section 9. Otherwise, including this language implies that there is an "improper" way to be classified that could exclude access or participation in the program. NAHB requests deleting Subsection (c)(3)(A) "accreditation" and Subsection (c)(3)(C) "proper employee classification"—page 36, lines 15-17—in order to prohibit any exclusions of qualified contractors who are "improperly" classified as a circumstance of status (e.g., independent contractors) and to prevent limiting the available contractor pool to only BPI-accredited contractors, which may not be sufficient to serve the capacity of demand.

The CHAIRMAN. Thank you all. Thank you for the excellent testimony. Thank you all for your testimony.

Let me ask a few questions here. Mr. Laseter, I'll start with you. You made reference—one of the suggestions you have is that—and I think Mr. Giudice also made this same suggestion—that we be sure to make provision for the integration of this rebate program into the 25 [c] tax credit provisions. You say in your testimony: "We recommend that the customer be able to take a 25 [c] tax credit on the net amount of the work after incentives, but staying within the overall 50 percent cap."

Could you just describe a little more precisely what the problem is here and how you believe we need to address it?

Mr. LASETER. Yes, sir. Senator, we in the Home Star Coalition, we've worked hard to make sure that this is a program that can be deployed quickly. One of the things to make sure it can be deployed quickly is that there's not confusion with the American consumer in mind. So given that the 25 [c] tax credit is an existing credit, if we're well integrated within that credit then the consumers don't have to worry about the either-or tradeoffs that they would make.

From an affordability standpoint of the program, if the tax credit applies to the net amount then that's the way the 2 programs can coexist seamless from the viewpoint of the American consumer.

The CHAIRMAN. So your thought is that a person would be able to go ahead and take the tax credit, claim the tax credit, and then to the extent that they had additional costs above that they would get the rebate, or vice versa?

Mr. LASETER. Vice versa.

The CHAIRMAN. Vice versa. First they would get the rebate; to the extent that the rebate didn't cover all their costs, they would be able to claim the credit for anything that still needed to be paid for. Is that it?

Mr. LASETER. Yes, sir.

The CHAIRMAN. Mr. Giudice, that was your point as well?

Mr. GIUDICE. Yes, it was. Thank you.

The CHAIRMAN. Let me ask another question, Mr. Laseter. What's your reaction to the point Mr. Hanbury was making about this lead rule and the lack of certified renovators? How is that going to impact on this program if we were to enact this program?

Mr. LASETER. Senator, we support NAHB's position on the lead rule. A delay in implementation of the lead rule would enhance the Home Star's opportunity for success. So we would support their position there.

The CHAIRMAN. Mr. Hanbury, your suggestion is that it be delayed for the full term of this program? Is that the idea, or what's your suggestion?

Mr. HANBURY. The thought is we need at least time to create enough certified—have opportunity to have providers present the classes, so enough certified renovators are available to do the work. How long that takes is hard to predict. But if you wanted your program to be as successful as possible, it would go the length of your program.

The CHAIRMAN. Ms. Epperson, let me ask about one of the suggestions you've got here. You say: "To further close the gap between the cost of the new home and the homeowner's"—this is with regard to mobile homes—"and the homeowner's income limitations, we urge that the replacement of substandard mobile homes be included as an eligible use of ARRA weatherization funds."

Now, at the current time what is the limitation on the use of weatherization funds on mobile homes?

Ms. EPPERSON. Chairman Bingaman, currently it is prohibited to use weatherization funds in a replacement of a pre-1976 home. You can do some weatherization if it's a prudent investment, but we find that to be very rare. Weatherization providers are frustrated with this prohibition right now.

The CHAIRMAN. So that you can—I mean, at least in theory you can use weatherization funds to weatherize mobile homes, regardless of the age of the mobile home, but you can't use weatherization funds to replace a home? Is that what you're saying?

Ms. EPPERSON. That's correct. But what they find is that the homes are in such a state of deterioration that it's almost impossible to really make an impact in the home.

The CHAIRMAN. So how much—refresh my memory as to how much additional money that would be? Senator Tester's proposal is that we provide $7,500, right?

Ms. EPPERSON. Correct.

The CHAIRMAN. So how much additional would you suggest should be available from the weatherization funding sources to assist with replacement?

Ms. EPPERSON. Chairman, we recommend that up to $6,500 of the ARRA weatherization be available in addition to the $7,500 down payment assistance in Senator Tester's bill. The reason why is that most of the families or so many of the families living in these homes are at the poverty line, and they need additional what I would call gap assistance to close that affordability gap, because they're going to be borrowing money to pay for the home. The cost of the home is going to be about $60,000.

The CHAIRMAN. So you're essentially saying that we should, the taxpayers, should foot the cost of $14,000 worth of the cost of that new mobile home?

Ms. EPPERSON. Only if the family could not afford to borrow the money. The amount of $7,500 is a straight grant and then up to $6,500. So yes, it could be as much as $14,000 toward a $60,000 home.

The CHAIRMAN. Senator Murkowski.

Senator MURKOWSKI. Thank you, Mr. Chairman.

I'm thinking about the little guys today. In my questions to Ms. Zoi it was what are we doing about the do-it-yourself guys. Explain to me—and I don't know—Mr. Laseter on behalf of the coalition, maybe this is directed to you. But explain to me how this Home

Star program is going to work in a community like Ketchikan, Alaska, on an island, not connected to anywhere else. You don't have any of the big box stores. You've got Madison Hardware that's the local hardware store there. It's pretty small, a small town, less than 20,000 people. Contractors are—we talk about the training that these contractors will be required to have, the auditors.

We've learned with our own State weatherization program in Alaska, we dumped a lot of money toward weatherization and, whoops, forgot to make sure that we had more than six auditors for the whole State.

So explain to me how I would take advantage of this Home Star program in a community like a Ketchikan, with Madison Hardware, or Rangell, where you've got little True Value Hardware down on the corner and just a few contractors in town? How does it work?

Mr. LASETER. Yes, Senator. The path for a contractor to participate under the Silver Star program is clearly and easy. If they're a licensed contractor with insurance, then they're going to qualify under the Silver Star program. So to address your question, the Home Star program was written for exactly that need. Step one, have a clear path, immediately accessible to all the many small businesses that make up the bulk of these home improvements. Then, second, have a longer path in terms of Gold Star where, for those contractors who want to go back and take their knowledge up to the next level, still can do so and have an opportunity to participate.

Senator MURKOWSKI. OK, but it's not just about the contractor. It's going to the little local hardware store. Are they able to take advantage of the rebate aggregator? Are they part of the point of sale rebate? How does that all work for the little guys?

Mr. LASETER. If the local hardware store has a contractor network that it uses, refers customers to, or does work on behalf of customers——

Senator MURKOWSKI. No, no, no. I mean like a little hardware store that sells the building materials for the whole community, but they don't do any of the work.

Mr. LASETER. If they don't do any of the work, the Home Star Coalition sees the opportunity to add the do-it-yourself component into the bill. In my remarks, both in the prepared remarks and the oral remarks, we do think that would be an improvement to the bill, to improve the access to more Americans.

Senator MURKOWSKI. Just so I'm clear, though, currently as it's set up that smaller hardware store would not have the ability to be a participant in the program?

Mr. LASETER. I think they would benefit from the perspective of their local—let me use an example, Senator. So the local contractor does an additional insulation job that qualifies under the Silver Star program, that gives the immediate rebate. Many times in that kind of scenario that local contractor is shopping at those local hardware stores, buying the insulation, the caulk, and the materials they need to do the attic, the sealing, and the insulation to get the rebate.

So that's how the retailer would benefit, and it moves all the way up the supply chain with American jobs.

Senator MURKOWSKI. I'm thinking about my Ketchikan hardware store. Does the Ketchikan hardware store—are they looped into this whole rebate program? Will they be able to share in the Home Star program itself if they're not part of the bigger supply chain out there?

Mr. LASETER. Yes, ma'am, they could participate—they have multiple options they could participate in. One is again selling directly to the local contractors in the market the materials that will be installed. Second, they can participate as a rebate aggregator if they chose to do that as well.

Senator MURKOWSKI. That's where I'm trying to go. How difficult is it for this little guy, this little independent guy, to be a participant as a rebate aggregator? You don't have a lot of options in Ketchikan. You can either get on a plane and go down to Seattle or you can spend another $1,000 and go up to Anchorage and then fly your materials out of Anchorage. We don't have any other options.

So how easy is it for an independent to be a participant in the rebate aggregator process?

Mr. LASETER. Again, the Home Star Coalition wrote this so it would be market-based and there would be options that market-based businesses could choose how they participate. So I really couldn't speak for that particular local retailer. Again, absolutely they would benefit from selling materials to local contractors. That business would have the opportunity to participate even further, to become a licensed contractor and-or to become a rebate aggregator. So there's multiple paths that small businesses——

Senator MURKOWSKI. I'm still not sure, if you shop at your little Frager's down here, if you're going to be able to enjoy the benefits of the Home Star program. That's where I'm trying to get to. I don't know if I've gotten the answer. If any of the rest of you have anything that you can help me out with, I'd appreciate it.

Mr. MIERZWA. I might add that where there are utility programs in existence we do work with those local hardware stores. So we're in effect what's being called here a rebate aggregator. Those folks sell—they might sell water heaters. They sell programmable thermostats, compact fluorescent lightbulbs, those types of things. So they participate in our rebate programs.

Senator MURKOWSKI. Mr. Giudice.

Mr. GIUDICE. Yes. Scott Waterman from the Alaska Housing and Finance Corporation actually, using stimulus money, has dealt with this problem as it relates to stimulus money. There's a new master energy service contract for all Alaska communities, and for the very small Alaska communities that won't be able to necessarily participate in that master energy contract they're actually providing weatherization crews that are out there working on residential weatherization, to go into those small, more rural Alaska communities and do work in those buildings.

I think that this is an opportunity for States to partner with the DOE in terms of tailoring these programs, the Home Star program, to very much parallel that kind of approach, so that we can work together and make sure that it's coordinated so that all communities have access to this and it's tailored to those specific, some-

what unique needs at some of the smaller communities in the country.

Senator MURKOWSKI. I don't need to remind you—I know, Ms. Epperson, in your testimony you speak of Kentucky. But it is in so many of our rural and more remote places where, if you really are talking about ways that you can make dramatic differences by weatherization and energy efficiency, it's out in some of these homes that have been cobbled together over the years.

So I would hate to think that we would inadvertently be putting these more remote communities, these smaller communities that really don't have access to what we have here in the city, that we're putting them out of the loop.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you.

Senator Shaheen.

Senator SHAHEEN. Thank you, Mr. Chairman.

I'm not sure who this question should go to, but I guess, Mr. Giudice, I just want to point out that New Hampshire intends to challenge Massachusetts and Vermont for energy efficiency.

Mr. GIUDICE. I look forward to the competition.

Senator SHAHEEN. As you all heard, because of our unique situation in New Hampshire, we have a lot of individual dwellings. So this kind of legislation is very important to us. Whatever we can do to help owners and builders with making their properties more efficient, energy efficient, is going to be helpful.

But as I look at the Building Star proposal, there's one area of efficiency that I think has been overlooked and I just wondered if someone could speak to why and whether it should be added. That is in the electricity distribution transformers. Was there a reason why that was not included, and should that not also be included?

Mr. DEBOER. Senator, I would be happy, on behalf of the coalition, to get back with you on that. Obviously, our goal here is energy efficiency and creating jobs, and the list that was created was created over many months with the coalition, with engineers that looked at this. I don't have an answer for you on that, but we'd be happy to get back to you certainly, because if it would improve energy efficiency in a cost-effective way we want to participate in that.

Senator SHAHEEN. Thank you. I've got some business folks in New Hampshire who are very concerned about that because they manufacture those transformers and feel like that would be a huge benefit to builders in improving energy efficiency in buildings.

Ms. Epperson, in New Hampshire there is strong support for the manufactured housing legislation because 6 percent of our total housing stock is manufactured housing. It's one of the few ways that many people in New Hampshire get affordable housing, as you've pointed out. We have more than 35,000 units that are manufactured homes and 52 percent of them were built before 1980. So this is an issue for us.

I'm very proud that in New Hampshire about 20 percent of those manufactured housing communities are resident-owned. But one of the things that I'm concerned about with respect to this legislation is what assurance we can write in so that homeowners who are receiving funds either own the land that their homes are on or have

long-term leases, so that we can make sure that we don't have a situation where the homes are sold out from under people or they're evicted once these improvements are made?

Ms. EPPERSON. Senator Shaheen, I'll be happy to answer that question. Some of the homes will be on land owned by the families, but some will be on leased land. With the coalition that I represent today, we believe that land tenure is very important. We are recommending a land lease at a minimum of 3 years. That is consistent with the FHA Title 1 lending program. I will admit within our own coalition this is something that we struggled with. Some would like to see longer than 3 years, but that's where we are as a coalition.

Senator SHAHEEN. I would argue for longer than 3 years. I think that it's very important. As I said, we have done a very good job in New Hampshire, thanks to an organization called the Community Loan Fund that's received a national award for helping tenants take ownership of their mobile home parks. I would hate to see us invest money in manufactured housing that then the tenants would lose because the parks are sold out from under them. So I think that's a provision we ought to look very closely at.

Ms. EPPERSON. We'll be happy to look at that.

Senator SHAHEEN. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. Senator Murkowski, did you have additional questions?

Senator MURKOWSKI. I'm fine. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you all. It's been very useful testimony. We appreciate it and we will do our best to move ahead with this legislation. Thank you.

[Whereupon, at 12:10 p.m., the hearing was adjourned.]

APPENDIXES

APPENDIX I

Responses to Additional Questions

RESPONSES OF CATHY ZOI TO QUESTIONS FROM SENATOR BINGAMAN

S. 1320

Question 1. What is the Department's position on this legislation? Please include your position on amending the weatherization statute to allow ARRA weatherization funds or annual weatherization funds to be used to support the replacement of substandard mobile homes with Energy Star homes or Energy Star manufactured homes? Please provide the Committee with technical comments on S.1320.

Answer. The Committee has already submitted a request for technical comments on S. 1320 through the Department's Office of Congressional and Intergovernmental Affairs. The Department is currently working on technical comments on S. 1320.

S. 3079

Question 2. What is the Department's position on this legislation? Please provide technical comments on S. 3079, the introduced bill.

Answer. For technical comments on S. 3079, the Committee should submit a formal request through the Department's Office of Congressional and Intergovernmental Affairs.

Question 3. Senator Tester's Energy Efficient Manufactured Housing Bill addresses a portion of the housing stock that cannot be efficiently weatherized. The lowest income families often inhabit these homes and high energy bills keep them in a cycle of perpetual poverty.

Knowing that S. 1320, after its proposed amendments, results in the creation of over one job for every EnergyStar manufactured home built and installed, does the Administration see this bill as achieving the twin goals of job creation and energy efficiency, just like Home Star and Building Star?

Answer. The Administration supports policies that achieve both job creation and energy efficiency, like the Home Star program. For technical comments on S. 1320, the Committee should submit a formal request through the Department's Office of Congressional and Intergovernmental Affairs.

(Added)

Question 1. The Committee would like the Department to clarify whether any residential energy efficiency activities carried out pursuant to the Home Star Retrofit Rebate Program, as currently proposed in the Senate, would be subject to NEPA requirements, and in particular the committee would like to know whether the Department would be prepared to issue a categorical exclusion for the program shortly after enactment of the program.

Answer. Assuming enactment of the Senate draft legislation (as of March 11, 2010) authorizing the Home Star program, administration of the program would not present a discretionary activity for which National Environmental Policy Act analysis would be required. However, the Department would, in an abundance of caution, issue a programmatic categorical exclusion.

RESPONSES OF CATHY ZOI TO QUESTIONS FROM SENATOR MURKOWSKI

Question 1. Since the mid-90s the DOE and EPA has worked to create a brand known as Energy Star, for products that meet certain standards for energy effi-

ciency. Please describe whether new programs, with similar names, will cause confusion within the general public.

Answer. The Department of Energy (DOE) and the Environmental Protection Agency (EPA) would work closely to minimize public confusion between ENERGY STAR® and Home Star during the two year period when Home Star rebates are available. DOE and EPA would conduct marketing campaigns to inform the public that the temporary Home Star Retrofit Rebate Program provides up to 50 percent discounts to house holders who wish to install energy-efficient products in their homes, if they hire a participating contractor to perform the work. This marketing would clearly explain that the program expires at a fixed time, thus encouraging householders to take advantage of the opportunity while it exists. It is not DOE's or EPA's intention to establish a competing brand.

Question 2. Please describe programs that the DOE has implemented that have provided rebates to contractors, such as the one proposed in the Home Star bill.

Answer. As I mentioned during the hearing, one of the key advantages of the Home Star program is that it would pursue a business-to-business partnership with rebate aggregators. Other rebate programs that the Department of Energy (DOE) has administered are somewhat different. For example, the Appliance Rebate program provides money for states to administer rebate programs for their residents. In the case of the Home Star program, individuals would be able to receive rebates for energy efficiency at the point of sale, and DOE would partner with an experienced network of rebate aggregators in order to distribute funds and provide accountability. Further, DOE is familiar with and would implement the lessons learned from the Cash for Clunkers program.

Question 3. Can you describe the average energy savings of commercial retrofits versus residential retrofits? Does one offer a bigger 'bang for the buck' over the other, on average?

Answer. Energy savings in both the commercial and residential sectors are critical to making the Nation's homes and businesses more energy efficient. As I mentioned in my written testimony, there are approximately 130 million homes in the U.S. that account for about 33 percent of the Nation's total electricity demand while consuming approximately 22 percent of the Nation's energy. Americans spend approximately $200 billion per year in residential energy costs. Weatherizing a single house can save 10 to 20 percent of energy consumption on average, using basic technology (weather-stripping, insulation, etc). Commercial buildings are much more diverse than homes, since the category 'commercial building' includes large hospitals, small corner bakeries, and the Dirksen Senate Office Building. Consequently, DOE does not have comparable information that is useful for comparing 'average' commercial building energy savings. However, both types of retrofits are very important and save energy and money. One distinct advantage of weatherizing homes is the impact on American families who can spend their hard earned income on school, health care, and other priorities instead of on wasted energy.

Question 4. Please describe the process undertaken to determine what efficiency retrofits would be eligible to receive rebates. Under the Silver Star component, is there a process to determine which retrofit makes sense from a financial and energy savings perspective?

Answer. The rebate values in the draft legislation (as of March 11, 2010) were established by an industry consensus process conducted by the Home Star coalition. The Department of Energy (DOE) monitored that process but did not directly participate in it. The rebate amounts reflect a balance between energy efficiency and highly labor-intensive installations. Which products or services a particular house holder would purchase under Silver Star would be up to the consumer, and the Department would be committed to providing consumers with the best information to make those decisions. Additionally, DOE strongly supports giving the Secretary discretion to modify the rebate amounts six months into the program, in order to optimize the energy savings being achieved per dollar spent by the program. This would be similar to the state appliance rebate programs, which have the opportunity to adjust the rebate amounts offered in order to increase the program uptake and improve its overall energy savings.

Question 5. Please describe the different groups who currently provide training for retrofit programs. How are these trainings developed? For example, if a particular type of training or curriculum is pursued in the legislation, what is the role of the general public in participating in the process, or in the development of referenced training standards?

Answer. Many different organizations—such as the Building Performance Institute, North American Technician Excellence, and the Residential Energy Services Network—develop their own specific curricula to train retrofit workers. These organizations have benefitted from a collaborative, consensus based approach to the de-

velopment of their training programs and standards. The Department provides training and technical assistance through its Weatherization and Intergovernmental Programs and through its cooperative efforts with the whole house retrofit program called Home Performance with ENERGY STAR®. The draft legislation (as of March 11, 2010) also includes consultation with the Secretary of Labor on matters related to a certified workforce.

Question 6. The Discussion Draft calls for DOE to establish a nationwide network of rebate aggregators who are required to distribute rebates within 30 days after receiving applications. Please describe what companies could create such a network in this timeframe. In addition, has there been discussion with professional rebate fulfillment companies who have experience processing rebates to the extent envisioned in the draft legislation? If other companies, or programs, offering energy efficiency products, are allowed to process rebates, are there any potential conflicts of interest that may arise?

Answer. As discussed at the hearing, the rebate aggregators are vital to the success of this program. The Department of Energy (DOE) anticipates that rebate aggregators would be many different kinds of organizations involved in the retrofit industry, such as Home Performance with ENERGY STAR® partners, regional lumber stores, large efficiency contractor companies, hardware stores, and big box retailers.

An entity would be eligible to be a rebate aggregator if it is:

- A Home Performance with ENERGY STAR® partner;
- Administering a residential energy efficiency retrofit program established or approved by a State;
- A Federal Power Marketing Administration, an electric utility, or a natural gas utility with an approved residential energy efficiency retrofit program and an established quality assurance provider network; or
- An entity the Secretary deems able to perform the functions of a rebate aggregator, without disrupting existing residential retrofits in the States incorporating the Home Star program.

The rebate aggregators would serve as a manageable number—an estimated 200 to 500—of "touch points" for DOE. The aggregators would provide an important service in educating contractors about the program, reviewing their rebate claims for completeness, and working as partners with the Department in ensuring the program operates smoothly.

Many of the aggregators could offer energy efficiency products, but through quality assurance testing and verification, the program is structured to mitigate waste, fraud and abuse. Additionally, any organization, contractor or house holder that falsely claims a rebate would be subject to tax fraud penalties.

While Home Star would deliver job growth and energy efficiency through a system of rebates to consumers, the program would use a more effective structure than standard mail-in rebate coupons. DOE would work through the network of rebate aggregators to allow contractors to offer house holders immediate, point-of-sale discounts on the installation of energy-efficient products. This structure involves some aspects of the traditional mail-in coupon rebate program, but is more similar in structure to the Cash for Clunkers program operated by the Department of Transportation in 2009.

Question 7. Within the legislation, you exempt the Home Star program from several laws, including the Paperwork Reduction Act. Please describe the process undertaken to determine why the Home Star program should be exempt from these laws, and any legal opinions you may have for the exemption.

Answer. The Home Star program would be a short-term program that would need to be stood up quickly to have the highest possible impact. Given the large unemployment numbers in construction and the scale of the energy challenges, speed would be essential in moving this program forward. As a result, the Home Star program structure is designed for speed while still placing a premium on transparency and accountability. This Home Star program draft legislation, as introduced by Congress, would establish many of the basic data items the program would need to process rebates and is designed to streamline reporting requirements. With respect to the draft legislation's proposed Paperwork Reduction Act exemption, the Department is still reviewing and may have additional analysis in the future.

Question 8. Please describe if there has been any discussion within the DOE to limit program eligibility to homes based on the year of construction, or by their square footage. In addition, would the DOE support a program that targeted homes most in need for energy improvements, such as home owners on waiting lists to have their homes weatherized?

Answer. There are approximately 130 million homes in the U.S. These homes account for about 33 percent of the Nation's total electricity demand and consume approximately 22 percent of the Nation's energy. Roughly half of these homes were built before 1973, long before modern residential building codes came into effect. With so many older homes, and with advances in building technologies, there is a tremendous opportunity to upgrade home energy efficiency throughout the Nation. Existing techniques and technologies can reduce energy use by up to 40 percent per home.[1] As an optional program, the Home Star program would enable house holders to decide if, when, and how to pursue taking advantage of the new program enabling energy efficiency upgrades. Access to the program would be open to all house holders. DOE is not considering limiting the program eligibility to homes based on the year of construction or size.

Question 9. Since 1977, the DOE weatherization assistance program has weatherized around 3.5 million homes. Is it feasible for a program, like Home Star, to retrofit an estimated 2 million homes in a year?

Answer. The Home Star program is streamlined to leverage the speed of the private sector while taking advantage of structures that are already in place. The Silver Star portion of Home Star would enable house holders to make a few off-the-shelf efficiency upgrades, enabling homes to be made more efficient at speed and scale. Additionally, for house holders who want a whole-home retrofit to achieve even greater energy savings, the Gold Star program would be available to retrofit the entire house. The Gold Star upgrades could account for hundreds of thousands of homes in addition to the homes retrofit under Silver Star.

Question 10. Several groups have expressed interest in having additional products eligible to receive rebates within the Home Star Program. The products include, but are not limited to, geothermal heat pumps, electric tankless water heaters, and window film products. Recognizing that there are a myriad of products that can create jobs, and improve the overall efficiency of a home, please describe the Administrations perspective of only including the projects developed by the Home Star Coalition. Do you agree or disagree with their determination of the projects included in the Majority Staff Draft, that only a few products should be included in the Home Star Proposal. Does the Administration agree with the process undertaken by the Coalition to develop this eligibility?

Answer. Including a list of eligible products in the legislation could help create clarity and certainty for potential rebate aggregators, which may enhance the simplicity and speed in administering the Home Star program. The product list included in the draft legislation (as of March 11, 2010) was developed by an industry consensus process with the intent of including proven, energy efficient products that require significant labor to install and have high domestic content.

Question 10a. Please describe what criteria the DOE would undertake to determine which products should be included within a Home Star Program. Should Energy Star Products, that improve the efficiency of a home, be eligible for rebates?

Answer. Including a list of eligible products in the legislation could help create clarity and certainty for potential rebate aggregators, which may enhance the simplicity and speed in administering the Home Star program. The product list included in the draft legislation (as of March 11, 2010) was developed by an industry consensus process with the intent of including proven, energy efficient products that require significant labor to install and have high domestic content.

Utilizing $296 million of Recovery Act funds, the Department currently supports the ENERGY STAR® rebate program for all 50 states, five territories and the District of Columbia. The specific rebate amount allowed for specified appliances varies by State. The Department recommended that States use the following qualified appliances for the program:

- Boilers;
- Central air conditioners;
- Clothes washers;
- Dishwashers;
- Freezers;
- Furnaces (oil and gas);
- Heat pumps (air source and geothermal);
- Refrigerators;
- Room air conditioners; and

[1] Case study in West Concord, MA: http://www.buildingscience.com/documents/case-studies/cs-0016-concord-four-square-retrofit/?topic=/resources/energy-retrofits. Case study in Pittsburgh, PA: http://apps1.eere.energy.gov/buildings/publications/pdfs/building_america/ba_cs_retrofit_asdal_builders.pdf

- Water heaters.

Question 11. Recently the DOE strengthened and modified Energy Star criteria for several products, including windows, doors and skylights. Do you believe that these products should be eligible for Home Star rebates? If not, please describe how you intend to pursue the Energy Star label to encourage retailers, consumers and contractors to pursue them, if they are not offered within the Home Star Program?

Answer. As the Committee knows, I am recused from working on certain matters and issues. The question you raise relates to issues from which I am recused; and thus I cannot respond.

Question 11a. Are the rebates only offered to owner-occupied units? If so, how many non owner-occurred units would be ineligible for the rebate?

Answer. The Department would be comfortable administering a program open to all residents assuming they can legally make upgrades within the context of their individual situations.

Question 11b. Are the rebates available to landlords?

Answer. Yes.

Question 11c. How can a do-it-yourself provision be effectively offered by the federal government?

Answer. The Department is open to exploring how best to incorporate a do-it-yourself provision into the proposed program while ensuring health, safety, and accountability.

Question 12. Does it make more sense to incorporate DIY under another existing program or an altogether separate DIY rebate program? What are the options for this? How has the Energy Star Appliance Rebate Program addressed this issue?

Answer. The Department is open to exploring how best to incorporate a do-it-yourself provision into the proposed program while ensuring health, safety, and accountability.

The ENERGY STAR® appliance rebate program provides funds to all 50 states, five territories and the District of Columbia, and then the States make those funds available to individuals, with do-it-yourselfers welcome to take advantage of this rebate.

Question 13. Please explain, step by step, how the DOE will structure a rebate aggregation function for the Program. What kind of infrastructure needs to be in place for this to function properly?

Answer. The Home Star program is designed for speed and ease of implementation. Therefore, it takes advantage of structures that are already in place so that the program could be stood up quickly. The eligibility qualifications for rebate aggregators are in the draft legislation (as of March 11, 2010).

Question 13a. Does the program stand to cost jobs, not create them, until the rebates are up and running? For example, will homeowners or contractors wait to have work done, with the expectation that a program will likely be authorized?

Answer. The Department estimates that the Home Star program may create tens of thousands of jobs.

Question 13b. What kind of contractual relationships will exist between rebate aggregators and quality assurance providers?

Answer. The Department's preferred approach to quality assurance is to work with States, by providing them technical assistance to establish quality assurance oversight programs. Upon receipt of rebate reimbursement claims from rebate aggregators, the Department would review the claims, issue payments to the rebate aggregators, and notify States of retrofits made in their jurisdictions.

Question 13c. What kind of infrastructure will need to be in place, including IT systems, etc. to implement a Quality Assurance and Rebate program? Does this infrastructure already exist?

Answer. Information technology (IT) is critical, and the Department of Energy (DOE) is committed to learning from the Cash for Clunkers experience at the Department of Transportation and Recovery Act experiences. DOE is currently working through technology configurations used to streamline quality assurance and rebate distribution. To make sure the Home Star program can be stood up quickly, the Department is also working with the existing infrastructure of Home Performance with ENERGY STAR®.

Question 13d. How long will the quality assurance program take to complete, once a job is finished?

Answer. All homes that receive a rebate for an installation under the Silver Star or Gold Star program would undergo an initial information review and quality check by the rebate aggregator that submits the claim to the Department of Energy (DOE). This check would include confirmation that the work was done by an eligible contractor, and that eligible measures were installed. A randomly selected fraction

of homes would undergo field inspection of the installed measures to ensure compliance with all program requirements, which would generally be conducted under standard industry construction and renovation quality assurance procedures.

Question 13e. What process will be in place to review these jobs, and who has the authority to do it? What kind of information will be required?

Answer. The Department's preferred approach to quality assurance is to work with States, by providing them technical assistance to establish quality assurance oversight programs. Upon receipt of rebate reimbursement claims from rebate aggregators, the Department would review the claims, issue payments to the rebate aggregators, and notify State of retrofits in their jurisdiction.

Question 13f. Are there already systems in place to do this? If so, will the systems need to be integrated? How long will that take?

Answer. States and local municipalities have thorough quality assurance inspections and reviews for building projects and repairs. These reviews are in place now to insure that the health and safety of the public are not at risk. Additionally, there are national third party companies operating in every state, that work with state and local officials to inspect homes for the insurance and property casualty business. Both of these groups would be leveraged to protect consumers taking advantage of Home Star rebates.

Question 13g. Does DOE have a chart to lay out exactly what the process will look like?

Answer. The process, from work performed to quality assurance inspection, could roughly follow these basic steps:

- Work is performed by the contractor for 50 percent of the normal cost;
- The contractor submits a rebate request to a rebate aggregator;
- The rebate aggregator collects a batch of rebate requests, reviews them for accuracy, and submits the batch to the Department;
- The Department immediately reviews the rebate requests electronically, releases funds to the rebate aggregator, and notifies the relevant quality assurance providers;
- The rebate aggregator reimburses the contractor within 30 days; and
- In a parallel to rebate processing, the quality assurance provider coordinates inspections of retrofits and relays results to the Department.

Question 14. Is it your plan to run Home Star's transactions and information through software programs and management information systems developed for existing programs? If so, what are your assumptions about the cost and modifications it might take to do that? How long will it take?

Answer. The Department intends to marry existing information technology systems for rebate programs with specific transparency and accountability elements associated with the Home Star program. The Department is currently working through technology configurations used to streamline quality assurance and rebate distribution.

Question 14a. Are there security issues with this course of action? Is cybersecurity an issue?

Answer. The Department takes cybersecurity very seriously, and would ensure that interactions with companies and individuals are kept confidential. Any program run by the Department would be subject to existing cybersecurity standards and requirements.

Question 14b. Have you tried to do this ever before?

Answer. The Home Star program would build upon public-private partnerships, taking advantage of consumer rebate processing. The Home Star program would be a new type of program that takes into account lessons from the Department's past and current programs, the Department of Transportation's 2009 Cash for Clunkers program, and Recovery Act implementation.

Question 14c. What provisions will be in place to make QA transparent for the benefit of oversight?

Answer. The Department would work with States on oversight of quality assurance (QA). It would also set standards for QA procedures. In order to respect individual privacy, the Department would not publicly disclose any individual home information.

Question 14d. How will you decide which jobs are inspected? Will it be random? What criteria will these jobs be evaluated on?

Answer. As established in the draft legislation (as of March 11, 2010), between 10 and 20 percent of homes retrofitted would be subject to field inspection of installed measures on a random basis. As contractors establish good track records for installing retrofits, they would be subject to a lower rate of inspections; similarly contractors with a record of poor performance would be inspected more frequently

allowing the Department to maximize the effectiveness of the quality assurance field inspection program.

Question 14e. Will DOE maintain a master list of contractors and inspectors that participate in Home Star?

Answer. Yes.

Question 15. The Home Star program wants rebates to be paid within 30 days and inspections also done within 30 days. So potentially, a homeowner or contractor could be waiting up to 60 days to get the rebate paid out. Is 60 days too long to be waiting for a rebate? Is there a faster way to get this done? Let's say it takes three months to stand up the infrastructure of the program and another 60 days for rebates to be paid out. That is almost half a year of waiting for the first rebates after the legislation becomes law. Is that too long?

Answer. The Home Star program would be a point-of-sale rebate program. Working with rebate aggregators would enable house holders to buy efficiency products at an immediate 50 percent discount. House holders would not submit rebate requests, but would be immediately discounted at the point of sale.

Question 16. Is there sufficient incentive for contractors to obtain a higher certification? Is there compelling motivation for them to achieve a higher certification, or do you think they would rather just be subject to more inspections?

Answer. Any licensed and insured contractor would be able to participate in Silver Star, which would last the first year of the Home Star program. The Gold Star component of the program would continue into a second year after the Silver Star program ends. The Department anticipates that contractors that participate in Silver Star would pursue additional certifications in order to participate in Gold Star during the second year of the program.

Question 17. Please describe how the process of requiring proper classification of employees will be implemented. Will it require the IRS to make a determination? If so, are there ways to improve the efficiency of how the IRS determines the proper classification of employees? Are there any alternatives, or mechanisms to ensure that the legislation does not discourage independent contractors from complying or competing for projects within the Home Star Program?

Answer. The draft legislation (as of March 11, 2010) specifies that any contractor meeting minimum state licensing requirements and other minimum requirements would be eligible to participate in the Silver Star program. To participate in the Gold Star program, which involves more sophisticated efficiency technologies, contractors would have to additionally hold certain specific third-party certifications. Rebate aggregators would be responsible for ensuring that contractors meet requirements and hold appropriate certifications.

Question 18. Please describe the timeframe to develop an employee certification program, within each state, and the Administrative costs associated with the directive to create such a program.

Answer. The draft legislation (as of March 11, 2010) specifies that any contractor meeting minimum state licensing requirements and other minimum requirements would be eligible to participate in the Silver Star program. To participate in the Gold Star program, which involves more sophisticated efficiency technologies, contractors would have to additionally hold certain specific third-party certifications from organizations—like the Building Performance Institute, North American Technician Excellence, and the Laborers' International Union of America and others determined in consultation with the Secretary of Labor—in addition to meeting existing state requirements. Rebate aggregators would be responsible for ensuring that contractors meet requirements and hold appropriate certifications. By partnering with rebate aggregators, the Department does not expect this timeframe to be very long. Additionally, the costs would be minimal.

Question 19. Is there a streamlined process for determining employee certification for this type of work across the country?

Answer. The Home Star program is designed to take advantage of already licensed and certified contractors across the Nation. The Department would rely on existing State lists of licensed contractors and lists provided by third party accreditors, such as the Building Performance Institute, North American Technician Excellence, and the Laborers' International Union of America and others determined in consultation with the Secretary of Labor to help streamline certification. Rebate aggregators would be responsible for verifying that their contractors hold the appropriate certifications.

Question 20. Will the DOE need to provide a federal contractor certification provision within the Home Star Program? If not, why does the DOE have the opportunity to require additional standards? What might these additional standards look like?

Answer. No, the Department would take advantage of existing contractor certifications as established by the States and third parties.

Question 21. How would a state certify to the DOE, that their classification program is viable, and would not be subject to additional requirements by the DOE? Are there alternatives?

Answer. The Department would rely on existing State licensing requirements for contractors and would allow those who meet those requirements participate in Silver Star.

Question 22. If the DOE decides to provide employee certification standards under the program, what would these standards look like? Would the IRS and Labor Department take the lead in determining employee certification? Will the Energy Department consult with IRS and Labor to carry out the employee certification directive? How long will this process take? Will the IRS and Labor need to come out with new regulations to carry out this provision? What will be the relationship between the DOE and IRS/Labor be in administering this provision?

Answer. The Department of Energy would rely on existing State licensing requirements for contractors and would allow those that meet those requirements to participate in Silver Star. The draft legislation (as of March 11, 2010) also includes consultation with the Secretary of Labor on matters related to a skilled and certified workforce.

Question 23. What are your assumptions for the cost of conserved energy? Are the budgeted amounts really indicative of what it's going to take to accomplish the projected savings? It seems that there are many parts of the program that would demand overhead. What is the cost per unit of energy saved?

Answer. Retrofitting a single house can save 10 to 20 percent of energy consumption on average, using basic technologies (weather-stripping, insulation, etc), like those available in Silver Star. Gold Star rebates upgrade a home's efficiency by at least 20 percent and as much as 50 percent, saving money on energy for the remaining lifetime of the home. Associated savings depend on the retrofits made and price of energy used by and individual house holder.

Question 23a. If you look at this strictly as an efficiency program, how do the costs line up?

Answer. The Home Star program would provide a 50 percent point of sale rebate to house holders.

Question 23b. What are the specific costs of the rebate function, marketing, quality assurance, and program management? What are these costs for Gold Star vs. for Silver Star?

Answer. The draft legislation (as of March 11, 2010) authorizes $6 billion of total appropriations for the program, broken down as follows:

- $3.417 billion for Silver Star;
- $1.683 billion for Gold Star;
- $380 million for States to run quality assurance programs;
- $200 million for State retrofit loan programs;
- $300 million for rebate aggregator transaction costs and quality assurance provider field inspections;
- $150 million for Department of Energy administrative costs; and
- $10 million for the Environmental Protection Agency to conduct public education campaign.

Question 24. At the hearing the NASEO witness expressed concern that Home Star would overlap with existing state efficiency programs. What do you think this means, exactly?

Answer. I cannot speak for another witness and would defer to the National Association of State Energy Officers for elaboration of their concern.

Question 25. If utilities are offering rebates for similar or identical measures, must they be coordinated in some way? Should they be in harmony? What factors will need to be coordinated? How would you do that? Would you coordinate the marketing, incentives, or processing?

Answer. The Department of Energy (DOE) anticipates that many utilities would apply to serve as rebate aggregators, and the Department would welcome their participation. To the extent that utilities are operating separate rebate programs under the guidance of state law, they can address coordination of these programs. Indeed, under the proposed legislation DOE would work to ensure the Home Star program is coordinated with existing or planned state energy efficiency programs.

Question 25a. Would such coordination make Home Star even more difficult to implement?

Answer. The Department of Energy (DOE) anticipates that many utilities would apply to serve as rebate aggregators, and the Department would welcome their participation. To the extent that utilities are operating separate rebate programs under the guidance of state law, they can address coordination of these programs. Indeed,

under the proposed legislation DOE would work to ensure the Home Star program is coordinated with existing or planned state energy efficiency programs.

Question 25b. Home Star will take advantage of the knowledge already established in a variety of market players, including retailers, utilities, rebate processors, States, and retrofit training and certification entities. Is the rebate aggregator function and the quality assurance function merged together, according to your understanding of the Majority Staff Draft?

Answer. The Department's preferred approach to quality assurance is to work with States, by providing them technical assistance to establish quality assurance oversight programs. Upon receipt of rebate reimbursement claims from rebate aggregators, the Department would review the claims, issue payments to the rebate aggregators, and notify State of retrofits in their jurisdiction.

Question 25c. If merged together, how will you ensure that there are no conflicts of interests between the two?

Answer. The Department's preferred approach to quality assurance is to work with States, by providing them technical assistance to establish quality assurance oversight programs. Upon receipt of rebate reimbursement claims from rebate aggregators, the Department would review the claims, issue payments to the rebate aggregators, and notify State of retrofits in their jurisdiction.

Question 26. Please describe the process DOE will undertake to ensure that small building material dealers and independent contactors will have access to rebate aggregators. If the legislation does not envision the use of these contractors, please describe why not. If the intent is to have them participate, please describe the mechanisms in place to ensure that they will not pay more for their administrative costs, to operate within the program, as well as provide a descriptive overview of how the process would work.

Answer. The Department of Energy (DOE) understands numerous trade groups are interested in participating in the Home Star program. DOE intends to work with these groups by providing technical support in order to enable them to participate. All rebate aggregators would be eligible for a per transaction fee to support their administrative costs. Rebate aggregators would provide mechanisms for rebate payouts to contractors and administrative costs.

Question 26a. How does the program envision doing random site inspections? Will DOE maintain a list of all job sites? Will the inspections be based on a random sample? How will they be done?

Answer. The Home Star program is structured to be streamlined while maintaining ease of implementation and transparency to be accountable to the taxpayers. DOE would maintain a list of all job sites, since all rebate reimbursement claims that are filed by rebate aggregators would be required to include the address of the home in which the rebated measures were installed. DOE would conduct cross-checks to ensure that no rebate aggregator files claims multiple claims for the same measure installation in the same house. DOE anticipates making the list of these addresses and lists of installed measures available to the appropriate quality assurance providers, with instructions that the quality assurance providers are to randomly select certain percentages of home to be subject to site inspections. However, this list of individual addresses would not be publicly available. Quality assurance providers would then be required to report the findings of these inspections to DOE.

RESPONSES OF CATHY ZOI TO QUESTIONS FROM SENATOR WYDEN

Question 1. The HomeStar program advocated by the Administration appears to expect that the consumer rebates will be provided in addition to existing 25C tax credits. The Majority Draft of this legislation would reduce the amount of the tax credit by the amount of any rebate, allowing consumers to continue to get the credit only to the extent that it exceeds the HomeStar rebate. Does the Administration support this program structure?

Answer. Yes.

Question 2. Under the existing section 25C tax credit program, labor costs are not included in the allowable costs associated with any of the building envelope investments—windows, doors, insulation, and roofing. I have introduced legislation—S. 2819—that would allow labor costs associated with envelope investments to be included in calculating the credit since these improvements tend to be labor intensive and the current credit does not capture true cost of such improvements. Would the Administration support such an expansion of the credit?

Answer. As the Committee knows, I am recused from working on certain matters and issues. The question you raise relates to issues from which I am recused; and thus I cannot respond.

Question 3. It is not clear to me that the lists of products included under the Silver Star program, nor the performance standards included in the Gold Star program, are written in such a way as to recognize the value of energy costs associated with construction materials actually used in the retrofits. For example, the standards do not appear to take into account the lifecycle energy impacts of construction materials, such as the use of locally grown lumber products which have been demonstrated to be environmentally preferable through government-recognized Lifecycle Assessments. These wood products such as flooring, doors, windows, shutters, offer valuable insulating qualities in building projects and are derived from locally sourced, renewable US timber. Please let me know what we need to do to improve this legislation to assure that wood products are not disadvantaged through this legislation.

Answer. As a short-term, streamlined program, the Home Star program must rely on existing standards and specifications for energy efficiency savings. All products were screened for high domestic content in addition to their energy savings potential.

RESPONSES OF CATHY ZOI TO QUESTIONS FROM SENATOR SESSIONS

Question 1. While I understand the need to not make the Silver Star program completely open-ended to any energy efficient technology regardless of its effectiveness, I am nevertheless concerned that at least one very energy efficient and cost-effective product category has been excluded: high-performing window films.

Window films are a proven, affordable means of achieving significant energy savings in homes. Specifically, by blocking a significant portion of the Sun's heat that penetrates a window, window films ensure there is less strain on air conditioners that heat a home—which, in turn, lowers overall energy costs for homeowners. Similarly, "low-E" window films can actually help retain a building's heat in colder climates, and thereby reduce heating costs in the winter.

When considering the cost of installing window films is significantly lower than completing many of other home retrofit upgrades (including the installation of new windows), providing window films with the $1,000 Silver Star subsidy would not only ensure more homeowners complete energy-saving improvements, but also support the thousands of jobs tied to the window film industry—including hundreds of U.S. manufacturing jobs and an estimated 7,000 to 8,000 window film installer jobs that are overwhelming employed by very small, family-owned businesses.

Given the cost-effective energy savings that window films can provide to homeowners, should they be included as part of the Silver Star rebate section of the Home Star bill?

While I can appreciate there are a variety of reasons one would want to limit the number of products eligible for the Silver Star rebates, the bottom line is that the Silver Star rebate program will likely be the first list that consumers look at when considering home energy efficiency improvements. Shouldn't we avoid picking "winners and losers" in the marketplace when it comes to energy efficiency upgrades?

Answer. As the Committee knows, I am recused from working on certain matters and issues. The question you raise relates to issues from which I am recused; and thus I cannot respond.

Question 2. In your opinion, why does the legislation exclude recognition of qualified training and certification by the Home Builders Institute, an existing certification program run in conjunction with the Department of Labor that provides training for weatherization and energy efficiency upgrades?

Answer. Specifying some qualified certifications in the draft legislation (as of March 11, 2010), may help the Home Star program launch more rapidly. The Department strongly supports the provision in the draft legislation that gives the Secretary authority to approve additional training standards not explicitly included in the legislation, which could include those of the Home Builders Institute (HBI), in order to provide flexibility to the program.

Question 3. Would you agree that we should work to ensure the "certified workforce" requirement in the bill does not discriminate against installers of energy efficiency products that are typically employed by small businesses? If so, would you be willing to work with us to ensure that nationally-recognized training programs—such as the training provided by the IWFA will be recognized?

Answer. As the Committee knows, I am recused from working on certain matters and issues. The question you raise relates to issues from which I am recused; and thus I cannot respond.

RESPONSES OF CATHY ZOI TO QUESTIONS FROM SENATOR MCCAIN

Question 1. In the draft language before the committee, the new Home Star legislation would provide a $250 rebate for purchasing certain energy efficient water heaters: (A) a natural gas or propane water heater with a storage water heater with an energy factor of 0.80 or more or a thermal efficiency of 90 percent or more; (B) a tankless natural gas or propane water heater with an energy factor of at least 0.82; (C) a natural gas or propane storage water heater with an energy factor of at least 0.67;

It has been reported, however, that tankless electric water heaters have an energy factor of at least 0.96, much higher than the other types of water heaters listed in the draft bill. Based on the draft bill language, are tankless electric water heaters with an energy factor of at least 0.96 eligible for the rebate? Why or why not?

Answer. No. The specific technologies included in the draft bill language were developed by an industry consensus process, which the Department monitored but in which it did not participate.

Question 2. Is an energy factor of 0.96 more efficient than the standards associated with the other types of tankless water heaters already included in the draft bill?

Answer. The specific technologies included in the draft bill language were developed by an industry consensus process, which the Department monitored but in which it did not participate.

Question 3. If tankless electric water heaters are 0.96 efficient, why are they not included in the bill?

Answer. The specific technologies included in the draft bill language were developed by an industry consensus process, which the Department monitored but in which it did not participate.

Question 4. Would you recommend and/or support including the tankless electric water heater in the Energy Star program. Why or why not?

Answer. Electric tankless water heaters require additional examination due to their large electricity needs.

RESPONSES OF JEFFREY D. DEBOER TO QUESTIONS FROM SENATOR MURKOWSKI

Question 1. Please describe how you intend to leverage private sector investment with the federal dollars of the Building Star program.

Answer. Building STAR is designed to provide federal rebate incentive dollars that cover only a portion of the costs for a retrofit project in a commercial or large multifamily building. Private investment will pay for the remaining costs incurred from the retrofit project.

The precise rebate amounts set forth in the Building STAR bill are intended to cover, as a general matter, about ¼ to ? of the costs of the total retrofit project. Thus, private capital will be leveraged to pay the remaining fraction of a given building upgrade. This means that $1 of Building STAR rebate dollars will leverage at least $2-$3 of private investment. And, if $6 billion of federal dollars are authorized for the program (as requested in § 6 of S. 3079), total program dollars would amount to $18-$24 billion, after factoring for private capital.

A small portion of Real Estate Roundtable member firms were informally surveyed to obtain a sense of how they would use Building STAR rebate dollars. They identified retrofit projects that would cover the full suite of equipment, materials and services components offered by S. 3079. These firms identified 19 buildings that would seek Building STAR rebates of $1.57 million, with total project work estimated to cost $8 million. Thus, a $1.57 million public investment under Building STAR would translate into an $8 million total program expenditure, for these contemplated retrofit projects.

Question 2. Would there be any overlap between the jobs created for the Home Star program and the Building Star program?

Answer. We anticipate that Building STAR would create jobs separate and apart from Home STAR.

The American Council for an Energy Efficient Economy (ACEEE) has undertaken a study to estimate the jobs impact generated by both Building STAR and Home STAR. See http://www.aceee.org/energy/national/potential_leg.htm. ACEEE's estimates show that in 2010, Building STAR would create 130,000 jobs; and in 2011, it would create 57,000 jobs. Thus, through 2011, the jobs that would be solely and uniquely attributable to Building STAR would be 187,000 jobs. In contrast, ACEEE estimates that Home STAR would be responsible for creating 162,000 total jobs through 2011.

Question 3. What type of quality assurance programs does the commercial industry have for retrofits that may be different from the residential sector?

Answer. The commercial contracting market is very different from the contractors serving the residential sector. Most, if not all, specialty trades workers have completed an extensive, years-long apprenticeship program that immerses them in the details and specifics of their trade. National certifications in the commercial space are the result of comprehensive consensus based standards used by technical experts to ensure that each practitioner has the requisite skills, training, and sophistication for commercial building work. These certifications often have continuing educational and recertification requirements, so that commercial contractors and skilled workers are up-to-date on new energy efficiency technologies, methods, and materials. Contractors are highly motivated to maintain their certifications and good reputation; without them they would be unable to compete in the commercial construction marketplace, and they would not be hired by commercial building owners and managers.

There are a number of ways to assure quality through the existing system. Industry standards, such as those established by the American Society of Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE), the Sheet Metal and Air Conditioning Contractors National Association (SMACNA), the National Fenestration Rating Council, and the International Code Council (ICC), which form the basis of most of the rebates in Building STAR, can be enforced through building codes at the state and local level. Contractors must obtain permits to undertake projects in commercial buildings, so inspection of the work by code authorities is nearly guaranteed. Outside of the building code realm, building owners and general contractors maintain high standards. Building owners count on energy savings to help pay for retrofit investments and improve the value of their assets. They are thus motivated to ensure the work was done correctly so that those savings can be achieved and building values improved, and they will not countenance sub-par work on their assets. General contractors, who bear the ultimate responsibility to deliver quality work, actively oversee subcontractors to assure the work is done right.

Question 4. Please describe the square foot energy savings per dollar invested for commercial retrofit programs.

Answer. An investment of $6 billion in public funding for Building STAR would create a total public/private program worth at least $18 billion that would retrofit approximately 5.7 billion square feet of commercial building space. This public spend of approximately $0.95 per square foot, after accounting for the private capital leveraged into the program, would result in total electricity savings of 31.6 Terawatt hours and total fuel savings of 48.8 trillion BTU per year. Building STAR thus generates 5.6 kilowatt hours of electricity savings and 8,600 BTUs of fuel savings per square foot per year.

We use a conservative assumption that the retrofit generates savings for 10 years. An analysis of a variety of programs indicates an average life of 13 years, with a discount rate for later savings of about 5%. This is also in line with the lifetime of building systems covered by Building STAR, which often last 15 to 20 years or more.

Over the 10 year life of the retrofit, the $0.95 per square foot of public investment in Building STAR yields electricity savings of 56 kilowatt hours and fuel savings of 86,000 BTUs per square foot. Based on average 2009 prices for electricity and natural gas of $0.1021 per kilowatt hour and $9.47 per thousand cubic feet, as reported by the Department of Energy's Energy Information Administration, Building STAR saves nearly $6.50 worth of energy as a result of the $0.95 public investment.

March 30, 2010.

Hon. JEFF BINGAMAN,
Chairman, Senate Committee on Energy and Natural Resources, 304 Dirksen Senate Office Building, Washington, DC.

Hon. LISA MURKOWSKI,
Ranking Member, Senate Committee on Energy and Natural Resources, 304 Dirksen Senate Office Building, Washington, DC.

DEAR CHAIRMAN BINGAMAN, RANKING MEMBER MURKOWSKI AND MEMBERS OF THE COMMITTEE: On behalf of the broad coalition working to include funds to replace substandard mobile homes with ENERGY STAR manufactured homes in the pending Jobs Bill, I appreciate the opportunity to testify and respond to your questions.

Nationwide, more than two million families live in old, and often dilapidated, mobile homes. These homes are among the nation's most energy inefficient. Most are found in economically depressed, rural areas and commonly are home to families

that are near or below the poverty line. These households often fall through the cracks of federal government assistance programs yet they may be trapped in a cycle of very high energy bills with little or no resources to make efficiency improvements in their own homes.

As a nation, we subsidize homeownership at more than $100 billion a year. The vast majority of these subsidies are received as tax benefits for the mortgage interest deduction and the property tax deduction. However, these housing subsidies are skewed to higher income households. Only 55% of people who pay mortgage interest, actually deduct it from their taxes. The other 45% take the standard deduction or have an income too low to pay federal income tax. In general, low-income owners of mobile homes do not benefit from the mortgage interest deduction.

Other targeted homeownership deductions do not reach mobile home buyers either. Because of regulations, these homeowners do not benefit from other subsidies available to low-income families. Since they own their own homes, they do not benefit from first-time housing subsidies: for example, the $8,000 first time homebuyer subsidy was not available to them nor is other sources of HUD or USDA down payment assistance. In addition, weatherization funds are impractical as these homes should not be repaired, they must be replaced but replacement is forbidden by law.

Even the small move up housing subsidy, $6,500 was too small to enable mobile homeowners to use it. Most programs that assist low-income home buyers, bundle subsidies including HOME funds, Federal Home Loan Bank Affordable Housing Program funds, Individual Development account funds and individual's savings. These options do not exist for the mobile home replacement buyer.

Mr. Tester's approach seeks to fill the gap to enable these homeowners to improve their quality of life with targeted assistance. These families do not earn enough to replace their homes on their own. They need greater subsidy to make the monthly payments affordable.

As requested, below are our responses to the questions submitted by Committee members.

RESPONSE TO QUESTION FROM SENATOR MURKOWSKI

Question 1. Please describe the average cost of heating a pre-1976 manufactured home? Are these homes also eligible for weatherization dollars or LIHEAP money?

Answer. Unfortunately, actual consumption data collected by the US EIA and other agencies does not separate out from the general population of manufactured homes those homes built prior to 1976. For estimates of energy use, particularly end use data (such as heating costs), the engineering community relies on software analysis using tools that have been benchmarked against actual home consumption.

In such a study performed by Systems Building Research Alliance, heating energy use for pre-1976 homes was estimated to range from $220 to $380 per month with the value depending mainly on climate and local electric and gas costs. There are homes in very mild and very harsh climates that are higher and lower than these values, of course, but this range of typical costs suggests the enormous potential for energy savings that will result from replacing an old home with a new one that qualifies for the ENERGY STAR label.

Families with very low income or in areas with high energy costs often make comfort sacrifices to keep their utility payments under control. Typically these households supplement their central heating system with free standing and generally unvented kerosene heaters or wood stoves. Fuel for these devices is an additional cost generally not captured by utility bill studies. They also may contribute to indoor air quality problems and cause health problems, particularly for children and the elderly.

Old mobile homes are likely to have highly inefficient and costly electric resistance heating and poor air distribution, exacerbating performance issues. As a result, the heating system may not be capable of delivering sufficient heat to keep the home warm, encouraging owners to use these supplementary heating devices and/or tolerate colder temperatures. Both have a deleterious impact on comfort and the quality of life.

While anecdotal, the utilities (particularly rural cooperatives that have the largest share of mobile homes on their service lines) report that older mobile homes are the major source of high bill complaints, late or delinquent payments and related service issues. These households will be a primary source of candidates for home replacement assuring that those families with the greatest need benefit from the replacement program.

Manufactured homes are definitely eligible for the weatherization program. However, state weatherization agencies are often reluctant to spend money weatherizing

a home that is so energy wasteful and structurally unsound. Their view is these homes represent a poor investment and should be replaced.

Although reliable estimates do not exist, we suspect many mobile home households are eligible for receiving LIHEAP funds.

The program would be nearly revenue neutral, creating more than 51,000 new U.S. jobs. Every dollar invested by the government in the replacement program would result in about three to four dollars of new lending, magnifying the benefits. Over the next decade, this program will save more than $1.8 billion in reduced energy costs and improve the living conditions of more than 130,000 low-income families.

RESPONSES TO QUESTIONS FROM SENATOR SESSIONS

Question 1. While I understand the need to not make the Silver Star program completely open-ended to any energy efficient technology regardless of its effectiveness, I am nevertheless concerned that at least one very energy efficient and cost-effective product category has been excluded: high-performing window films.

Window films are a proven, affordable means of achieving significant energy savings in homes. Specifically, by blocking a significant portion of the Sun's heat that penetrates a window, window films ensure there is less strain on air conditioners that heat a home—which, in turn, lowers overall energy costs for homeowners. Similarly, "low-E" window films can actually help retain a building's heat in colder climates, and thereby reduce heating costs in the winter.

When considering the cost of installing window films is significantly lower than completing many of other home retrofit upgrades (including the installation of new windows), providing window films with the $1,000 Silver Star subsidy would not only ensure more homeowners complete energy-saving improvements, but also support the thousands of jobs tied to the window film industry—including hundreds of U.S. manufacturing jobs and an estimated 7,000 to 8,000 window film installer jobs that are overwhelming employed by very small, family-owned businesses.

- Given the cost-effective energy savings that window films can provide to homeowners, should they be included as part of the Silver Star rebate section of the Home Star bill?
- While I can appreciate there are a variety of reasons one would want to limit the number of products eligible for the Silver Star rebates, the bottom line is that the Silver Star rebate program will likely be the first list that consumers look at when considering home energy efficiency improvements. Shouldn't we avoid picking "winners and losers" in the marketplace when it comes to energy efficiency upgrades?

Answer. The Silver Star rebate program and/or the inclusion of window films is not applicable to manufactured homes.

Question 2. In your opinion, why does the legislation exclude recognition of qualified training and certification by the Home Builders Institute, an existing certification program run in conjunction with the Department of Labor that provides training for weatherization and energy efficiency upgrades?

Answer. The Home Builders Institute program rebate program and/or the inclusion of window films is not applicable to manufactured homes.

Question 3. Would you agree that we should work to ensure the "certified workforce" requirement in the bill does not discriminate against installers of energy efficiency products that are typically employed by small businesses? If so, would you be willing to work with us to ensure that nationally-recognized training programs—such as the training provided by the IWFA will be recognized?

Answer. The certified workforce requirement is not applicable to manufactured homes.

RESPONSES OF PHILIP GIUDICE TO QUESTIONS FROM SENATOR MURKOWSKI

Question 1. Are there any large scale federal or state energy efficiency programs that could provide a template for this type of program, that have envisioned as many as 2 to 3 million homes over the next couple of years? Is it realistic to assume that this many homes can be retrofitted?

Answer. The states have learned a great deal over the past 35 years of conducting energy efficiency programs. The variety of successful energy efficiency programs include state-based models from across the country, including programs in Alaska. Successful programs initiated under ARRA were provided to both the Minority and Majority staffs at the March 4th and March 11th hearings. Under the State Energy Program (SEP) and the Energy Efficiency and Conservation Block Grant (EECBG),

over $800 million has been allocated by states and local governments for residential energy efficiency retrofits. Programs operated by states, local governments, utilities and other public benefits programs are useful models as Congress and the Administration consider the Home Star initiative. Massachusetts has extensive programs that are models. We are adding to that with our SEP and EECBG funding, including our community-based efforts. California has recently approved a $2.5 billion residential energy efficiency program.

Question 2. Within the draft legislation, there is reference to the use of the Building Performance Institute (BPI) for both training and quality assurance. Within the timeframe anticipated for the program to begin to operate, can BPI provide the necessary capacity to undertake such a large endeavor, with appropriate safeguards in place? How does the state of Massachusetts handle training and certification within their weatherization program?

Answer. The Building Performance Institute, Inc. (BPI) has been expanding dramatically in the past few years. That expansion is accelerating. They are operating in an effective manner. Massachusetts efficiency programs for residential customers are operated by two entities. For low income residents, ratepayer-supported efficiency programs are coordinated with the U.S. Department of Energy's (DOE) Weatherization Assistance Program (WAP) and coordinated by the Massachusetts Department of Housing and Community Development, in cooperation with local Community Action Agencies. Other residential customers receive efficiency programs and services from the investor owned the utilities, who for the most part work through contractors and vendors. Those parties have been responsible for training, certification and quality assurance.

Because of recent policy changes in Massachusetts that make energy efficiency our "first fuel" and require investor owned utilities to tap all cost effective energy efficiency resources that are cheaper than supply, Massachusetts has developed three year energy efficiency plans that require significant expansion of the service delivery infrastructure.

Private sector contractors who participate in the U.S. Department of Energy's (DOE) Weatherization Assistance Program (WAP) are required to complete a 4 day "Weatherization Boot Camp" and demonstrate the ability to meet DOE and Massachusetts Department of Housing & Community Development (DHCD) Installation Standards. DHCD is about to enter into an ISA with the Springfield Technical Community College (STCC) and the MassGREEN Initiative of the Massachusetts Clean Energy Center to implement a comprehensive weatherization contractor training program. Energy Auditors are trained and certified by DHCD prior to performing energy audits and quality assurance tasks.

For the market rate programs, we are in the process of moving toward a clear statewide certification requirement. Conversations continue about what the standard should be but it will most likely be a BPI standard or consistent with BPI, with an additional requirement to pass an air sealing skills test.

Question 3a. The Discussion Draft refers to BPI and the RESNET as "standard setting organizations." Are these two groups similar to the International Code Council, as it relates to being a standard setting organization? Are either of these organizations approved by an international Standards Developing Organization oversight body, like the American National Standards Institute (ANSI)? Please describe the process undertaken by BPI and RESNET to become a "standard setting organization?"

Answer 3(a). BPI

ESSENTIAL DISTINCTIONS OF BPI AND ICC

The Building Performance Institute, Inc. (BPI) is a national standards development and credentialing organization for residential energy efficiency retrofit work—providing training through a network of training affiliate organizations, individual certifications, company accreditations and quality assurance programs.

The International Code Council (ICC) is much broader in its domains, and is dedicated to building safety and fire prevention through the provision of codes, standards, products and services concerned with safety and performance of the built environment, primarily focused on the design of new buildings, with emphasis in the following domains:

- Buildings
- Residential
- Fire
- Mechanical
- Plumbing
- Electrical

- Fuel Gas
- Sewage

BPI's focus is narrow: existing residential building energy retrofits. ICC's focus is broad and mostly focused on advanced design.

In the March 12, 2010 ICC announcements of the combined International Green Construction Code (jointly with AIA, ASTM, ASHRAE, USGBC and IES), the standard exempts "Low-Rise Residential Buildings" implicitly recognizing these buildings (and their related standards) are properly in the domains of other initiatives.

BPI STANDARDS SETTING PROCESS

BPI's standards domain includes personnel certifications, contractor accreditations, and national technical standards that support building systems. Since 1996 BPI has used its consensus development processes to garner wide support of all potentially affected stakeholders. These procedures exceed those required by the American National Standards Institute (ANSI). In fact, BPI has applied to ANSI for accreditation as a developer of American National Standards and approval is expected shortly. To the best of our knowledge and belief, BPI's standards development processes already comport with all of the tenets of OMB Circular A-119, particularly those of openness, due process, balance, consensus, and lack of dominance. Thus, BPI is appropriately poised for this legislation and its reliance on private-sector, objective, fair, open and consensus based standards. To the best of our knowledge and belief, it fully meets the requirements of OMB Circular A-119.

The National Technology Transfer and Advancement Act (NTTAA) follows the basic tenets of OMB Circular A-119 to use standards developed by voluntary consensus standards bodies, as well as encouraging federal agencies in their deliberations. BPI programs and standards activities have enjoyed extensive cooperation with and participation by numerous federal and state agencies. These standards are referred to by both DOE and EPA in their program activities and BPI's national expansion was funded through a grant provided by DOE, EPA and HUD. DOE holds one of five positions on BPI's Standards Management Board, while EPA currently is sponsoring a Home Performance with ENERGY STAR (HPwES) pilot in northern Virginia that requires the contractors to become accredited by BPI and follow the BPI Standards in their home energy retrofit work. Other state and utility programs (Energy Trust of Oregon, Austin Energy, NYSERDA, and NJ Board of Public Utilities) use BPI Standards and credentialing as the basis of their programs. The NYSERDA HPwES program, for example, requires contractors to follow BPI Standards in their work. To date over 35,000 "whole house" energy retrofit projects have been completed in the state by contractors accredited by BPI.

BPI also maintains a series of personnel certifications based on these standards. In the single family realm of the HOME STAR legislation, BPI maintains certifications in the areas of Building Analyst, Shell/Envelope, Heating, and Air Conditioning/Heat Pump. These certifications are based on 100 question (timed and secured) written tests as well as a two-hour field test with diagnostic equipment administered by a field examiner approved by BPI. BPI certifications must be renewed every three years. If the renewing candidate has 30 Continuing Education Units (CEUs), then only a repeat of the field test is administered. Renewing candidates with less than 30 but greater than 10 CEUs need only re-take the 50 question specialty exam for their specialty along with the field test. Others must take both full tests. BPI is currently in the process of applying to ANSI for an accreditation for its personnel certifications under ANSI/IEC/ISO 17024.

More information may be obtained directly from BPI.

Answer 3(b). In its standard development process RESNET includes a consensus process that involves review and approval of a new standard or amendments by a formal standing RESNET committee, posting of the drafts on the internet for a minimum 30-day public comment review, documentation of the consideration of public comments and review by the RESNET Standards Committee and the RESNET Board of Directors prior to the adoption of a standard or amendment. This consensus process is modeled on the American National Standards Institute's (ANSI) process. RESNET standards are recognized by the U.S. Department of Treasury for the federal tax credit for energy efficient homes, the Environmental Protection Agency for the labeling of ENERGY STAR Homes and the U.S. Department of Energy for the National Builders Challenge.

More information may be obtained directly from RESNET.

Question 4. Congress has authorized several approaches to encourage both residential and commercial building owners to invest in energy efficiency improvements. Please describe the programs that have led to the greatest reduction in energy use. Does either the tax code or federal grants to building owners provide any inherent

advantage over the other—for example is one more efficient, or cheaper to administer?

Answer. The State Energy Program (SEP) has historically been highly successful in energy savings. According to a Oak Ridge National Laboratory study, based upon 2003 data, for every federal dollar invested over $7 in energy savings was achieved. A combination of tax provisions and rebate programs hold great promise. For example, the $1.80/sq.ft. commercial buildings deduction for energy efficiency should be expanded to $3.00/sq.ft., in accordance with the Building Star proposal. The 25C residential tax provision has been helpful, but should not be seen as exclusive. The Home Star program would add a critical short-term measure that should be followed up by the enactment and funding of the REEP proposal contained in slightly different forms in S. 1462 and H.R. 2454. In short, both direct funding and tax provisions can be (and are) effective. SEP has been relatively easy to administer at the state level.

RESPONSES OF PHILIP GIUDICE TO QUESTIONS FROM SENATOR SESSIONS

Question 1. While I understand the need to not make the Silver Star program completely open-ended to any energy efficient technology regardless of its effectiveness, I am nevertheless concerned that at least one very energy efficient and cost-effective product category has been excluded: high-performing window films.

Window films are a proven, affordable means of achieving significant energy savings in homes. Specifically, by blocking a significant portion of the Sun's heat that penetrates a window, window films ensure there is less strain on air conditioners that heat a home—which, in turn, lowers overall energy costs for homeowners. Similarly, "low-E" window films can actually help retain a building's heat in colder climates, and thereby reduce heating costs in the winter.

When considering the cost of installing window films is significantly lower than completing many of other home retrofit upgrades (including the installation of new windows), providing window films with the $1,000 Silver Star subsidy would not only ensure more homeowners complete energy-saving improvements, but also support the thousands of jobs tied to the window film industry—including hundreds of U.S. manufacturing jobs and an estimated 7,000 to 8,000 window film installer jobs that are overwhelming employed by very small, family-owned businesses.

- Given the cost-effective energy savings that window films can provide to homeowners, should they be included as part of the Silver Star rebate section of the Home Star bill?
- While I can appreciate there are a variety of reasons one would want to limit the number of products eligible for the Silver Star rebates, the bottom line is that the Silver Star rebate program will likely be the first list that consumers look at when considering home energy efficiency improvements. Shouldn't we avoid picking "winners and losers" in the marketplace when it comes to energy efficiency upgrades?

Answer. We look forward to working with Senator Sessions and both the minority and majority members to determine the appropriate treatment of window films, taking into account cost, energy savings, cost-effectiveness and persistence of savings.

Question 2. In your opinion, why does the legislation exclude recognition of qualified training and certification by the Home Builders Institute, an existing certification program run in conjunction with the Department of Labor that provides training for weatherization and energy efficiency upgrades?

Answer. We are not familiar with HBI, but we remain open to working with organizations that can work effectively and in collaboration with other key stakeholders to achieve the goals of the Home Star legislation.

Question 3. Would you agree that we should work to ensure the "certified workforce" requirement in the bill does not discriminate against installers of energy efficiency products that are typically employed by small businesses? If so, would you be willing to work with us to ensure that nationally-recognized training programs—such as the training provided by the IWFA will be recognized?

Answer. We look forward to working with Senator Sessions, as well as the majority and minority members to ensure that small business employees are not prevented from working in the Home Star program.

RESPONSES OF BOB HANBURY TO QUESTIONS FROM SENATOR MURKOWSKI

Question 1. Please describe the different groups who currently provide training for retrofit programs. How are these trainings developed? For example, if a particular type of training, or curriculum is pursued in the legislation, what is the role of the

general public in participating in the process, or in the development of referenced training standards?

Answer. Until recently, most of the training for weatherization-related work has been under the domain of the Department of Energy's (DOE) Weatherization Assistance Program (WAP). The curriculum used for the WAP program is developed and approved by DOE. As of February 2009, there were twelve recognized Weatherization Training Centers[1] that provide a full array of weatherization training and hands-on opportunities. Many states also have other training requirements and opportunities tied to their State Energy Programs (SEPs).

There is also a vast array of private entities and organizations that provide energy efficiency training, including Southface, the Institute of Environmental Management and Technology, Inc. (CT), Institute of Envelope Science (FL), Quality Built (CA), Affordable Comfort, Inc. (PA), among many others. Most of these programs have been developed in response to the WAP program and SEPs by private entities looking for business opportunities. Because there are currently no standards to which any training program must adhere, these programs have typically been developed by the company and its team of experts with little or no input from the public.

Finally, there are a number of initiatives underway to improve national weatherization training—efforts that will be equally applicable for retrofit work. First, DOE's Office of Weatherization and Intergovernmental Program for the WAP issued its National Weatherization Training & Technical Assistance Plan in December 2009. The plan is designed to "[b]uild the training capacity to support the weatherization network Recovery Act ramp up and lay the foundation for a sustainable national retrofit industry with ready access to a well-trained workforce and opportunities for worker mobility and career pathways." Second, the Weatherization Trainers Consortium of DOE is developing a "Core Competencies for the Weatherization Assistance Program." This is the first step in standardizing core competencies for various weatherization workers. While neither of these efforts will result in short-term solutions, any legislative action should be designed to facilitate and complement these initiatives.

Last year, the Home Builders Institute (HBI) began developing a weatherization and retrofit curriculum designed to create job skills and workforce development in the residential construction industry. The curriculum was developed via a thorough skills assessment, task analysis, and DACUM (Developing a Curriculum) process, an internationally-recognized and legally-defensible job analysis method. In this process, experts in the field, i.e., job practitioners, are used to help develop curriculum instead of having curriculum developed by instructors, college professors, interest groups, or other outside parties. The task analyses are structured to accommodate all standards in use, so it is flexible enough to work everywhere and is not limited geographically. The program is also designed to be widely available with at least two testing locations per state—total of 1382—and can be used in home builder associations (over 800 nationwide), as well as community colleges throughout the U.S. Currently, the weatherization curriculum is being delivered through partnerships with the Greater Houston Builders Association, NAHB, Goodwill Industries International, Inc., United Brotherhood of Carpenters and Joiners of America, Adult Reading Center, Inc., Ferris State University, Michigan Association of Home Builders, and Detroit Environmental Justice.

The HBI program includes a 40-hour course that provides hands-on training for four levels of job skills: apprentice, weatherization worker, weatherization specialist, and energy analyst. Each level of training requires different skills proficiency and different levels of coursework and training. The coursework uses adult learning techniques and covers the status of energy consumption, forms of energy, basic theory, thermal envelope, vapor barriers, air barriers, anatomy of a home terminology, and calculating heat loss. The practicum includes actual hands-on disposable home components so workers can learn how to install 80 different weatherization products and perform 45 activities. The program is designed for workforce skill development and is intended for professionals to use in a full-time career. NAHB understands that the North American Technician Excellence (NATE) and Laborers International Union of North America also have a retrofit training and/or certification program. NAHB does not, however, have enough information about the development of these training programs in order to adequately comment on the nature of their development.

NAHB understands the Building Performance Institute (BPI) has a certification program for retrofit work that includes class offerings for contractors that can sign up with a BPI affiliate and then pass a test to be certified. NAHB believes that

[1] Weatherization Assistance Program Technical Assistance Center (WAPTAC) website, accessed at http://www.waptac.org/sp.asp?mc=training_facilities on 3/25/10.

there is no corresponding workforce development component to the BPI certification credential, and that it relies upon an individual's ability to master BPI prescribed skills standards and successful completion of testing and certification. The BPI program and its published "standards" are not approved by a third-party standards organization, like the American National Standards Institute (ANSI), and therefore do not have a guaranteed public participation component.

Question 2. Please elaborate further on how the Lead Paint Rule will impact the retrofit industry.

Answer. The Lead: Renovation, Repair and Painting (LRRP) rule "applies to all renovations performed for compensation in target housing and child-occupied facilities." (40 CFR §745.80) on or after April 22, 2010, no firm may perform, offer, or claim to perform renovations without certification from EPA unless the renovation qualifies for one of the exceptions, which includes no children under 6 or pregnant women living in or visiting the home on a regular basis. Considering that the most effective retrofits will occur in "target housing"—roughly defined as any housing constructed prior to 1978—contractors will need a certification from the EPA before they can legally work in older homes. As of March 15, 2010, EPA is reporting that it has certified 50,000 renovators, but given that EPA estimated 236,000 certified renovators are needed in the first year of the rule for good compliance, the 50,000 figure represents less than ¼ of the workforce predicted. NAHB notes that the LRRP certification supersedes any workforce or other contractor certification requirements under Home Star and its impact on the proposal and the retrofit industry is significant.

The Obama Administration wants to improve the energy efficiency of millions of older homes, most of them built prior to 1978, which means they are subject to the LRRP rule. To date, EPA has not certified enough trainers or firms to enable widespread or sufficient compliance. As a result, the federal government is poised to distribute millions of dollars to retrofit older homes through the DOE, meanwhile the EPA is erecting a chokehold on training and certification for contractors working on this least efficient stock.

Question 3. Please describe the training and curriculum that is provided to insure that retrofit work is performed to the highest standard.

Answer. The majority of States have State or local contractor licensing requirements that apply to all residential construction activities, including retrofit work. Most require applicants to demonstrate sufficient work experience and pass one or more tests to demonstrate the requisite knowledge. In Nevada, for example, applicants must provide four notarized references verifying that they have had four years of work experience to apply for a license. All applicants must then take the Contractors Management Survey Exam (CMS), which covers Nevada State Contractor licensing laws and regulations; state laws; construction project management; and business and financial management; and a classification-specific exam that covers reading and interpreting construction codes and regulations; Nevada Health Department regulations; building codes; trade materials, tools, equipment, and methods; and Nevada Occupational Safety and Health rules. Most of the other states' requirements are similarly rigorous. Clearly, contractors who have earned licensure must demonstrate full knowledge of the issues in order to become licensed. In addition, several states also require all licensed contractors to meet continuing education requirements. In Minnesota, where contractors must earn seven hours of continuing education credits per year, at least one hour of that education must be related to the implementation of energy codes for buildings and other building codes designed to conserve energy.

Further, most States have training, certification and/or licensing requirements for conducting certain activities, thereby ensuring that the activities performed are done so competently and professionally. Finally, in addition to the skills and expertise that will be demonstrated through the work, every time a contractor completes a job, his or her credibility and business is on the line. All contractors want to secure new jobs, so in addition to doing a job well, they seek to get new referrals from their clients—both of which compel them to ensure their work complies with the highest standards.

Question 4. The Home Star program wants rebates to be paid within 30 days and inspections also one within 30 days. So potentially, a homeowner or contractor could be waiting up to 60 days to get the rebate paid out.

a. Is 60 days too long to be waiting for a rebate? Is there a faster way to get this done?

Answer. Compared to the "Cash-For-Clunkers" program, which provided the rebate to the consumer upon purchase, 60 days is a relatively long time. However, 60 days is relatively short compared to the length of time consumers typically must

wait for benefits from tax credits, which are claimed on a homeowner's tax return that may not be filed for months. If the 60 day waiting period could be reduced, all else equal, it would make the program more effective.

In the retrofit program managed by the Builders Association of Minnesota (BAM)—Project Reenergize—rebates to consumers were processed in about 12 days (avg.). The BAM would verify the pre-rebate notification and post-renovation verification information—i.e., perform necessary quality assurance—and then submit the rebate request to the State's Department of Commerce (which has jurisdiction over energy programs) and then the Department of Commerce would send the money to BAM and BAM would issue a check to the consumer. The average rebate to the consumer was about $2,300 and took about 12 days.

b. Let's say it takes three months to stand up the infrastructure of the program and another 60 days for rebates to be paid out.

c. That is almost half a year of waiting for the first rebates after the legislation becomes law. Is this too long?

Answer. Compared to waiting until the next filing date for an income tax rebate, or some of the delays occurring in the WAP program authorized by ARRA, five months is not excessive, provided that deadline can be met. NAHB is concerned that it could take considerably longer than three months to establish the necessary infrastructure for the program, as currently proposed, to the point where it is running efficiently across the entire country. It may be worth considering that expanding existing tax credits for energy efficiency measures could be done without requiring an elaborate new infrastructure. Restrictions on the number of contractors considered eligible to perform retrofits also limits the speed with which a retrofitting program can be rolled out.

Question 5. What is our understanding of the work force that will be participating in the Home Star program? What are the expectations for what fraction of this workforce will ultimately stay in the industry?

Answer. The pool of potential participants for an energy retrofit program come from employees of a relatively large number of small firms with a few employees each, as well as a number of contractors and subcontractors who are self-employed. According to NAHB's 2009 Member Census, 2-percent of members who characterize themselves as residential remodelers had no employees, 17-percent had just one employee, only 11-percent had more than 10 employees, and none had more than 50. Among these residential remodeling businesses, the median number of employees in 2009 was 4 and the median volume of business done in 2009 was $506,562.

Subcontracting is also a relatively common practice in the industry. Remodelers responding to NAHB's fourth quarter 2009 "Remodeling Market Index" Survey reported employing, on average, 18 different subcontractors during the course of a year. Subcontracting businesses also tend to be relatively small. Among the NAHB members who characterized themselves as subcontractors in our 2009 Member Census, the median number of employees was 8, and the median volume of business done in 2009 was $866,226. Most (41.8%) of these businesses are pure subcontractors, in the sense that they do no other type of work. About 9% also do residential remodeling, the most of any secondary businesses activity reported by subcontractors in our member Census.

However, there is large number of very small firms without employees in the construction industry in general, and many of these are unlikely to be members of NAHB and therefore would not be captured in our Member Census statistics. The Census Bureau's 2007 non-employer statistics show 592,988 firms without employees in residential construction and 1,921,680 specialty contracting firms without employees in the construction industry in general. They had average annual receipts of $85,871 (for residential remodelers) and $50,344 (specialty trade contractors). NAHB does not know exactly how many of these small construction businesses without a payroll specialize in residential remodeling, but given the relatively small nature of many residential remodeling projects, it seems likely that residential remodeling would have at least a proportional share of these small mom-and-pop operations.

The smallest of these businesses are less likely to be Home Star participants. Many such small businesses have limited capacity to process paperwork or send staff great distances to participate in training and certification programs. The more restrictive the certification requirements, and the more complex the reporting and record-keeping requirements, the greater will be the tendency to exclude businesses at the small end of the spectrum.

While NAHB believes that there will be strong ongoing demand for energy-efficiency retrofits in older buildings, providing an opportunity in future years for Home Star participants to apply skills learned while participating in the program, NAHB

does not necessarily believe the relatively modest Home Star proposal will lure away builders from new construction jobs into permanent retrofit work once the demand returns and gains for new home construction.

Question 6. Please describe the different industry options to certify contractors. Does Home Star provide these certification options?

Answer. Like training, there are currently many different certification programs available for builders and contractors—most of which have been developed by private-sector entities and none of which have been developed pursuant to a consensus process. As a result, these programs do not necessarily follow the same criteria, require the same competencies, or promote the same results. As above, however, due to the lack of any standard or basic national criteria for what an acceptable certification program might look like, coupled with the variety of factors, expertise, and competencies needed for retrofit activities across the country, allowing for and facilitating the existence of a variety of different certification programs makes sense.

First, this provides the ability to tailor the program to the immediate needs of the targeted sector. The State of Oregon, for example, requires an Oregon DOE Tax Credit Certified Technician to perform any heat pump, air conditioning installation and diagnostics, and duct sealing and testing if the homeowner seeks to obtain state tax credits for a portion of the work. This approach ensures that the activities are performed correctly, without requiring unnecessary certifications for activities that will not be performed, or that are already well-understood. Second, supporting a variety of certification programs helps to ensure that there are a sufficient number of entities are available to do the work. Sole reliance on a handful of certification programs, as prescribed in the Home Star Act draft, could result in a bottleneck that will impair and slow progress.

Question 7. Please describe the timeframe to develop an employee certification program, within each state, and the Administrative costs associated with the directive. Is there a streamlined process for determining employee certification for this type of work across the country?

a. Will the DOE need to provide a federal contractor certification provision within the Home Star program?

Answer. In the context of Home Star, it will be extremely important that DOE or other regulatory authorities not preclude contractors from an "employee certification program" associated with the program based on a contractor's taxpaying status. Most contractors in the residential construction industry are organized as independent contractors and, therefore, may be the only, or one of very few "employees." The independent contractor status is protected under existing tax rules and regulations and any effort to layer on additional "employee certification" requirements for work on Home Star-funded projects should similarly protect that designation status.

b. If not, why does the DOE have the opportunity to require additional standards?

Answer. The federal government should avoid referencing a single or limited number of privately-developed standards by name in federal legislation to avoid creating monopolies for government-subsidized projects. In the absence of consensus-based standards that have undergone third party approval by an unaffiliated standards organization—e.g., American National Standards Institute (ANSI) or American Society for Testing Materials (ASTM), Congress should be careful not to limit the administration and outcome of public programs to the discretion of a few privately-developed technical benchmarks.

The National Technology Transfer Act of 1996 (P.L. 104-113) prescribes that the federal government should reference and use voluntary industry consensus standards that have undergone approval and scrutiny by third-party organizations (like ANSI) as preferred benchmarks for federal agencies when they are available in the marketplace, rather than relying upon privately-developed standards. This gives greater weight to those consensus standards that have undergone thorough public scrutiny and can demonstrate a development process that is balanced among interests and stakeholders and that the development panel is not over (or under) represented in key interest groups. None of the groups listed by name in the definitions section in the current draft under "certified workforce" are ANSI-approved standards, i.e., they are all privately-developed.

c. What might these additional standards look like?

Answer. Additional standards should include the ICC-700 2008 National Green Building Standard™ (NGBS). Not only has the standard already undergone the rigors of public scrutiny and received approval from ANSI, it has a remodeling component that is in concert with the proposed structure of the Gold Star level of the

HomeStar program. As with the Gold Star level in the current draft, homes older than 1980 rated according to the Green Remodel path of the NGBS must demonstrate at least 20% improvement in energy performance in tests performed by an accredited third party verifier. Similar reductions in water use are also required. The NGBS provides the only approved public standard for remodeling to improve energy and environmental performance in older homes that complies with the federal government's NTTA law and achieves the dictated performance outcomes prescribed in the draft legislation. Furthermore, certification to the NGBS is already available to the market and over 300 verifiers have already been trained and are available to check compliance, thus providing a ready-made certification infrastructure should certification to the NGBS be recognized as an approved means to satisfy the Gold Star program requirements.

With regard to alternative training standards, to date, over 5000 individuals have already completed NAHB's certified green professional (CGP) curriculum and are available to implement the work needed to achieve the performance improvements sought by the Home Star program. These individuals have all undergone three days of classroom training, including two days devoted to green building training, which incorporates a focus on energy-efficient construction.

d. Furthermore, how would a state certify to the DOE, that their classification program is viable, and would not be subject to additional requirements by the DOE?

Answer. States using national standards—like the NGBS, for example—would not necessarily have to prove to DOE that their classification is viable because it would provide a consistent benchmark across the country. States that are using other privately-developed benchmarks, without consistent training or implementation requirements, would have limited ability to ensure reliable training and work practices nationally. This could create problems if trying to implement 50-different certification protocols.

e. Are there alternatives?

Answer. An alternative mechanism would be to require program participants, both contractors and homeowners, to retain manufacturer certifications of installed products' energy efficiency ratings and/or energy performance ratings results. This is similar to the current existing homes tax credit program (Section 25C of the Internal Revenue Code of 1986). In this instance, the plethora of certification credentials and contractor requirements becomes irrelevant and the burden of proof is on the consumer, who is making the investment and efficiency decisions for the home anyway. This would potentially eliminate a lot of the "red tape" that the program could face and would allow the government to expend the resources devoted to approving various certification credentials and classifications for contractors on greater rebates to consumers.

RESPONSES OF BOB HANBURY TO QUESTIONS FROM SENATOR SESSIONS

Question 1. While I understand the need not to make the Silver Star program completely open-ended to any energy efficient technology regardless of its effectiveness, I am nevertheless concerned that at least one very energy efficient and cost-effective product category has been excluded: high-performing window films.

Window films are a proven, affordable means of achieving significant energy savings in homes. Specifically, by blocking a significant portion of the Sun's heat that penetrates a window, window films ensure there is less strain on air conditioners that heat a home—which, in turn, lowers overall energy costs for homeowners. Similarly, "low-E" window films can actually help retain a building's heat in colder climates, and thereby reduce heating costs in the winter.

When considering the cost of installing window films is significantly lower than completing many of other home retrofit upgrades (including the installation of new windows), providing window films with the $1,000 Silver Star subsidy would not only ensure more homeowners complete energy-saving improvements, but also support the thousands of jobs tied to the window film industry—including hundreds of U.S. manufacturing jobs and an estimated 7,000 to 8,000 window film installer jobs that are overwhelming employed by small, family-owned businesses.

- Given the cost-effective energy savings that window films can provide to homeowners, should they be included as part of the Silver Star rebate section of the Home Star bill?

Answer. NAHB fully supports the inclusion of all energy-efficient technologies that have measurable results to be included in the Home Star program, as each

component works to improve overall energy performance and provides savings to consumers. NAHB supports efforts to add and expand the products and services available for consumer rebates because it will both increase the potential for job creation and energy savings. NAHB would support the inclusion of window films as part of the Silver Star rebate section of the Home Star bill.

- While I can appreciate there are a variety of reasons one would want to limit the number of products eligible for the Silver Star rebates, the bottom line is that the Silver Star rebate program will likely be the first list that consumers look at when considering home energy efficiency improvements. Shouldn't we avoid picking "winners and losers" in the marketplace when it comes to energy efficiency upgrades?

Answer. NAHB agrees that the legislation should not pick "winners and losers" in the marketplace for energy efficiency upgrades. Not only does NAHB agree that the bill should not pick and choose preferred technologies that are eligible for rebates under the program, but also does not agree that Congress should pick and choose preferred certification and workforce programs. NAHB would support efforts to remove all named references to specific certification programs and allow the Secretaries of DOE and DOL to choose legitimate workforce and energy efficiency programs that would qualify for weatherization work as part of a "certified workforce." NAHB would also support including additional products with demonstrated energy efficiency performance—e.g., Energy Star-rated windows—that can achieve desired performance outcomes and, in many cases, are a more affordable option for consumers.

Question 2. In your opinion, why does the legislation exclude recognition of qualified training and certification by the Home Builders Institute, an existing certification program run in conjunction with the Department of Labor that provides training for weatherization and energy efficiency upgrades?

Answer. NAHB believes that the HBI program has been excluded from recognition in the legislation because it was developed through a network of residential construction, engineering, and academic experts that do not normally purchase certification credentials and/or participate with the certification and training programs belonging to those companies and organizations already referenced by name in the legislation. Because many of the organizations that currently support the legislation have not often worked closely with the residential construction industry, and/or do not fully appreciate the nature and breadth of the workforce training that the industry has been offering and undertaking for decades, NAHB believes there has been reluctance for some groups to support the inclusion of an industry-based training and workforce program.

Despite its legitimacy and partnership with DOL, and its rigorous and legally-defensible development, the current draft provides that the HBI program is relegated to a position upon where the DOE Secretary would have to separately approve it before it could be equally considered alongside those programs already named. NAHB understands the considerable delays that DOE had in issuing code determinations (10 years behind) and previously appliance standards. For example, we assert that not being included for consideration at the outset in the draft is equivalent to being permanently excluded from the program, particularly in a program like Home Star that is designed to implement rapidly and conclude within 2 years.

Question 3. Would you agree that we should work to ensure the "certified workforce" requirement in the bill does not discriminate against installers of energy efficiency products that are typically employed by small businesses? If so, would you be willing to work with us to ensure that nationally-recognized training programs—such as the training provided by the IWFA will be recognized?

Answer. NAHB would agree that Congress must ensure that the "certified workforce" requirement in the bill does not discriminate against installers of energy efficient products that are typically employed by small businesses. As the great majority of NAHB members are small contractors, employers, and businesses, NAHB would support any measures to ensure that independent contractors, small businesses, and installers participating in bona fide training programs—including window film installation—could be eligible to participate in the Home Star program.

According to the Energy Information Administration (EIA), the energy consumed by older homes (built prior to 1991), comprises 17.1% of all energy consumed in the United States. Further, 74.1% of the existing housing stock—130 million—was built before 1991 when modern energy codes largely did not exist. Needless to say, there is enough work to go around and Congress should not, in any way, limit the ability of highly-trained and skilled contractors to perform critically-necessary upgrades in these older homes. Requiring contractors to purchase specific certification credentials and/or limiting the training options to only a few preferred groups for partici-

pation in this incentive program is very short-sighted. NAHB hopes to expand the number of qualified training programs that can be recognized and officially endorsed by the legislation, so that it will increase the number of available workers who can return to work, improve property values for millions of consumers, and save energy and resources for our country.

Larry Laseter, President of Masco Home Services, represented the HOME STAR Coalition at the March 11, 2010 Hearing before the Senate Energy and Natural Resources Committee. The HOME STAR Coalition (referred to in these questions as "the Coalition") is made up of organizations and businesses that endorse the HOME STAR program including construction contractors, building products and mechanical manufacturers, retail sales businesses, environmental and energy efficiency groups and labor advocates. A complete list of the Coalition members is attached.*

RESPONSES TO QUESTIONS FROM SENATOR MURKOWSKI

Question 1. Please describe your assertion within your written statement that this program will result in higher home values. Are there any case studies that have shown a direct correlation between home energy efficiency retrofits and property values—excluding the sale of new ENERGY STAR homes?

Answer. The study most quoted in this area is a report by Rick Nevin and Gregory Watson published in The Appraisal Journal of the Appraisal Institute in October 1998, entitled "Evidence of Rational Market Valuations for Home Energy Efficiency". The study prominently notes:

> According to this study, residential real estate markets assign to energy-efficient homes an incremental value that reflects the discounted value of annual fuel savings. The capitalization rate used by homeowners was expected to be 4%-10%, reflecting the range of after-tax mortgage interest rates during the 1990s and resulting in an incremental home value of $10 to around $25 for every $1 reduction in annual fuel bills. Regression analysis of American Housing Survey data confirms this hypothesis for national and metropolitan area samples, attached and detached housing, and detached housing subsamples using a specific fuel type as the main heating fuel.

There have been numerous other studies as well, mostly focused on new construction, where energy efficiency differences in houses sorted by ENERGY STAR or other state or utility certification may easily differentiate those from a baseline. These studies all reach similar conclusions about the fact that energy efficiency is valued by consumers if they can identify it as an attribute. A very recent study conducted in the Pacific Northwest entitled Certified Home Performance: Assessing the Market Impacts of Third Party Certification on Residential Properties (by Ann Griffin, Earth Advantage Institute, with Ben Kaufman, GreenWorks Realty, and Sterling Hamilton, Hamilton Investments, LLC, May 29, 2009) notes the value of energy efficiency to the consumer.

Having noted these studies as requested, the HOME STAR Coalition views increased home valuation as an incremental benefit to the broader legislative objectives of job creation and energy savings.

Question 2. Is the intent of the bill to move towards national building codes for retrofits?

Answer. No. There are no requirements for new building codes in this legislation in any way whatsoever. The only requirement is that measures installed meet all existing local building codes.

Question 3. Please describe the process undertaken to determine what efficiency retrofits would be eligible to receive rebates. Under the SILVER STAR component, is there a process to determine which retrofit makes sense from a financial and energy savings perspective?

Answer. The HOME STAR Coalition is made up of a broad range of industry representatives, environmental groups, energy efficiency experts and organizations. The Coalition developed recommendations for a simple and manageable program involving about 8-10 efficiency measures that would drive consumer demand to create jobs. The Coalition's recommendations were developed to meet the following objectives:

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* Document has been retained in committee files.

- To look for measures that typically achieve measurable savings in home energy use (heating, cooling and water heating).
- To look for measures that make sense on a national level this was for simplicity and fast rollout. Measures that make sense only in a specific region might be not be appropriate (or could even be counterproductive) in other regions.
- To consider the market availability of technologies, recognizing the need for rapid penetration rather than a multi-year ramp-up.
- To look for measures that would generally not be adopted at significant penetration levels without incentives.

Question 4. The Discussion Draft calls for DOE to establish a nationwide network of rebate aggregators who are required to distribute rebates within 30 days after receiving applications. Please describe what companies could create such a network in this time frame. In addition, has there been discussion with professional rebate fulfillment companies who have experience processing rebates to the extent envisioned in the draft legislation? If other companies, or programs, offering energy efficiency products, are allowed to process rebates, are there any potential conflicts of interest that may arise?

Answer. While final administrative procedures will be put in place by DOE relating to the specific qualifications of the rebate aggregators, it has always been the intent of the Coalition to promote a rebate structure that could be implemented quickly; be available to all contractors and retailers, large and small; and take advantage of existing program structures at the state and utility level that are already processing rebates.

The infrastructure for rebate aggregation already exists in all 50 states. Many of the companies that currently act as state and utility program implementers have existing systems that quickly move rebate requests upstream and rebates back down to contractors. Because such programs don't already exist everywhere in the country, it was important to envision an alternate private-sector mechanism to channel rebate requests to the federal processing center and issue the rebates in a timely manner. It is logical to project that large retailers, manufacturers and/or distributors of home improvement products would take responsibility for the bulk processing of rebate requests and dispersal of rebates back to the contractor level.

As you noted in your question, it is also logical to expect professional rebate fulfillment companies to be solicited by DOE to service all other contractors not captured by the other mechanisms mentioned above. It has been suggested, and the Coalition agrees, that one or more "National Default Rebate Aggregators" should be a component of the rebate processing system.

As for potential conflict of interest, the Coalition believes the structure of a completely separate Quality Assurance infrastructure and process that is independent from the contractor will avoid the most apparent conflicts by never allowing a contractor to be a QA provider. The Rebate Aggregator will also have specific responsibilities for the completeness and accuracy of the rebate request through a compliance review of each request. It is our understanding that DOE will institute a redundant review upstream on a sampling of requests to quality-check the Rebate Aggregator.

Question 5. Please describe the anticipated participation levels in both the SILVER and GOLD STAR components of the HOME STAR Program.

Answer. The Coalition expects the program to be fully subscribed. The combination of SILVER STAR and GOLD STAR paths was conceived as an effective way to address the need for immediate rollout in today's market while laying the foundation for a future performance-based market for home energy retrofits. The product-based incentives provided by the SILVER STAR path are already familiar to consumers, contractors and retailers, and can be deployed quickly and easily by an existing workforce. The GOLD STAR path represents the future of the efficiency retrofit industry, with highly trained contractors implementing cost-effective, multi-measure retrofits based on scientific modeling of a home's potential energy performance.

For SILVER STAR work, contractors must simply be licensed (where applicable) and insured, and they must guarantee their work. We expect that the existing building trades, such as insulation, HVAC, window and door contractors, are prepared to market and deliver these projects by working through established retailers and other existing channels. SILVER STAR will assure extremely rapid uptake and immediate job growth.

The GOLD STAR track requires contractors to undergo a higher degree of training, yet they will benefit from significantly higher incentive levels. Currently there are contractors across the country that are either fully qualified for GOLD STAR

or are on track to earn the necessary qualifications. The GOLD STAR track will create a long-term sustainable marketplace based on the combined energy-saving performance of various building systems (insulation, heating and cooling, water heating, lighting, etc.) rather than on specific products or technologies. This approach gives homeowners and contractors the freedom to develop the most cost-effective solutions for a given home.

Question 6. Within the legislation, you exempt the HOME STAR Program from several laws, including the Paperwork Reduction Act. Please describe the process undertaken to determine why the HOME STAR Program should be exempt from these laws, and any legal opinions you may have for the exemption.

Answer. The HOME STAR Coalition does not have direct knowledge of the specific administrative process portions of this legislation as they were drafted directly by legislative staff who are familiar with these administrative process acts and laws. It is our understanding, which we strongly support in principle, that there is a critical need to move quickly to implement the HOME STAR Program and create immediate job opportunities for American workers. Most of the critical components of the HOME STAR Program are embodied in the legislation so that the need for detailed rule-making is less substantial.

Question 7. Please describe whether there is any overlap in the labor field between residential and commercial retrofit construction workers?

Answer. Residential and commercial construction work has traditionally been done by different firms using different pools of workers. Although a number of larger construction companies work in both the residential and commercial markets, these firms often structure their work through separate residential and commercial divisions. With regard to energy efficiency retrofits, single-family homes, multi-family residential buildings and commercial buildings present separate challenges that require different skill sets and technology. As a result, these markets remain largely distinct.

It is important to note, however, that many skills are transferable between residential and commercial retrofit work. Many workers who begin their careers in home construction move to work in commercial construction. Further, many manufacturing and retail companies serve both of these markets, so the same retailers and manufacturers that stand to benefit from HOME STAR also would benefit from increased investment in efficiency retrofits of commercial buildings.

Question 8. Within the draft bill there is a program to provide seed money to states to help finance loan programs. Have you received feedback from Fannie Mae and Freddie Mac about their capacity, intent, and/or ability to securitize loans made under the financing provisions in the Discussion Draft?

Answer. Specific outreach has been made by Coalition members to Fannie Mae, and the Coalition believes they are prepared to participate as necessary.

Question 9. How do you address the personal financial risk of consumers accepting financing under these programs versus the assumed energy savings that may or may not accrue to them for undertaking the types of efficiency projects outlined in HOME STAR?

Answer. As is the case with all consumer lending, there will be some risk. Because loans tied specifically to energy efficiency work have the benefit of cash flow created by energy savings resulting from retrofit work, they should perform very well as compared with other loan mechanisms for general home improvement work. As rebates for up to 50% of the work are layered into this equation, the real cash flow against the loan value increases by up to double, and can, depending on the length of loan term, assure positive cash outlay from loan onset. That is, over the loan term, the monthly energy savings exceed the monthly loan payment.

Anecdotal evidence has been presented to Coalition members confirming this dynamic as it relates to Fannie Mae Energy Loans. However, because no official study using actuarial standards has documented this, there is a provision within the HOME STAR Energy Efficiency Loan section that requires evaluation of all loans issued under the program.

Question 10. Do you believe the time frame for the EPA's Lead Ruling needs to be extended? If so, what is a reasonable time frame to ensure that contractors can meet the stipulations on the rule, as it pertains to the HOME STAR Program.

Answer. The HOME STAR Coalition does not have a position on the EPA's Lead Ruling. It is our expectation that the installation of measures identified in the legislation will be installed in a manner that meets all state, local and national laws and regulations. The implementation of the EPA Lead Ruling is under the responsibility of the EPA and is not addressed in this legislation.

Question 11. Several groups have expressed interest in having additional products eligible to receive rebates within the HOME STAR Program. The products include, but are not limited to, geothermal heat pumps, electric tankless water heaters, and

window film products. Recognizing that there are a myriad of products that can create jobs, and improve the overall efficiency of a home, please describe how the Coalition made the determination that only a few products would be included in their proposal. Please describe the criteria that was undertaken to both include and exclude products. In addition, please describe whether ENERGY STAR Products should be eligible for rebates.

Answer. The process for the Coalition to make recommendations on specific measures for Silver Star is described above in our response to Question 3. It is important to note that GOLD STAR is 100% technology neutral, and any verified energy-saving product or measure can be used to meet the performance targets.

In terms of the specific measures you list:

- Geothermal heat pumps: The Coalition has recommended that these be included, both on the heating side (similar to air-source heat pumps) and on the water heating side (similar to storage tanks and controls connected to boilers). Geothermal heat pumps are now included in S. 3177 and the companion House bill.
- Electric tankless water heaters: The Coalition reviewed this measure and essentially decided that when properly used, they can save some energy, but in some applications, energy savings will be very limited. This measure has recently been added to the House bill.
- Window films: Window films are most effective in the South and Southwest, so different requirements would be needed in the northern states. The Coalition recommends that DOE evaluate the inclusion of window films.

ENERGY STAR is discussed below in our answer to Question 12.

Question 12. Please describe whether this decision, to not rely on ENERGY STAR products, may impact the perception of retailers, consumers, and contractors towards the ENERGY STAR Label.

Answer. The Coalition recommends and supports select measures and eligibility levels to keep the current market share of qualifying products to 25% or less. We did this so that federal incentives go mostly to measures that would not be installed without the incentives (so-called "free riders"). ENERGY STAR, on the other hand, sets criteria initially to qualify 25% of products on the market, and as shown recently by several Inspector General reports, the market share for some ENERGY STAR products is 50% or more. This is why we could generally not use ENERGY STAR, except for some cases where ENERGY STAR has recently been revised. For example, about 43% of current gas furnace sales are 90% AFUE or more. The Coalition believes that this high market share violated the principle of trying to minimize incentives for sales that would have happened without the incentives. Based on current sales of 90% AFUE furnaces, about $1 billion of the HOME STAR budget would be used by "free riders" at the 90% efficiency level.[1] Instead, the Coalition recommends the setting of the qualifying level at 92% AFUE—a level commonly used by utility incentive programs—and a level with a current market share significantly below 20%.

If the intent is to also use ENERGY STAR for incentives, then the EPA and DOE would need to set stricter ENERGY STAR criteria so that fewer products would qualify. ENERGY STAR does promote products with above-average energy performance, but to maximize energy savings from limited incentive funds, incentives must be provided only for products with even better energy performance. The agencies have recently announced that they are developing a higher tier to accompany ENERGY STAR (sometimes called "Energy Superstar"). When this tier is developed and operating, it may be a very good tier to use for incentive programs.

Question 13. Are the rebates only offered to owner-occupied units? If so, how many non owner-occupied units would be ineligible for the rebate? Are there rebates available to landlords?

Answer. It is our understanding that the legislation covers all owner-occupied dwelling units in buildings of four or fewer units. We have not done research to determine how many non owner-occupied units would be ineligible for the rebate. Units that are not occupied by the owner as a primary place of residence would not be eligible for rebates, nor would landlords be eligible for rebates.

Question 14. How can a do-it-yourself provision be effectively offered by the federal government? Does it make more sense to incorporate DIY under another exist-

[1] The $1 billion cost is based on 2009 residential furnace sales of 2,174,528 (from the AHRI Web site), an ENERGY STAR market share of 43% in 2008 (from EPA; the ENERGY STAR qualification level is 90% AFUE), a $1,000 rebate, plus 10% for other program costs (amount set aside in legislation).

ing program or an altogether separate DIY rebate program? What are the options for this? How has the ENERGY STAR Appliance Rebate Program addressed this issue?

Answer. DIY rebates should not be incorporated into other programs, as co-marketing DIY rebates within SILVER STAR actually enhances the HOME STAR Program. Retailers can use the DIY rebates to incentivize customers who either can't afford installation costs or just prefer to install insulation on their own. At the same time, retailers will have additional opportunities to educate their customers about the value of installed SILVER STAR incentives. The DIY rebates can be implemented using the same aggregator system as the other SILVER STAR incentives.

Regarding appliance rebates, the ENERGY STAR appliance rebate program does not address the same issues as HOME STAR. The existing appliance rebate program focuses on different products and is a state-based program. HOME STAR is a national program, and its DIY component is solely focused on insulation.

Question 15. Do you think that people right now are waiting for the federal government to act upon HOME STAR, and are not currently completing efficiency improvements because they are waiting to see if there will be a rebate program? Does the program stand to cost jobs, not create them, until the rebates are up and running? For example, will homeowners or contractors wait to have work done, with the expectation that a program will likely be authorized?

Answer. The Coalition urges Congress to move forward with all deliberate haste. Not only will more jobs be lost every month in the construction and building materials manufacturing sectors, but as homeowners are becoming more aware of the potential of HOME STAR, some who may have undertaken work are putting their projects on hold in anticipation.

However, given historically high unemployment in construction trades, the potential long-term benefits of the HOME STAR Program far outweigh the costs associated with near-term loss of business due to work that is being delayed.

The legislation has been crafted to include all eligible projects from the date of enactment. It has also been designed to roll out quickly, by clearly defining the criteria for eligible projects and participation in the program.

Question 16. What kind of contractual relationships will exist between rebate aggregators and quality assurance providers? What kind of infrastructure will need to be in place, including IT systems, etc.? Does this infrastructure already exist?

Answer. The final details of the rules associated with rebate aggregators and quality assurance providers will be established by DOE. It is our understanding that there would not be a required contractual relationship between rebate aggregators and quality assurance providers. In some cases, they might be the same organization or company, but the key separation would be between quality assurance providers and contractors performing the work.

The infrastructure for both quality assurance and rebate aggregation already exists in all 50 states. These organizations include existing state and utility residential retrofit programs; RESNET and BPI quality assurance providers; and existing state-established rebate processing organizations established to administer the ARRA appliance rebates. There are already over 8,000 certified workers who are capable of serving as quality assurance inspectors, which is eight times the projected number needed. These have IT systems for the current purposes and the ability to connect to the federal rebate processing center. Existing national contractors and retailers will be acting as rebate aggregators and have these IT systems already in place.

Question 17. What process will be in place to review jobs for quality assurance, and who has the authority to do it? How long will the quality assurance program take to complete, once a job is finished? What kind of information will be required? Are there already systems in place to do this? If so, will the systems need to be integrated? How long will that take?

Answer. The quality assurance system of independent quality assurance providers will review a minimum percentage of each contractor's jobs. Although the final administrative procedures will be established by the DOE, the HOME STAR Coalition's expectation is that the jobs completed by the contractor and submitted for a rebate will be transmitted from the federal database to the identified QA provider to select homes to visit for QA inspections and review of the contractor's requirements such as insurance.

QA information requirements, including administrative forms and procedures, will be established by DOE. The standard forms for existing retrofit rebate programs include basic information on location of the work, the name of the contractor and QA provider, measures performed, prices and verification of discounts, and appropriate warranties provided.

The systems for performing QA exist throughout the country as a result of the QA requirements for existing residential retrofit programs operated by states and utilities, as well as the QA program required as part of the ENERGY STAR New Homes program that has been operated by EPA for over a decade.

Question 18. Was it the intent of the HOME STAR Coalition to run HOME STAR's transactions and information through software programs and management information systems developed for existing program? If so, what are your assumptions about the cost and modifications it might take to do that? How long will it take? Are there security issues with this course of action? Is cybersecurity an issue? Are you aware of any similar program, in size and scope that has tried to do this before?

Answer. The Home Star Coalition is an ad hoc coalition created to promote job creation through home energy efficiency. The Home Star legislation as currently written directs the Department of Energy to implement the Home Star program. The Home Star legislation requires two types of software programs. First is the National Rebate Processing System that will be created by DOE for the purpose of receiving information from rebate aggregators and processing data to send funds back to the rebate aggregators and QA providers. Second will be the software used to calculate savings for the GOLD STAR path. In this case, the software programs are existing systems approved for use by current programs such as Home Performance with ENERGY STAR, Weatherization Assistance Program and others approved by the DOE.

The budget for establishing the data system and administering the program, including all federal oversight activities, is approximately $150 million or less than 2.5% of program costs.

Regarding cybersecurity, this topic fall outside of our area of expertise, but we understand from experience with large federal data systems that cybersecurity measures can be easily incorporated into a database of this type.

As for similar programs, the development and deployment of large data systems has become commonplace in our society. For example, national firms manage rebate processing systems for corporations and national retailers have world-wide data systems that link all of their stores. For the home retrofit and energy efficiency industry in particular, there are existing firms handling utility data, transactions and rebates in excess of $500 million and millions of transactions per year.

Question 19. What provisions will be in place to make QA transparent for the benefit of oversight? How will the program decide which jobs are inspected? Will it be random? What criteria will these jobs be evaluated on? Who will maintain a master list of contractors and inspectors that participate in HOME STAR?

Answer. While final administrative procedures will be put in place by the DOE, the Coalition is aware of companies which have experience in both managing this type of system internally and working with third-party providers of QA. Current residential quality assurance providers working in state and utility programs have been doing QA for decades, and most states have such a system in place. In the case of national retailers, they have QA systems to track the quality of installed measures that they use for work installed under their network. The federal data system used to manage the rebate processing will handle the information flow into the system from Rebate Aggregators and out again to the QA providers. All data will be regularly monitored by the DOE in addition to the RAs and QA results will be maintained in the database.

As a standard rule, QA industry practice involves inspecting one of the first few jobs of every contractor to insure that the basic capabilities and requirements of the program are being followed. After those initial inspections, then QA providers will select through a combination or random selection or through identifying electronically any abnormalities or patterns in the jobs. The standard criteria used has been developed for state approved programs and is in place with a combination of standards that rank the type and severity of deficient work and a standard for call back requirements for contractors to correct defective work. While DOE and the State QA oversight role will monitor implementation of the QA role, the industry standards are in place across the country.

It is the understanding of the HOME STAR Coalition that the program will work in the following manner based on legislative language. In the case of the SILVER STAR program, contractors will complete work, submit work to the RA, which is submitted to the DOE rebate processing center. Each state will maintain voluntary lists of participating contractors who wish to sign up, or they can just market their services as they currently do in the private marketplace. In the case of GOLD STAR, BPI maintains a list of accredited contractors on their Web site that can be linked to federal and state web sites.

In the case of QA Providers, this list will be maintained on a state-by-state level and submitted to DOE for posting on a dedicated Web site. National organizations such as BPI and RESNET will also maintain electronic lists of QA providers on their Web sites.

Question 20. The HOME STAR Program wants rebates to be paid within 30 days and inspections also done within 30 days. So potentially, a homeowner or contractor could be waiting up to 60 days to get the rebate paid out. Is 60 days too long to be waiting for a rebate? Is there a faster way to get this done? Let's say it takes three months to stand up the infrastructure of the program and another 60 days for rebates to be paid out. That is almost half a year of waiting for the first rebates after the legislation becomes law. Is that too long?

Answer. As designed, the rebate processing is independent of the robust QA process, so unless there is a QA finding serious enough to halt payments to a contractor, rebates will flow independently of that system. The HOME STAR bill (section 3(b)(1)) requires the DOE to stand up its rebate processing system within 30 days. While contractors would want to market the rebates soon after enactment, because rebates are credited to customers at payment, that time frame would normally be several weeks longer. In all cases, contractors would be wise to understand the forms or electronic formats of rebate requests, so even as they credit their first customers, most will wait to submit their first batch until the system is ready.

Your point about 60 days being too long to wait prompted us to review the exact timelines related to rebate processing, and we identified an omission related to specific required timelines for the rebate processing steps. The Coalition is grateful for your diligence in pointing this out, and we recommend that section 3(b)(1) of the legislation be amended to reflect the following:

1. Rebate aggregator uploads bundled rebate requests to the federal rebate system within 14 days of receipt of a request from a contractor.
2. Rebate reviewed and paid from federal rebate system to the rebate aggregator within 14 days or receipt of the bundled request from the rebate aggregator.
3. Rebate aggregator provides rebate to contractor within 14 days of receipt of bundled rebates from the federal rebate system.

This timeline represents under a net 45 days from rebate aggregator receipt of a rebate request from a contractor to the date the contractor receives the rebate. This is fully consistent with net payment requirements in many programs.

Question 21. What is your understanding of the workforce that will be participating in the HOME STAR Program? What are the expectations for what fraction of this workforce will ultimately stay in the industry?

Answer. There are more than 100 million homes in America that could benefit from an energy efficiency retrofit. HOME STAR is a shot in the arm that will help produce a tipping point that will create a sustainable market-based industry. The combination of financing and incentives will enable homeowners to save money by retrofitting their homes.

The HOME STAR Program will spur an industry that can continue to grow to meet the unique challenge of fixing our existing residential infrastructure. This industry will continue to expand beyond HOME STAR to employ hundreds of thousands in direct contracting jobs, as well as significant manufacturing and industry jobs in our local communities.

While a recovery in the new construction industry remains uncertain, there is a great opportunity for the retrofitting industry to flourish. Retrofitting is a perfect bridge until other parts of the construction industry begin to recover. However, companies that are refocusing on existing buildings will likely continue to grow as new construction comes back on line, but this does not mean they will stop servicing the retrofitting market.

Question 22. Is there sufficient incentive for contractors to obtain a higher certification? Is there compelling motivation for them to achieve higher certification, or do you think they would rather just be subject to more inspections?

Answer. HOME STAR is designed to encourage investment on several levels.

First, while certification is not required under SILVER STAR, some level of worker certification and contractor accreditation is required under the GOLD STAR path. This tiered approach allows for an immediate invigoration under SILVER STAR with a signal to contractors to begin preparing to deliver under GOLD STAR. Recognizing the greater longevity of GOLD STAR, contractors will move toward certification.

Second, HOME STAR does not exist in isolation. The trend in state, local and utility programs, such as home performance with ENERGY STAR, is toward requiring

the certifications currently listed in HOME STAR. HOME STAR helps to highlight this trend for contractors, and it helps to reduce administrate costs in states and regions were independent efforts are already investing in and encouraging certification.

Third, the market, including contractors, increasingly recognizes the importance of certification of workers and accreditation of contractors. Funders and sponsors value contractor accreditation which sets qualification standards for contractor access to incentives. Homeowners value certified workers in their homes, and contractors pursue certification accordingly. Contractors further value worker certification recognizing that quality not only supports a better business reputation, but also that it reduces defects and callbacks and thus provides real cost savings. HOME STAR doesn't initiate this trend, and it certainly doesn't run counter to market. Rather, it simply builds on existing market trends and accelerates what would otherwise be a decades-long process.

Question 23. Please describe how the process of requiring proper classification of employees will be implemented. Will it require the IRS to develop rules and protocols?

Answer. S. 3177 would not require states to create new systems of worker classification, nor would the draft require the Internal Revenue Service to develop new rules and protocols. The draft only addresses worker classification inasmuch as it requires each state to incorporate into its ongoing quality assurance framework for home energy retrofits a requirement that participating contractors comply with federal and state law and regulation governing the proper classification of workers as employees or independent contractors.

> a. Are there any alternatives, or mechanisms to ensure that the legislation does not discourage independent contractors from complying or competing for projects within the Home Star Program?

Answer. Nothing in proposed HOME STAR legislation would limit the ability of independent contractors to participate in the HOME STAR program as long as they possess proper licenses and insurance and comply with federal and state laws and regulations.

> b. Please describe how you perceive each state, and the DOE will execute the employee certification directive. Will each state require contractors to again prove their status, as a certified contractor under the bill, if the state or local government already recognizes them as a certified contractor? Will additional paperwork be needed? Will this certification require states to do additional audits?

Answer. Contractors that possess the proper licenses and insurance will be able to participate in the HOME STAR program as soon as they register with a rebate aggregator and a quality assurance provider. No contractor will be required to employ a certified workforce to begin work under the HOME STAR program. Contractors that choose to employ a certified workforce will benefit from lower inspection rates reflecting the lower risk that such contractors will fail to correctly install efficiency measures.

> c. Please describe the time frame to develop an employee certification program, within each state, and the administrative costs associated with the directive.

Answer. The simplest way to implement the employee certification provision would be for the contractor's workforce to be certified under a national certification program that 1) has been recognized in HOME STAR legislation or by DOE for home energy retrofits; and 2) maintains a database of certified individuals. This would allow employers, quality assurance providers and program administrators to quickly and easily verify workers' credentials.

> d. Is there a streamlined process for determining employee certification for this type of work across the country?

Answer. See above.

> e. Will the DOE need to provide a federal contractor certification provision within the HOME STAR Program? If not, why does the DOE have the opportunity to require additional standards? What might these additional standards look like?

Answer. See above. There is no provision in the draft HOME STAR legislation for DOE to add contractor standards beyond those specified in the legislation.

f. How would a state certify to the DOE that their classification program is viable, and would not be subject to additional requirements by the DOE? Are there alternatives?

Answer. See above. States are not required to establish a new classification system, only to ensure that contractors that violate existing rules do not receive federal subsidy while they cheat the system.

Question 24. What are your assumptions for the cost of conserved energy? Are the budgeted amounts really indicative of what it's going to take? It seems that there are many parts of the program that would demand overhead. What is the cost per unit of energy saved?

Answer. The cost of conserved energy is a regulatory calculation comparing the cost of efficiency improvements to the net present value of the energy saved. The HOME STAR Program was designed first and foremost as a job creation program and secondly as an energy saving investment program. For that reason, some of the standard regulatory approaches were streamlined to meet the needs of job creation. The proposed measures were reviewed for average savings impacts and average costs to create a menu of measures that on average are cost-effective both for consumers and for the nation's energy budget. Consumers will have the freedom to make their own decisions with respect to investing in energy efficiency improvements. Because the legislation is primarily focused on job creation, the Coalition did not specifically calculate a cost per unit of energy saved. In spite of this, the national energy efficiency experts who are part of the Coalition, including the American Council for and Energy-Efficient Economy, the Alliance to Save Energy, and the Conservation Services Group, have reviewed the eligible measures and feel that all of the measures in the HOME STAR Program are generally cost-effective. In most cases, the measures have significant non-energy benefits as well, such as improved home value, enhanced comfort of the interior environment, and reduced home maintenance costs.

All of the costs associated with program delivery, contractor overhead and costs have been incorporated into the program costs. The Coalition believes that the budgeted amounts at both the total and the individual measure level are realistic to move markets, produce jobs and spur energy savings.

Question 25. If you look at this strictly as an efficiency program, how do the costs line up?

Answer. According to the American Council for and Energy-Efficient Economy, the GOLD STAR program has good performance as an energy efficiency program, with costs to the federal government per unit of energy saved similar to the average cost to a utility for utility-operated programs. They noted that SILVER STAR is somewhat more expensive, although still cost-effective. This is to be expected since SILVER STAR is designed primarily as a jobs program, but with enough attention to details that it is also cost-effective as an energy-efficiency program.

Question 26. What are the specific costs of the rebate function, marketing, quality assurance, and program management?

Answer. The costs for rebate aggregation and quality assurance will be covered through incentives for GOLD and SILVER rebates processed and for GOLD and SILVER quality assurance field inspections. In this way, there is a streamlined market-based approach to securing these services without the need for a time-consuming procurement process. The rebate function will require data processing, financial accounting and reporting both to the federal system and to each participating contractor and for each completed job. The QA functions include review of work performed, communication on quality of work performed, review of contractor participation requirements, and working with the state QA oversight groups. The incentives for these functions have been established based on average real-world costs for these program functions carried out in competitively bid state programs. Total costs for these functions have been calculated at less than 5% of program costs.

Question 27. At the hearing the NASEO witness expressed concern that HOME STAR would overlap with existing state efficiency programs. What do you think this means, exactly?

Answer. The National Association of State Energy Officials supports the HOME STAR initiative and wants to ensure that the existing residential energy efficiency rebate programs operated by states, utilities, public benefit funds and others complement the new HOME STAR effort. HOME STAR can be a vehicle to effectively expand these existing programs. For example, the Home Performance with ENERGY STAR initiative operated by the New York State Energy Research and Development Authority can be expanded quickly with HOME STAR. Current legislative language fully accommodates this objective by requiring Rebate Aggregators to co-

ordinate with the appropriate State entity in those states in which they are operating.

Question 28. If utilities are offering rebates for similar or identical measures, must they be coordinated in some way? Should they be in harmony? What factors will need to be coordinated? How would you do that? Would you coordinate the marketing, incentives, or processing?

Answer. State utility commissions and state energy offices work to coordinate rebate programs now. The current Home Star legislative language requires such coordination by the State with the Home Star program, and is funded appropriately to do so. State and local governments are presently expanding residential energy efficiency programs by utilizing ARRA funding under the State Energy Program and the Energy Efficiency and Conservation Block Grant. These residential energy efficiency building retrofit programs should work to be in harmony with HOME STAR, as well as the Section 25C tax credit. The state energy offices will continue to work with the state utility commissions and the utilities to ensure coordination. Marketing, incentives (rebates, tax, non-tax and technical assistance), rebate aggregator communications, and cross-walking state activities under SEP/EECBG, Home Performance with ENERGY STAR with HOME STAR will be critical. We also intend to continue that coordination with the National Home Performance Council.

Question 29. Would such coordination make HOME STAR even more difficult to implement?

Answer. The coordination discussed in response to questions #27 and #28 will actually make HOME STAR easier to implement, rather than more complicated.

Question 30. Is the rebate aggregator function and the quality assurance function merged together, according to your understanding of the draft? If merged together, how will you ensure that there are no conflicts of interests between the two?

Answer. The final rules for this will be established by the DOE, but the HOME STAR Coalition believes that the RA and QA functions can be merged only if there is no conflict with the contractor installation services. The most important separation of functions is between the QA and contractor roles. In most existing residential retrofit programs in the country that are overseen by the states and utility regulators, the RA and QA functions are merged into one implementation role for both efficiency and consistency purposes. Since these will be overseen by the state QA oversight role, any conflict of interest will be avoided. The only conflict would be the case where the RA is also the contractor, which would therefore mean that there would need to be a separate and independent QA provider. QA providers, whether they serve an RA role or not, are also professionally trained and certified to meet industry standards similar to a financial auditor. As we understand it, the legislation does not require QA and RA functions to be merged, and in fact this would be prohibited in the case of an RA that serves as a contractor.

Question 31. Please describe the process DOE will undertake to ensure that small building material dealers and independent contactors will have access to rebate aggregators. If the legislation does not envision the use of these contractors, please describe why not. If the intent is to have them participate, please describe the mechanisms in place to ensure that they will not pay more for their administrative costs, to operate within the program, as well as provide a descriptive overview of how the process would work.

Answer. The rebate aggregator approach is designed specifically to facilitate the participation of small retailers and independent contractors in every state, in regions of the country with urban and rural populations alike. It does so by shifting the more complicated administration and overhead burden away from the smaller participant and to the rebate aggregator.

While the specific process DOE will undertake is probably best answered by DOE, the Coalition believes that as drafted in HOME STAR, access to rebate aggregators will be simple and universal, with multiple options available to small and large firms alike. Rebate aggregators will take the form of a variety of retail, contracting, state and utility program operators, trade associations, and others with existing infrastructure and capacity. It is further anticipated that several regional and national providers will be able to provide access and further market choice. As such there will be a minimum of several options in every state and different choices available to the smaller dealers.

As designed, there is no direct cost for a small contractor or building material supplier to participate. The administrative cost at the contractor or supplier level is low, with simple forms and submission requirements.

Our understanding of how the process would work is described below, with some recommendations for refinement. The description illustrates that the process would be largely invisible to the homeowner and simple for the small dealer, merely pro-

viding the required information, physically or electronically, to the rebate aggregator of choice.

Recommendations for Step-by-Step Rebate Processing:

1. On completion of project or purchase of consumer-installed material, the contractor or retailer uploads/faxes/delivers standard forms and required documentation to the RA.
2. RA checks documents to ensure eligibility and amounts.
3. RA uploads bundled request to the federal rebate system within 14 days of receipt. (We do not believe this time frame is currently reflected in the bill, and we recommend amending the language accordingly.)
4. Rebate is paid from federal rebate system to the RA within 14 days. (We do not believe this time frame is currently reflected in the bill, and we recommend amending the language accordingly.)
5. RA provides rebate to contractor within 14 days of receipt. (Currently the bill allows 30 days for this step; we believe this is unnecessarily long, and we recommend amending the language accordingly.)
6. Federal rebate system notifies QA Provider of contractor job data (in parallel, on receipt of information in Step 3, above).
7. QA Provider contacts contractor/homeowner when applicable and completes QA inspection.
8. QA Provider reports inspection results back into federal rebate system.

Question 32. How does the program envision doing random site inspections? Will DOE maintain a list of all job sites? Will the inspections be based on a random sample? How will they be done?

Answer. While final administrative procedures will be put in place by the DOE relating to QA procedures, our understanding is that all relevant job data to conduct a site visit will flow upstream as data connected to rebate requests. That way the DOE will have information on all job sites. It is also our understanding that a random sample of each contractor's jobs will be identified and be issued downstream to a QA provider for the appropriate inspection visit under either SILVER STAR or GOLD STAR protocols. The results of that visit will be communicated back upstream to the state (as the statutory overseer of QA), the DOE and the RA. If a deficiency exists, there is a protocol for its remedy.

Question 33. Please describe how the Quality Assurance inspection process will work regarding products, or improvements that are not visible, such as door installation or wall installation.

Answer. There are numerous existing QA protocols to check program compliance against all measures included in the HOME STAR Program. As noted in answers above, while the exact nature of specific QA protocols will be issued by the DOE, there is an existing infrastructure of QA providers who will have a variety of tools and instruments at their disposal to judge compliance. For example, infrared cameras are regularly used to assure that all side-wall cavities have been completely insulated. Air sealing of the attic plane can be checked against the required documentation required under SILVER STAR, and under GOLD STAR, air tightening claims will be checked by a blower door analysis against claimed performance numbers.

RESPONSES TO QUESTIONS FROM SENATOR SESSIONS

Question 1. While I understand the need to not make the Silver Star program completely open-ended to any energy efficient technology regardless of its effectiveness, I am nevertheless concerned that at least one very energy efficient and cost-effective product category has been excluded: high-performing window films. Given the cost-effective energy savings that window films can provide to homeowners, should they be included as part of the SILVER STAR rebate section of the HOME STAR bill?

Window films are a proven, affordable means of achieving significant energy savings in homes. Specifically, by blocking a significant portion of the Sun's heat that penetrates a window, window films ensure there is less strain on air conditioners that heat a home—which, in turn, lowers overall energy costs for homeowners. Similarly, "low-E" window films can actually help retain a building's heat in colder climates, and thereby reduce heating costs in the winter.

Given that the cost of installing window films is significantly lower than the costs associated with many other home retrofit upgrades (including the installation of new windows), incentivizing window films with the $1,000 SILVER STAR subsidy would not only ensure that more homeowners complete energy-saving improvements, but also support the thousands of jobs tied to the window film industry—

including hundreds of U.S. manufacturing jobs and an estimated 7,000 to 8,000 window film installer jobs that are overwhelming employed by very small, family-owned businesses.

Answer. Window films are most effective in the South and Southwest, so different requirements would be needed in the northern states. The Coalition recommends that DOE evaluate the inclusion of window films.

Question 2. While I can appreciate there are a variety of reasons one would want to limit the number of products eligible for the Silver Star rebates, the bottom line is that the Silver Star rebate program will likely be the first list that consumers look at when considering home energy efficiency improvements. Shouldn't we avoid picking "winners and losers" in the marketplace when it comes to energy efficiency upgrades?

Answer. The SILVER STAR program is designed to be easily understood and quickly implemented. The Coalition recommends the listing of specific measures that qualify. Alternatives would be to not mention any measures and just have a GOLD STAR program, or to list any measure that someone proposes. The former would be much slower to implement, reducing the number of short-term jobs produced. The latter would be hard for many consumers to understand and would result in inclusion of many measures that are not widely available or that are appropriate for some regions but not others, either leading to further confusion or to misapplication of some measures. Also, this latter approach will still require developing estimates of energy savings for each measure so as to determine the appropriate incentive level. If dozens of measures are added, this could be a time-consuming and contentious process. For all of these reasons, we believe having a somewhat shorter list of easy to understand measures is appropriate for a short-term program such as SILVER STAR. SILVER STAR is designed to only last a year, and in the longer term all energy-saving measures can qualify under GOLD STAR.

Question 3. In your opinion, why does the legislation exclude recognition of qualified training and certification by the Home Builders Institute, an existing certification program run in conjunction with the Department of Labor that provides training for weatherization and energy efficiency upgrades?

Answer. There are longstanding certification programs that exist in the market and have been recognized and recommended by the Coalition. The Coalition recognizes that additional training and certification programs might be also be suitable and supports the provision for the Secretary to review those additional programs.

Question 4. Would you agree that we should work to ensure the "certified workforce" requirement in the bill does not discriminate against installers of energy efficiency products that are typically employed by small businesses? If so, would you be willing to work with us to ensure that nationally-recognized training programs—such as the training provided by the IWFA will be recognized?

Answer. The Home Star Coalition supports a home energy retrofit program with high standards. One component of that commitment is an incentive for contractors to employ a workforce in which installers have been certified under a credible third-party skill standard that covers the relevant components of retrofit work. Current drafts of proposed Home Star legislation enumerate three nationally-recognized, market-tested, skill standards and give the Secretary of Energy the authority to add new standards in consultation with the Secretary of Labor and the Administrator of the Environmental Protection Agency. The listed certification programs are all used by small businesses.

As noted above, the Coalition recognizes that additional training and certification programs might be also be suitable and supports the provision for the Secretary to review those additional programs.

RESPONSES OF TERRENCE J. MIERZWA TO QUESTIONS FROM SENATOR MURKOWSKI

Question 1. Are you aware of any type of retrofit program, excluding Weatherization, that has pursued so many homes in such a limited time?

Answer. No, I am not.

Question 2. What is the largest utility-based retrofit program you are aware of?

Answer. I really don't have a strong awareness of what other utilities are doing re retrofit programs.

Question 3. What challenges have occurred in the processing of rebates or payment for work within these programs?

Answer. The biggest challenge Consumers Energy has faced with processing its rebates has been incompleteness of or errors on customer applications. To mitigate this challenge, we are now asking our trade allies (e.g., heating and cooling contractors, etc.) who sell qualifying high-efficiency measures to our customers to work

more closely with the customers at the point of sale to ensure rebate applications are filled out completely and accurately.

RESPONSE OF TERRENCE J. MIERZWA TO QUESTION FROM SENATOR STABENOW

Question 1. Consumers Energy has been a leader in the area of energy efficiency and your programs are an excellent example of what we are trying to do nationwide.

Can you describe what the impact would be to these programs if the federal dollars flowing into the state for energy efficiency were NOT coordinated with the utility programs?

Answer. This is my greatest fear regarding the proposed legislation. We have legislatively mandated energy savings targets that we must hit each year, and we are only allowed to take credit for energy savings for which we can demonstrate our influence. The rebates we give to our customers are the most tangible sign of that influence. Even then, there are those who will argue that we should not be allowed to take full credit for the savings. For instance, we expected to give out 2,200 rebates for high-efficiency furnaces last fall, but we gave out more than 7,000. Part of the reason this program was so popular is that, in addition to our rebate, customers were also able to receive a substantial federal tax credit. Some will argue, therefore, that the tax credits drove much of this activity, so we shouldn't get full credit for the savings. In fact, perhaps we should only get half credit or less. If our Commission were to agree with that assertion, that program would no longer be cost-effective; we would shut it down until federal tax incentives expired; and we would have great difficulty in meeting our state-mandated gas savings goals in the meantime. Customers and trade allies would be dissatisfied because they want to see us operating ongoing, sustainable programs, not jumping in and out of the market,

By the way, we do think we deserve something close to full credit, and we will make that argument to our Commission. We have had many heating contractors tell us that even though federal tax credits were available for many months before we launched our program, it was only after we launched that their sales of high-efficiency models really took off. Our strong educational and marketing effort plus our rebates were the tipping point.

However, if federal dollars flowed into this space that weren't coordinated with our programs and, indeed, competed with our programs for energy savings, we would have no argument to make with our Commission re getting credit for any of the energy savings. Again, in the worst case, we would have to shut down our programs that faced federal competition until the federal dollars dried up. That would be a shame because less cost-effective programs operated with a redundant infrastructure would be pushing out current programs that are operating successfully.

RESPONSES OF TERRENCE J. MIERZWA TO QUESTIONS FROM SENATOR SESSIONS

Question 1. While I understand the need to not make the Silver Star program completely open-ended to any energy efficient technology regardless of its effectiveness, I am nevertheless concerned that at least one very energy efficient and cost-effective product category has been excluded: high-performing window films.

Window films are a proven, affordable means of achieving significant energy savings in homes. Specifically, by blocking a significant portion of the Sun's heat that penetrates a window, window films ensure there is less strain on air conditioners that heat a home—which, in turn, lowers overall energy costs for homeowners. Similarly, "low-E" window films can actually help retain a building's heat in colder climates, and thereby reduce heating costs in the winter.

When considering the cost of installing window films is significantly lower than completing many of other home retrofit upgrades (including the installation of new windows), providing window films with the $1,000 Silver Star subsidy would not only ensure more homeowners complete energy-saving improvements, but also support the thousands of jobs tied to the window film industry—including hundreds of U.S. manufacturing jobs and an estimated 7,000 to 8,000 window film installer jobs that are overwhelming employed by very small, family-owned businesses.

- Given the cost-effective energy savings that window films can provide to homeowners, should they be included as part of the Silver Star rebate section of the Home Star bill?

Answer. I would not be opposed to cost-effective window films being included. I note that some window films currently qualify for federal tax credits.

- While I can appreciate there are a variety of reasons one would want to limit the number of products eligible for the Silver Star rebates, the bottom line is

that the Silver Star rebate program will likely be the first list that consumers look at when considering home energy efficiency improvements. Shouldn't we avoid picking "winners and losers" in the marketplace when it comes to energy efficiency upgrades?

Answer. The benefit/cost ratio of various energy efficiency measures varies quite widely. As a matter of public policy, I think it makes sense to encourage adoption of the most cost-effective measures over less cost-effective ones. That way, we get a lot more "bang for our buck."

Question 2. In your opinion, why does the legislation exclude recognition of qualified training and certification by the Home Builders Institute, an existing certification program run in conjunction with the Department of Labor that provides training for weatherization and energy efficiency upgrades?

Answer. I do not know why the legislation excludes recognition of this certification program.

Question 3. Would you agree that we should work to ensure the "certified workforce" requirement in the bill does not discriminate against installers of energy efficiency products that are typically employed by small businesses? If so, would you be willing to work with us to ensure that nationally-recognized training programs—such as the training provided by the IWFA will be recognized?

Answer. I think that any certification requirements should be focused on ensuring that installers of energy efficiency measures have sufficient knowledge of building science to install them properly. Improper installation of fossil fuel burning equipment (e.g., furnaces, water heaters) and/or building shell improvements (e.g., insulation) can create significant health risks to homeowners from resulting problems such as mold and carbon monoxide.

APPENDIX II

Additional Material Submitted for the Record

STATEMENT OF SHARLA RIEAD, OWNER/MANAGER, HATHMORE TECHNOLOGIES, LLC, INDEPENDENCE, MO

I am Sharla Riead, Owner of Hathmore Technologies, LLC, a third-party energy and environmental QA and testing firm, and the Accurate Rater Network, a HERS Rating Providership, LEED for Homes Providership, BPI Affiliate, and BPI and HERS Training Provider Organization. We have been in business in this industry for over 30 years and have a large network of HERS Raters, BPI Building Analysts, builders, developers, and contractors.

We have been leading discussions around the Home Star program and the bill as it is written and we have gathered the following concerns and observations for your discussion:

- Discomfort with States running the program
  - —One only needs to look at the performance record of Louisiana's state run Road Home Program following Hurricane Katrina, or just about every State's Stimulus funded Weatherization Assistance Program, to see that a competitive alternative needs to be in place that will give market forces the opportunity to expedite the process. Furthermore, mandating that the program be administered through the States, most of which have proven to be totally incapable of managing a program like this with any speed or scale (Think WAP). The program should be administered along the same as lines as the Builders' Energy Efficient Tax Credit, using HERS raters that carry the appropriate PROFESSIONAL LIABILITY INSURANCE (E & O).
- Definition of QA and qualification
  - —Note that under the proposed Home Star legislation, there is no requirement for contractors, auditors, or QA providers to carry any form of E & O insurance. Also, take notice that the QA providership is defined as ensuring contractors are qualified with no reference to the actual WORKMANSHIP or ROI.
- RESNET Rating Providers as Aggregators and RESNET QA Designees as 3rd party QA Alternatives
  - —The existing RESNET providership network has a nationwide infrastructure that could immediately take action. That's a free market alternative which would mean to me, as a businessman, the option of paying for FASTER service from industry professionals that are already federally recognized. Allowing the builder tax credit model to be included, would allow me to jump start my market rate program IMMEDIATELY rather than having to wait around on the state to get it's systems in place before I could actually start creating jobs.

It sure would be nice to have a competitive alternative for processing. I have a very strong interest in the free market opportunity that is being diminished with the way the oversight and rebate aggregation is being written. For those that chose to go through the state programs rather than invest in 3rd party QA's that would also be recognized by the mortgage industry (EEMs provide immediate access to more capital as opposed to waiting on the states to pass PACE legislation), then that would be a business decision that they would make.

I'm looking for a faster way to scale the opportunity with complete transparency, accountability, and oversight; using an existing QA infrastructure that is federally recognized. No market cornering here but rather open competition, Free Market -vs- State Control!

This isn't about BPI or RESNET, it should be about the 1.8 million laid-off construction workers and the scalability of an industry with tremendous environmental impacts as a bonus.

Rating Providerships as aggregators makes a lot of sense. They are already maintaining and processing the required information. As a contractor who is ready to 'go-to-market' immediately and having spent the last year in the hurry-up-and-wait WAP program with little or nothing to show for it, I'd like to see a free market alternative to the program's scaling.

I understand that many states already have an aggressive program in place, the states I work in don't. The Missouri and Kansas programs have gone nowhere. Especially since the local non-profit energy agency just spent the last year training every auditor to a local EETC certification rather than BPI standard and Kansas doesn't even recognize BPI or HERS or even BPI and HERS certified auditors as being qualified for their program.

- Cost of BPI Accreditation

  —Many states and programs successfully utilize a consultant model of energy upgrades. An energy expert (BPI certified) consultant performs the test-in and creates the scope of work. The contractor completes the work. The BPI certified consultant performs the QA and test-out. With this option in place, there is no justifiable reason for mandating that a contractor be BPI accredited.

  —Requisites for BPI accreditation include:

  - $1500 for application
  - Certification as an auditor and at least one more specialty (Probably Envelope)
  - $2850 tuition (based on closest classes available)
  - Two weeks salary to attend training
  - Travel, lodging for 9 nights minimum
  - Recommended $7000 worth of equipment, minimum
  - A pledge to do ALL work to BPI standards within 2 years of joining

I haven't found a single contractor who is willing to invest this much time or money in a program that does not yet officially exist. And no one will turn down a job just because the customer doesn't want the home built to BPI specs, not in today's market. So, Florida contractors will likely miss out on the money and jobs, other than the one nationally based company in Orlando.

Whatever the out come, I'm still going to have my retrofit company become BPI accredited as a competitive advantage in the marketplace. I just don't want to be mandated to do it. Mandating the accreditation dilutes the Brand value of the organization. I agree 100% that every home needs to be audited by a BPI certified Building Analyst and that an auditable ROI be calculated by a 3rd party HERS rater. But requiring every member of my field staff be BPI certified with not 1, but 2 certifications is unrealistic.

For the record, I think BPI analysts should be performing the audits and be responsible for certifying the workforce, but RESNET QA providers should be available to provide financial oversight and 3rd party QA alternatives. I don't think RESNET should be concentrating on competing with BPI, instead the RESNET and BPI leaderships should focus on the strengths and weaknesses that each organization's members possess and use that to scale the market quickly.

We appreciate your review and discussion of the above comments and observations. I am personally available to answer any questions or provide further information as may be requested.

STATEMENT OF THE NATIONAL ASSOCIATION OF REALTORS

INTRODUCTION

The National Association of REALTORS® appreciates the opportunity to submit a written statement to the Senate Energy and Natural Resources Committee on the critical subject of the creation of jobs related to energy efficiency, and especially on proposals that address job creation in the area of energy-efficient building retrofits.

The National Association of REALTORS (NAR) is America's largest trade association, representing more than 1.2 million members involved in all aspects of the residential and commercial real estate industries. NAR is the leading advocate for homeownership, affordable housing and private property rights.

NAR AND GREEN JOB CREATION

In addition to building a certified green building, NAR has taken a number of other important steps to raise public awareness about green buildings and their benefits in the marketplace. For example, NAR has:

- Developed the GREEN Designation program to offer advanced training and certification for real estate professionals. Like many professionals, continuing education classes and professional designations are a regular part of Realtors®' ongoing training. The GREEN designation helps Realtors gain the expertise needed to advise their clients on what to look for and consider when interested in making more eco-friendly building purchases.
- Partnered with Federal agencies and others to promote green buildings. For example, NAR and the Department of Energy collaborated to provide consumers with an "Energy Savers" brochure with the facts about reducing energy use and saving money.

These are all examples of voluntary, incentive-based approaches that will create jobs while improving energy efficiency and are consistent with NAR policy.

NAR PERSPECTIVES ON THE PROPOSED HOME STAR LEGISLATION

NAR strongly supports providing property owners with the education, incentives and resources they need to voluntarily improve their homes and save energy and applauds the Committee's efforts to develop legislation to achieve just that. Providing owners with voluntary, incentive-based programs to make energy efficiency improvements to their homes will add value to residential property, reduce electricity use and save money on utility bills, and help stimulate a job market in remodeling and renovation activities. We thank Chairman Bingaman for his efforts in this area and support the goals of the discussion draft which is the subject of today's hearing.

As drafted, the Home Star Act of 2010 proposes to offer homeowners the resources to accomplish residential energy efficiency savings through rebates and other financial credits. The Silver Star tier would offer rebates of up to $3,000 for upgrades such as adding insulation, duct sealing, and installing energy-efficient water heaters. The Gold Star tier would offer larger rebates for whole-home energy audits and make subsequent retrofits that achieve 20 percent energy savings, with additional incentives for energy savings that exceed 20 percent.

NAR supports offering homeowners rebates for conducting energy efficiency improvements. We look forward to working with the Committee on the discussion draft to:

1. Recognize the job-creation potential of the multi-family and commercial sectors by extending rebates to those kinds of properties;
2. Preserve state flexibility, and limit regulatory authority and the sole discretion provided to the Secretary regarding home energy performance ratings and documentation; and
3. Minimize unnecessary bureaucracy and red tape while diligently protecting consumers and private information.

NAR'S PERSPECTIVE ON THE PROPOSED RECOVERY THROUGH RETROFIT INITIATIVE

While the Home Star legislation appears to be an effective approach to incentivize home owners to conduct energy efficiency improvements to a home, NAR is very concerned about Administration initiatives that take a much different approach and seem to use the home buying process as the vehicle to implement a system of home energy use labels, while also mandating energy efficiency improvements.

On October 19, 2009, Vice-President Biden announced the development of a major federal government initiative, the Recovery Through Retrofit program. This program seeks to create a national home energy retrofit market by providing: (1) access to home energy retrofit information; (2) access to home energy retrofit financing methods; and (3) access to a trained home energy retrofit workforce.

If the goal is energy efficient homes and buildings, the most effective approach would be to provide the financial resources and incentives that educate and empower property owners to make needed energy improvements, such as the proposed Home Star program.

Mandating an unreliable home rating system will not lead to home energy use reductions. When buyers hold all the cards at the closing table and too many homeowners have no equity or savings to finance energy improvements, transaction-based triggers only serve to send conflicting market signals—without any assur-

ances that needed energy improvements will be made. As a result, NAR strongly opposes this approach.

NAR PERSPECTIVES ON THE ENERGY PERFORMANCE LABEL FOR EXISTING HOMES

Labeling every structure in America will not, in and of itself, improve the energy efficiency of homes or buildings. Owners must act on the information by taking the next steps and making energy-related improvements such as replacing aging heating and cooling systems, appliances and windows.

Today, however, many homeowners have seen their financial well-being undermined. Jobs have been lost, savings have eroded and property values have plummeted. Without the savings or equity, many lack the financial resources to make the energy improvements they already know they need to make. Energy labels will stigmatize older properties and make it harder for these individuals to build savings or equity. Labels also will reduce property values when existing owners sell and are forced to negotiate price reductions in order to compete in today's buyer's market.

According to data collected by the American Housing Survey (AHS) and analyzed by NAR, labeling real estate will create disproportional impacts on older property owners. More than 60% of U.S. homes were built prior to 1980 when the first building energy codes were established, and face relatively larger losses in property value due to building labels. These properties will require more improvements than the newer properties in order to match labeling scores and maintain their value.

According to the AHS data, a large share of these older properties are owned and occupied by populations which tend to live on modest or fixed incomes, and are least able to afford these improvements without significant financial assistance. These populations include 73% of elderly, 69% of impoverished and 64% of Hispanic and black owners. Labels will not only stigmatize older homes but the community where they are located, and which are struggling to maintain and attract investment. There will also be regional disparities: The Northeastern United States, where older homes are concentrated, could fare worse than the other structures located in the south and west. Rural communities could be especially hard hit, as a substantial proportion of homes in those areas were built prior to 1980.

Before branding homes and buildings with labels, consumers require a better understanding of energy efficiency and the tools to turn information into action. For this reason, NAR supports:

A. Raising public awareness about energy efficiency programs and information.

B. Encouraging the federal government and the states to provide financial incentives to consumers to improve homes and buildings.

By developing the infrastructure and education, and providing the right incentives, property owners will make the energy improvements that will achieve real energy savings.

NAR PERSPECTIVES REGARDING CERTIFICATION AND TRAINING STANDARDS

In both the Home Start and the Recovery Through Retrofit proposals, there are provisions that address training and certification of workers to ensure that quality work is performed. The federal government should proceed carefully when developing a national set of guidelines and standards that address uniform certification and training for workers entering this new green jobs market. While NAR recognizes the need to ensure reliability for this work, too many standards and training criteria will stifle entrepreneurial job creation and hinder the ability of small businesses to respond to rising retrofit demand. If one cliché bears repeating, it is the well-worn trope that "one size" guidelines coming from inside the Beltway generally do not fit all the varying markets across the country. The federal government must strike a careful balance between creating a consistent set of guidelines that will increase consumer confidence and promote a stable and reliable national home retrofit workplace on one hand, while on the other ensure that local businesses are not hindered in their ability to respond to demand for this work

In addition, while NAR appreciates Congress' efforts to encourage homeowners to make voluntary, incentive-based energy efficiency improvements, the planned implementation of an EPA rule threatens to derail these activities. The Lead Renovation, Repair and Painting program applies to all residential and child-occupied facilities built before 1978 where a child under the age of six or a pregnant woman resides. Contractors disturbing a painted surface, six square feet or greater inside the home or 20 square feet on the exterior must follow new lead safe regulatory requirements, including training, certification, work practices, notification, clean-up and record keeping. As a result, a wide array of home retrofit projects envisioned by Congress,

such as new windows, weatherization, insulation and other activities will trigger this rule. The renovators who conduct this type of work will be required to be trained in all of the new lead-safe work practices.

Unfortunately, the EPA has been slow in getting the required training and certification programs in place to train a sufficient number of workers to be available to conduct both the normal renovation activities and the expanded energy efficiency retrofit projects anticipated by the report. As a result, while the Act envisions massive retrofits across the country, in reality there will be few workers qualified to perform the work, thus hindering the very market the Act claims to want to jumpstart. EPA should extend the compliance date for lead paint training and certification until there are a sufficient number of workers available.

CONCLUSION—NAR SEEKS A WIN-WIN SCENARIO

As Realtors® respond to growing consumer demand for green housing, NAR policy supports a voluntary, incentive-based approach to energy efficiency retrofits of existing housing. Such an approach would sustain the current green trends, and make them a more permanent feature in the marketplace. This, in the view of Realtors®, provides a "win-win" scenario by allowing for vigorous economic growth while improving the environment.

The green building market is already responding to consumer demand. For example, consider this recent headline in the Miami Herald: "Increasing demand for energy efficient, environmentally friendly buildings is bringing business to architects during the construction downturn." McGraw-Hill Construction is forecasting that the combined annual commercial and residential green building markets will total $62 billion by 2010. Architects, homebuilders, remodelers, real estate agents and all the industries that rely on housing and homebuilding are responding to consumer interest in green issues. They are responding by building and providing products that the consumer wants. And this is happening all without significant assistance (or interference) from the public sector.

The Federal government does provide important public research, capital and economic incentives, such as the current tax credit for energy efficient home improvements which spurs demand and interest. However, NAR believes that government should be limited to this role: By leading the way with green Federal buildings, providing for research that spurs innovation and most importantly, keeping the market fluid and free of mandates, and encouraging robust consumer education programs, the Federal government can do more to promote the public good than with mandates that will only hinder the market at a time of economic recovery.

NAR members have shown that green buildings are both proactive and profitable, primarily because current programs have been allowed the market to respond specific conservation needs in a geographic and market area. NAR supports a national green building and home energy efficiency retrofit program that is flexible and market-driven, encourages continued growth in green construction that protects options for consumers in all markets, as well as preserves, protects, and promotes the health of our environment.

STATEMENT OF THE NATIONAL MULTI HOUSING COUNCIL AND THE NATIONAL APARTMENT ASSOCIATION

The National Multi Housing Council (NMHC) and National Apartment Association (NAA) are committed to providing safe, affordable and sustainable apartment homes for 16.7 million American households. NMHC and NAA represent the nation's leading firms participating in the multifamily rental housing industry. Our combined memberships are engaged in all aspects of the apartment industry, including ownership, development, management and finance. We commend ongoing congressional efforts to bolster the economy and create jobs while improving the energy performance of the nation's built environment. We support legislation to expand incentives for improving energy efficiency in homes and commercial buildings and encourage Congress to implement programs such as the Home STAR and Building STAR programs. NMHC/NAA welcome the opportunity to provide our views on S. 3079, the Building STAR Energy Efficiency Rebate Act of 2010.

The apartment industry is committed to improving the energy efficiency of our buildings. The current extremely challenging economic environment combined with long standing financial barriers, like high upfront, capital costs, prolonged payback periods and split incentive problems, pose a significant obstacle to the speedy adoption of more energy efficient building systems and products. Currently available incentives, including the Energy Efficient Commercial Buildings Deduction, Energy Efficient Home Credit and Energy Investment Credits provide a good framework to

overcome these hurdles however, they have not proved to be sufficiently accessible for many property owners in part due to the relatively short time frames for which these credits have been authorized as well as the relatively high levels of energy efficiency that are required to be achieved.

Overlaid on this is that property owners are experiencing decreased revenues associated with declining occupancy rates and increased financial pressures associated with the refinancing of properties. The continued financial downturn has put increased pressure on the operating expenses of multifamily properties. Property owners and managers have to do more with less; vacancy rates in many areas of the country have increased as local economies constrict and shed jobs. Building STAR has the capacity to jump start the much-needed flow of capital towards energy efficiency upgrades in building systems and components, while playing a significant role in creating jobs for the workers involved in the manufacture, retail and installation of energy-conserving products.

Importantly, Building STAR is designed to promote good stewardship of federal funds by leveraging public funding to improve the operating efficiency of the existing building stock. The Rebuilding America Coalition has estimated that for every federal dollar expended under the Building STAR program, it will be matched by 2 to 3 dollars of private sector funds. By way of example, one of our members has indicated that to complete an upgrade of a boiler and water heating system in a 26-year old apartment property using the appliances specified in the Building STAR legislation would cost approximately $280,000 in addition to the $37,000 appliance rebate for a total project cost of $317,000. In this case the federal investment attracts over a seven-fold investment of capital by the property owner.

In addition to strengthening the economy by facilitating rehabilitation projects on older buildings and creating jobs, an investment under the Building STAR program will reduce the energy cost burden of apartment residents. This will have an immediate impact for the roughly 70% of residents of multifamily properties who pay all or part of the cost of their utilities in addition to their cost of rent.

The Building STAR program is designed for a quick start. We believe that the rebate system will facilitate the use of this program. The fact that many of the current-law incentives for owner investments in qualifying energy projects have been enacted in the form of tax credits has worked against the utilization of these incentives by commercial real estate that is owned by real estate investment trusts. The direct rebate system found in the Building STAR approach will enable commercial real estate which includes apartment buildings with 5 or more units to participate in the energy efficiency upgrades and job creation inherent in the program.

Moreover, the direct rebate structure of the proposed program is advantageous in light of recent findings concerning the Weatherization Assistance Program (WAP). Industry experience in utilizing the WAP for eligible properties that provide homes for low income residents has been mixed. Despite the significant influx of funding to this program through the American Recovery and Reinvestment Act, the funds have been slow to move out to qualified properties to finance energy improvements. The state weatherization offices responsible for administering the funds have pointed to a variety of administrative reasons for the delays.

The opportunities for low income residents to save money on their utility bills and the opportunities for job creation among the decimated construction trades that provide weatherization services have been limited by the slow to roll out of funds through the WAP. We would therefore urge that Congress give careful consideration to the process for providing the rebate and financing mechanisms under the Building STAR program. It is essential to the success of the program that these funds be deployed quickly in order to create jobs. We believe that the Department of Treasury is well positioned to approve qualifying projects and thus maximize the opportunity to jump start the economy. As one multifamily property owner stated, "Building STAR's greatest benefit is that the owners can go straight to the Department of Treasury on-line, they can execute the work themselves and they get the funds in cash within 30 days. . . Finally, somebody is listening! It is all about HOW you get the work done."

While we share concerns about increased deficit spending we believe that the funds deployed in service of increasing energy efficiency and creating jobs will build greater national security. Thank you for your consideration and we look forward to working with you in your efforts to improve energy efficiency and conservation in multifamily housing.

STATEMENT OF PAUL T. MENDELSOHN, VICE PRESIDENT, GOVERNMENT AND COMMUNITY RELATIONS, THE AMERICAN INSTITUTE OF ARCHITECTS

On behalf of the American Institute of Architects (AIA) and its more than 83,000 members, I write in strong support of the Committee's efforts to promote energy efficiency and create jobs for the design and construction industry. Your Committee has long understood the critical role that energy efficiency plays in fostering energy independence as well as the positive role that federal green incentives play in reinvigorating our economy.

The design and construction industry is the linchpin of our economy, accounting for one in ten dollars of gross domestic product and millions of well-paying jobs. However, as you are aware, this industry has been decimated by the ongoing recession. Unemployment rates in the construction sector are near 25 percent; according to the U.S. Department of Labor, employment in the architectural industry has fallen by 18 percent since 2008. Because every $1 million invested in design and construction creates 28 full-time jobs, any jobs legislation that Congress develops must address the historic challenges this industry faces.

As such, the AIA strongly supports the Committee's efforts to consider energy efficiency rebate programs as a part of comprehensive jobs legislation. The AIA supports both the Home STAR and Building STAR proposals. In particular, we strongly support S. 3079, The Building Star Energy Efficiency Act of 2010. We commend Senators Jeff Merkley (D-OR), Mark Pryor (D-AR), Debbie Stabenow (D-MI), Sherrod Brown (D-OH), Bernie Sanders (I-VT), and Ben Cardin (D-MD) for their leadership in sponsoring this bill.

S.3079 will provide financial incentives for energy-efficient renovations in commercial buildings, achieving the duel goals of stimulating the design and construction industry and promoting energy efficiency. The Building STAR program would provide rebates and tax incentives to building owners for qualified renovations that would result in improved energy efficiency of existing buildings. This program would create well-paying jobs in every state across the country, save building owners money on energy costs, and would reduce our nation's energy use, advancing our energy security and reducing our demands on foreign sources of energy.

The AIA and its members believe that S.3079 should be a central component of any jobs legislation that the Senate considers. We also support efforts to include a provision in the legislation to provide for a rebate for the preparation of construction documents. Especially for larger commercial buildings, the types of retrofits that would be allowed under the plan often require complex changes to building systems and potential structural changes as well (replacing an HVAC system, for example, will impact mechanical, structural, electrical and plumbing systems). These changes require the preparation of detailed construction documents, specifications and scopes of work to ensure that the changes can be made in ways that meet building codes and do not unduly impact other building systems.

This intermediate "phase 2" document preparation can be expensive; an owner typically has to front the cost of the preparation of the specification and the administration and evaluation of the bids. These costs can be as much as 10 percent of the total project cost, and can pose a major barrier to project implementation. However, it is vital to ensure that the projects are performed to code and done in correct ways that protect the health, safety and welfare of the public.

Therefore we propose adding the following language to Section 3(d) of S.3079:

> (7) Preparation of Plans.—For the preparation of plans for the installation of equipment described in 3(b) and 3(c), including construction documents, specifications, blueprints, and scopes-of-work, prepared by individuals licensed in the state to prepare such plans, a rebate equal to the lesser of:
>
> (i) $0.05 per square foot of building space, or
> (ii) 50 percent of the cost of the preparation of documents.

With Building STAR, Congress can promote significant increases in energy efficiency while ensuring that projects are completed in ways that protect the health, safety, and welfare of the general public by allowing the preparation of plans and other construction documents to be eligible for the rebates. In addition to the AIA, this proposal has been endorsed by the Real Estate Roundtable, the U.S. Green Building Council, the International Council of Shopping Centers, Building Owners and Managers Association International and the American Council of Engineering Companies.

As the Committee works to advance jobs legislation, the AIA strongly urges the Committee to advance S. 3079 with the above additional language. We look forward to working with the Committee as you advance legislation designed to promote energy efficiency, energy independence, and job creation across our economy.

STATEMENT OF KATHERINE HAMILTON, PRESIDENT, GRIDWISE ALLIANCE

Chairman Bingaman, Ranking Member Murkowski, members of the Committee, thank you for inviting me to submit written testimony on smart grid provisions proposed by the Energy and Natural Resources Committee. The GridWise Alliance has testified before this committee on several occasions and sustains a positive working relationship with both majority and minority staff by providing unbiased information about smart grid.

The GridWise Alliance is a coalition of about 125 organizations advocating for a smarter grid for the public good. Our members broadly represent the nation's interest in smart grid, including leading utilities, independent system operators, large IT and communications companies, small technology companies, manufacturers, consultants, universities, and research organizations. We operate on a consensus basis and remain technology neutral, focusing on the policy issues surrounding the deployment of a smarter grid. We believe the market should determine which technologies prevail.

The passage of the American Recovery and Reinvestment Act serves as a watershed event in the history of the nation's electric grid. By providing over $4 billion in grants for smart grid projects, Congress effectively elevated the smart grid to a national priority. Utilities and state regulators have been quick to respond, submitting hundreds of projects for potential funding. Over 100 projects representing nearly every state were awarded federal grants. As a result, the transition to a smarter grid is well underway.

Now we need to turn our attention to the ultimate beneficiary of the smart grid—the consumer. The smart grid offers greater visibility into, and control over, electricity consumption, thereby enabling consumers to better manage their energy bills. To realize these benefits, however, consumers must have access to two critical suites of technologies—Home Area Networks (HAN) and smart appliances. Whereas Home Area Networks process communications between the grid and the home, smart appliances actually respond to consumer preferences and signals from the HAN or utility, system operator, aggregator, internet provider, or even microgrid. For example, consumers with variable rate plans can program smart appliances to operate when electricity prices are low, while utilities or other service providers can signal smart appliances to discretely alter operations during periods of peak demand. Smart appliances will be the next evolution of demand response.

To be sure, consumer participation in the smart grid is an evolutionary process. We at the GridWise Alliance believe that the pace of consumer participation will be determined by three underpinning efforts: (1) consumer education; (2) support for the smart appliance market; and (3) adoption of variable rate structures and financial incentives. Our members are collaborating with consumer advocates, utilities, and other service providers on the development of consumer outreach programs; I have spoken with many state utility commissioners on the need for rate structures that allow consumers to benefit from their choices. However, the nascent smart appliance market is in urgent need of support, particularly as consumer spending remains at record lows and unemployment hovers just below 10%. For these reasons, Congress can play a crucial role in providing early support for the market and spurring successive rounds of investment in new technologies. Not all homes will purchase smart appliances right away, but support for this market will be a critical step toward encouraging consumer participation in the smart grid.

Smart appliances will be capable of interacting seamlessly within home systems to provide energy savings for consumers without inconveniencing household operations. For example, a smart refrigerator can cycle off its freezer defrost during peak periods of demand, thereby allowing the utilities to better manage overall load and providing consumers with opportunities to reduce their electric bill, depending on the available incentive programs. We believe that state rate structures and incentives should complement this technology to allow consumers to maximize their energy and bill savings. In a weak economy, a consumer's ability to understand and react to electric prices will be critical. Smart appliances will offer consumers the ability to simply and conveniently reduce demand without negatively impacting their lifestyles.

Smart appliances will also play an important function in maintaining grid stability. Appliance and chip manufacturers are developing technologies that can automatically react to conditions (or "perturbations") on the grid, even in the absence of signals from utilities. For example, if a substation transformer fails, a smart appliance could detect voltage sag and shut down in order to shed load from the system. With a multitude of such appliances interacting with the grid, the system becomes much more stable and reliable. The appliance then becomes important not only to the consumer, but to the community.

Beyond the grid, the smart appliance market will create new opportunities for a range of manufacturers. Put simply, these opportunities can translate into economic growth and improved competitiveness within our domestic manufacturing base. We believe that traditional appliance manufacturers as well as innovative start-up companies should be able to participate in this new market. Although Congress has voiced its intent to place our country on a pathway to leadership in the global smart grid market, we must ensure the correct incentives are in place to realize this vision. For this reason, we strongly support the provisions in this bill.

Given the importance of smart appliances to consumer choice, grid stability and manufacturing competitiveness, the GridWise Alliance strongly supports the Committee's decision to include smart appliance language into the draft under discussion at this hearing. In conclusion, the GridWise Alliance supports smart appliance language in this bill as a means to prepare the market for consumer choice, reduce disruptions on our electric utility grid, and stimulate innovation and manufacturing in the US, providing economic stimulus and job growth.

STATEMENT OF BILL MINAHAN, FOUNDER AND PRESIDENT, BUILDING COMMITTEE, INC., MILWAUKEE, WI

Chairman Bingaman and Ranking Senator Murkowski, thank you for allowing me to offer the following remarks for the hearing record. On behalf of Building Committee Inc. (www.bciihq.com), a private for-profit company that offers domestic commercial building planning, design, build, branding and energy efficiency services, I greatly appreciate the opportunity to present my views on the proposed Building STAR legislation, which was recently introduced as S.3079 by Senators Jeff Merkley, Sherrod Brown, Benjamin Cardin, Mark Pryor, Bernie Sanders, and Debbie Stabenow. BCI urges Congress to advance this legislation, which we believe will leverage private capital investments through federal rebates to improve building energy efficiency, reduce energy consumption, and create jobs.

If I can leave one message with you today, it is this:

> PUBLIC-PRIVATE PARTNERSHIPS ARE ESSENTIAL TO REDUCING ENERGY CONSUMPTION IN LARGE COLLECTIONS OF SMALL-TO MEDIUM-SIZED EXISTING BUILDINGS. WE ARE NOT CONVINCED, HOWEVER, THAT BUILDING MANAGERS WILL INVEST IN ENERGY CONSERVING TECHNOLOGIES UNLESS THEY ARE OFFERED A FREE OR VERY LOW-COST ENERGY ASSESSMENT AS WELL AS FINANCING OPTIONS TO IMPLEMENT THE ASSESSMENT RECOMMENDATIONS. FOR THIS REASON, WE BELIEVE THAT GRANTS, RATHER THAN REBATES FOR ENERGY ASSESSMENTS SHOULD BE AN ESSENTIAL COMPONENT OF THE BUILDING STAR LEGISLATION.

A building assessment report details the architectural and engineering modifications in buildings that, when implemented, will create reductions in energy usage. These reports can be expensive and because building owners and managers have no way of knowing how much energy savings will be identified and at what cost, they have historically rejected paying for these studies.

And without an assessment report there is no project and therefore no reduction in energy consumption.

There are some programs in various regions of the U.S. available to owners of large buildings (over 100,000 Sq. Ft.) that share in the cost of assessments or rebate all or some of the cost. However, only buildings that have a high potential for energy savings are selectively targeted by these programs. The problem with this approach is that most buildings are therefore not selected, and only a small amount of energy savings nationally, compared to the high potential, are ultimately realized.

Ninety-eight percent of the commercial buildings in the country are under 100,000 Sq. Ft. This segment of the market has been generally overlooked by energy savings programs. In order to create large reductions of energy consumption this market segment must be developed and the only way to significantly increase participation is to offer free assessments through a grant program.

However, just blanketing this market segment with free assessments will not work. Assessment offers should be targeted and contain some conditions in order to significantly increase participation rates. These offers must also contain financing options to fund the energy saving projects identified in the assessment reports. These can range from owner financed options to third party shared savings programs, but without financing options even free assessments will not produce projects.

However, without free assessments we believe there will be few or no projects created by this bill.

A market segment of building type such as libraries, medical offices, small office buildings or financial buildings should be identified. Energy service companies that have special relationships with those market segments should be used to actively promote energy reduction projects. Grants should be made available to those companies on a competitive basis so that they can implement an active program of prescreening the market in order to selectively offer free and conditional assessment studies.

Projects identified through the assessment exercise will be implemented and paid for by selecting a financing option.

Programs that develop selected market segments, that pre-screen that markets' buildings, that offer targeted free assessments with conditions and that include various project financing options will create unprecedented levels of participation. These programs will also realize, for the first time in this industry, meaningful amounts of energy savings for our country.

There have been similar target market approaches using a business driven sales approach to provide the building owners with a single source of responsibility to identify the project, provide guidance in securing rebates and funding and navigating the contracting, implementation and verification phases. These have been effective nationally in PACE programs (Property Assessed Clean Energy programs) for residential projects and various market driven pilot programs that make it easier for small business owners to participate, including a Colorado program realizing participation rates as high as 85% in commercial building energy efficiency projects.

BCI is confident that energy assessment companies nationally are confronting the same reluctance of building owners and managers to invest in energy assessments. We firmly believe that companies like BCI that have the capacity to assess large market segments can make the biggest impact on reducing energy consumption in the commercial building market. However, we do not foresee large-scale investments under Building Star if building owners will not pay for an assessment to determine their potential energy savings, as well as the return period for this investment. Most building owners require demonstrated cost savings through energy conserving technologies within a 3–5 year period, and sometimes shorter. An energy assessment can help owners achieve these savings, but only if the owner is convinced that the up front cost of the assessment will result in this return.

ABOUT BCI

In addition to designing and building facilities, BCI also provides strategic planning, market analysis and all aspects of branding and market penetration. In the past year BCI has been working on a program to address the energy consumption of credit union financial institutions, from developing a LEED certified program to energy efficiency programs through its partnership with Michaels Engineering.

Michaels Engineering brings 25 years of technical and mechanical engineering expertise in auditing, energy assessment and retro-commissioning of existing facilities. They provide the technical experience and methodology to enable us to provide quick assessments and practical real world actionable recommendations to reduce the buildings energy use. Michaels staff includes experts with extensive engineering and utility management backgrounds, including experience creating and developing successful energy implementation shared savings programs around the country.

BCI and Michael's Engineering have developed a cost effective program to deliver energy efficiency programs to owners of small to medium sized buildings, identifying financial institutions in the initial program as a transformative target market that will, in turn, will provide not only significant energy savings.

I again appreciate the committee's review of my concerns related to how the Building Star bill is currently drafted. I fully support the concept of offering rebates for the use of proven energy conserving technologies, but I hope that the committee will consider the importance of grants versus rebates related to energy assessments.

Thank you.

THE REAL ESTATE ROUNDTABLE,
April 8, 2010.

Hon. JEANNE SHAHEEN,
U.S. Senate, 520 Hart Senate Office Building, Washington, DC.

DEAR SENATOR SHAHEEN: At the March 11, 2010 hearing of the Energy and Natural Resources Committee on legislative proposals to enhance energy efficiency and create jobs, you asked me whether electric transformers might be included in the

suite of rebate provisions offered in S. 3079, the Building STAR Energy Efficiency Act. In the intervening month I understand that some of our fellow Building STAR supporters with expertise in this area, specifically the National Electrical Manufacturers Association (NEMA) and the American Council for an Energy Efficient Economy (ACEEE), have developed a proposal for a transformer rebate and have shared it with your staff. I am attaching the proposal to this letter.

We think your suggestion for a transformer rebate fits perfectly with the rest of Building STAR's provisions. We would welcome the opportunity to work with you and Senator Merkley to have it included in the bill. The attached transformer proposal is very similar to a suggestion from Warner Power, and contains some updated specifications and incentive amounts.

As you know, the Building STAR program, endorsed by a broad range of nearly 80 stakeholders including real estate, manufacturing, labor, energy efficiency, and environmental interests, will create a significant number of jobs, save money on utility bills, and reduce greenhouse gas emissions. Of course, we encourage other Members of Congress to add their ideas as this legislation continues to move.

We hope you will co-sponsor S. 3079. Additionally, thank you for agreeing to attend the Real Estate Roundtable's Policymaker Reception and Dinner on April 21. I look forward to seeing you there, and discussing Building STAR and other significant issues affecting the real estate sector.

Sincerely,

JEFFREY D. DEBOER,
President and CEO.

ATTACHMENT.—PROPOSAL FOR TRANSFORMER REBATE FOR INCLUSION IN S. 3079, BUILDING STAR ENERGY EFFICIENCY ACT

Building STAR should include an incentive for transformers that are 30% more efficient than TP1. It would be preferable that that the industry use a "complete" specification like NEMA Premium rather than CSL-3 because:

- CSL-3 exists only in draft form published by DOE in 2004 (69 FR 45397) and was immediately superseded by EPAct 2005
- CSL-3 was set at the midpoint (not necessarily 30% fewer losses) between NEMA TP-1 and CSL-5, the max efficiency in production
- For LVDT, CSL-3 was only specified for three representative models (25 kVA, 75 kVA, 300 kVA)
- The 75 kVA model happened to have 30% fewer losses, which is not necessarily the case for other design lines
- For example, DL6 (25 kVA single phase) has efficiencies of 98.0% for CSL-1 and 98.4% for CSL-3, an improvement of less than 30%
- There is wide confusion on how to interpolate CSL-3 for other models

In most cases, there are only minimal differences between NEMA Premium and the varying interpretations of CSL-3. The table below compares TP1 and the NEMA Premium efficiencies.

Table 1: TP1 and Premium Efficiencies for LVDT transformers

	kVA	TP1	NEMA Premium
THREE PHASE	15	97.00%	97.90%
	30	97.50%	98.25%
	45	97.70%	98.39%
	75	98.00%	98.60%
	112.5	98.20%	98.74%
	150	98.30%	98.81%
	225	98.50%	98.95%
	300	98.60%	99.02%
	500	98.70%	99.09%
	750	98.80%	99.16%
	1000	98.90%	99.23%
SINGLE PHASE	15	97.70%	98.39%
	25	98.00%	98.60%
	37.5	98.20%	98.74%
	50	98.30%	98.81%
	75	98.50%	98.95%
	100	98.60%	99.02%
	167	98.70%	99.09%
	250	98.80%	99.16%
	333	98.90%	99.23%

INCENTIVE AMOUNTS

NEMA supports a sliding scale rebate amount based on the capacity of the transformer. The scale would range from $15/kVA for three-phase transformers smaller than 10 kVA to $5/kVA for transformers larger than 100 kVA. Rebates for single-phase transformers would be 75% of the three-phase amount.

Sample calculations for a small transformer:

- Standard low voltage dry-type (LVDT) transformers sized 1 kVA to 5 kVA cost approx. $175/kVA
- The NEMA Premium standard for transformers specifies 30% fewer losses than TP1 (about the range of TSL4, if it were extended to low voltage)
- DOE estimate for the average increase in consumer equipment cost for TSL4 transformers was 20.4% to 39.6% (Oct 2007 FR)
- Using 30% as the midpoint from the DOE estimate, the cost differential for a NEMA Premium transformer is about $53/kVA
- 25%-33% of the incremental equipment cost is $13.13 to $17.33/kVA, respectively

Similar calculations exist for larger transformers. The proposed rebate is calculated as follows and is shown in Table 2:

K = kVA of transformer
A = Larger of K or 10
B = Smaller of A or 100
C = 15-(B-10)/9

Rebate Amount = K * C

Table 2: Rebates for three phase LVDT transformers of varying capacities

Transformer Capacity	Rebate Amount	
kVA	Per kVA	Per Unit
1	$15.00	$15.00
5	$15.00	$75.00
15	$14.44	$216.67
30	$12.78	$383.33
45	$11.11	$500.00
75	$7.78	$583.33
112.5	$5.00	$562.50
150	$5.00	$750.00
225	$5.00	$1,125.00
300	$5.00	$1,500.00
500	$5.00	$2,500.00

Finally, some rebate proposals have been based on a 2002 document. Commodity prices have increase considerably since that date. According to the USGS, between 2002 and 2008 copper prices rose 422% while steel rose 210%. Since materials can account for as much as 70% of transformer costs, any rebate program should take into account current market conditions.

[Figure 1 has been retained in committee files.]

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