Transportation, Housing and Urban Development Subcommittee Hearing on Sustainability in Practice
Testimony of Tom Darden, Make It Right Executive Director
March 10, 2010

My name is Tom Darden and I'm the executive director of the Make It Right Foundation. Mr. Chairman and Members of the Committee, I appreciate having the opportunity to testify before you today to discuss the importance of sustainability and to share with you how our organization is making affordable, green housing a reality in New Orleans. Thank you, Chairman Olver, for your leadership on the issue of sustainability and for inviting me to testify on behalf of Make It Right.

Executive Summary

Five years ago this August, Hurricane Katrina hit New Orleans. In the Lower 9th Ward, more than 1,000 people were killed and over 4,000 homes were destroyed, mostly due to a massive breach in the Industrial Canal levee that resulted in a surging wave of water. The force of the water swept houses off their foundations and left families clinging for their lives, stranded on rooftops amidst floating debris. Most remaining structures – homes, businesses and churches – later were demolished by the Army Corps of Engineers. Before the storm, the Lower 9th Ward boasted the highest home ownership rates in the city; two years after the hurricane, the once thriving, historic neighborhood sat empty and abandoned. Former Lower 9th Ward residents – a few living in FEMA trailers where their houses once stood and the rest scattered across the country – were determined to come home but wondered who would help them rebuild.

For some, the answer began with actor Brad Pitt. While filming a movie in New Orleans in 1993, Pitt fell in love with the city; today he considers New Orleans his home. When Pitt visited the Lower 9th Ward for the first time after Hurricane Katrina, he was shocked by what he saw: the remnants of people's lives strewn across the streets and an entire neighborhood torn apart. Pitt was even more disturbed by the lack of a clear plan to address the situation. Many quietly said there was no chance the Lower 9th Ward would ever be rebuilt.

In a series of community meetings, residents of the Lower 9th Ward told Pitt about the challenges they faced, both before and after the storm. Rising energy costs strained low-income households and residents expressed concern about worsening environmental conditions increasing the frequency and strength of hurricanes. In addition, wetlands and barrier islands that once protected the coast have eroded, leaving New Orleans more exposed to storm surge. Residents also told Pitt that while the crisis had exposed their vulnerability, Katrina also created an opportunity to build something better than what had existed before. From his conversations with former residents, Pitt knew that coming home was not optional to them.

Inspired by a resident who pleaded with Pitt to help "make this right," Brad Pitt convened a group of experts, including William McDonough whose testimony you will hear later, to consider ways to meet the community's demand for sustainable housing on a large scale in December 2006. That group of experts now formally comprises the Make It Right Foundation, a non-profit committed to helping former resident families of the Lower 9th Ward rebuild their lives and community. Donor funding contributes directly toward the immediate goal of rebuilding at least 150 safe, healthy, environmentally sustainable and affordable houses for Lower 9th Ward families who would otherwise be unable to assemble the means to return home and restore their lives.

Make It Right's mission is: *To be a catalyst for redevelopment of the Lower 9th Ward, by building a neighborhood comprised of safe and healthy homes that are inspired by Cradle-to-Cradle thinking, with an emphasis on high-quality design, while preserving the spirit of the community's culture*.

In addition to rebuilding the Lower 9th Ward, Make It Right's overarching goal is to act as a catalyst for environmentally sustainable development in the Lower 9th Ward and beyond. Make It Right is a unique laboratory for testing and implementing new construction concepts, technologies and materials that will help to make green, storm-resistant homes more affordable and available across the country. Toward this goal, we learn through trial and error, constantly trying to reduce costs and improve efficiency through innovation. While our methods will not work for every project, we hope the lessons learned from the Lower 9th Ward will add significant value to others seeking to provide affordable housing while addressing the complex ecological challenges of our time.

Hurricane Katrina's Unexpected Legacy: Sustainable Building

The Need: Make It Right Is Helping Bring Families Home

During Hurricane Katrina, the Lower 9th Ward suffered by far the largest number of storm fatalities of any New Orleans neighborhood. Many of those who survived did so stranded on rooftops with storm waters raging around them and some suffered the incalculable loss of watching helplessly as their children and relatives succumbed to the flood.

Thousands of Lower 9th Ward families are still without homes – the foundation on which to raise their families in the community they love. Without the pledge of Make It Right and committed supporters, this neighborhood would not have access to the magnitude of relief assistance required to rebuild.

Families are still scattered as far as Maine and California, while others are closer to home in Baton Rouge and Houston. No matter where they are, Lower 9th Ward residents remain united in the desire to find their way home.

The Neighborhood: Make It Right is Restoring Cultural Identity

The Lower 9th Ward is distinguished in many ways, not least by an unshakeable pride in community and independence of cultural spirit. Music greats such as Fats Domino and Mahalia Jackson grew up in the Lower 9th Ward and neighborhood civil rights activists helped New Orleans become the first de-segregated school district in the deep South. But for all the neighborhood's historical significance, the focus of Make It Right – and of Brad Pitt's vision – is the hardworking, average individuals who achieved the American Dream, only to lose it to Hurricane Katrina.

As a low-income, predominantly African-American neighborhood, the pre-Katrina Lower 9th Ward was characterized by self-determination and sufficiency. Lower 9th Ward residents, many descended from slaves, built homes on former plantation land and committed themselves to hard work and independence. However, because most residents used their lifetime savings to pay for their homes, everything the families had worked so hard to accrue was suddenly swept away by Hurricane Katrina.

The Lower 9th Ward's efforts to rebuild exemplifies neighborhood's resiliency. A strong presence of community leadership has only strengthened since the storm, functioning as a source of guidance and collaborative effort with Make It Right.

The Land: Make It Right Creates a Safe Place to Live and Sets an Example

The Lower 9th Ward is not one of the lowest lying neighborhoods in the city of New Orleans— a number of other communities sit at lower elevations. In Make It Right's target rebuilding area, street level elevation ranges from approximately sea level to two feet below sea level. By comparison, the upscale Lakeview neighborhood, which also suffered great damage during Hurricane Katrina, sits approximately 12 feet below sea level. Today the Industrial Canal levee along Jourdan Avenue in the Lower 9th Ward has been rebuilt and reinforced. Representatives of the Army Corps of Engineers have stated that it is one of the strongest levees in the city of New Orleans.

The physical location of the neighborhood is a compelling symbol: if this specific site, arguably the worst hit by Hurricane Katrina, can be rebuilt sustainably, then so can any part of New Orleans.

Make It Right's Primary Objectives: Design, Safety, Sustainability and Affordability

Design: Innovative and Culturally Relevant

"Why bring not just architects here but some of the world's best? These people suffered a horrific event, and truthfully a great injustice in the aftermath, and they're still suffering that injustice. So what are you going to follow that injustice up with? Crap houses with toxic materials and appliances that run up their electricity bills and may lead to a foreclosure? This to me is a social justice issue. To create something that's equitable and fair and has respect and provides dignity for the family within is absolutely essential here." – *Brad Pitt, Metropolis Magazine, 2008*

In keeping with Make It Right's priority to work with former residents of the Lower 9th Ward, our approach to new home design began directly with the homeowners themselves.

A group of world-renowned architects volunteering for Make It Right's project first assembled in June of 2007 for a collaboration with Brad Pitt and Lower 9th Ward residents. The purpose of the meeting was to establish a mutual understanding of project goals. From that meeting, Make It Right determined to join the history and spirit of the pre-Katrina neighborhood with creative new architectural solutions, while remaining mindful of environmental and personal safety concerns. Make It Right wanted the designs to encourage the evolution of aesthetic distinctiveness and an awareness of natural surroundings.

Using these parameters, architects involved with Make It Right worked with residents in a series of design charettes to create an initial set of home designs. The Lower 9th Ward was a predominantly low-income and overlooked community before the storm. In some cases residents lacked the resources to afford typical amenities, much less high design with its associated high cost. The architects aimed for high design at low cost, a challenging and exciting endeavor.

Architects drew inspiration from traditional New Orleans design features, such as high ceilings, covered porches and large windows positioned to maximize natural ventilation. In particular, one aspect of New Orleans' traditional architecture stood out as principally important to the community. The face of the house, particularly the porch as the conduit to the street, was the main point of neighborhood connectivity in the life of the Lower 9th Ward pre-Katrina. Make It Right architects were charged with maintaining the connections between neighbors through their designs. The resulting designs were submitted to the Lower 9th Ward community for feedback and revisions were made before the designs were finalized.

In July 2009, fourteen architects presented a second round of pioneering designs, giving Make It Right homeowners a wider range of options. These new designs drew on lessons learned from the initial home designs and included duplexes which allow more people to live together with less impact on the environment and are more cost-effective to build.

Safety: structural engineering, material selection and disaster adaptation
The first question Make It Right needed to answer – and one that we are still asked today – is whether or not New Orleans, particularly the Lower 9th Ward, should be rebuilt. Was it too much of a risk to rebuild in an area facing future floods and hurricanes?

Certainly building in New Orleans and in the Lower 9th Ward carries risk, as there will be more hurricanes and more flooding. But serious risks are present in residential areas and urban centers across the country. New Orleans and the Gulf Coast are, of course, most vulnerable to hurricanes and flooding. Brush and forest fires are more common in the West. Exposure to tornado damage is greatest in the central and southwestern United States, even though tornadoes can and do occur in nearly every state. Earthquake exposure also exists throughout the country since seismic faults are located in all regions and even Midwest states like Illinois, Indiana, Missouri, Arkansas, Kentucky, Tennessee and Mississippi.

Across the country, the risk of natural disaster has not decelerated growth. Over the last decade, Miami, San Francisco, Los Angeles, Houston, Seattle, Boston and New York City have experienced significant growth in development; each is among the top 20 American cities most at risk for natural disasters. Six of the 11 states with the highest potential for natural disasters experienced population growth above the national average from 1990 to 2007. Of the 50 major cities in the United States, 39 are in flood plains.

With widespread exposure to disaster, the question should not be whether to abandon cities in ruins after natural disasters, but rather how to adapt designs and building practices to construct homes able to withstand extreme events.

Make It Right believes adaptation to various disasters must be considered in construction, not only in New Orleans, but around the world. The storm-resistant innovations we have developed for the Lower 9th Ward can be used in other areas at risk for floods and hurricanes and our processes can inform those working to rebuild in Haiti, Chile and other post-disaster areas.

Make It Right safety strategies include:
Foundation Elevation
The Lower 9th Ward experienced epic flood levels during Hurricane Katrina. Much of the devastation was caused by a barge which breached the Industrial Canal levee, resulting in a tidal wave of water surging through the neighborhood. Absent such a breach, flooding caused by the storm surge and rainfall would have been much less, given the area's elevation. Today the Industrial Canal levee along Jourdan Avenue in the Lower 9th Ward has been repaired and reinforced.

The federal government took the precaution of raising the base flood elevation building requirements in the post-Katrina Lower 9th Ward to three feet above grade, meaning that the floor of the house must be at least that high. Make It Right has gone further by raising our homes by either five or eight feet, which is two or five feet above the federal government mandate and higher than the levels of sustained flooding experienced in the area after Hurricane Katrina.

Raising the elevation of the homes was an important safety feature but also presented problems for our project. Elderly and/or disabled residents needed lifts installed to make the homes accessible. Additionally, homeowners wondered if the elevation would threaten their ability to sit on their porches and talk to their neighbors or passers-by as they had before Hurricane Katrina.

One answer to the challenges of accessibility and proximity to the street is Make It Right's FLOAT House designed by Los Angeles firm Morphosis, which is the first floating home permitted in the United States. In the event of a flood, the base of the house acts as a raft, allowing it to rise vertically on guide posts, securely floating up to twelve feet as water levels rise. The design eliminates the need for a long flight of stairs up to the entrance or lifts, required in the elevated houses. The low-to-the-ground design also maintains the street-level porches that were such an integral part of the Lower 9th Ward community. While the FLOAT House is not yet an affordable prototype to replicate, Make It Right hopes the technology used in its construction will inform future building projects in flood-prone areas.

Rooftop Escape Hatches
As the flood waters rose during Hurricane Katrina, many Lower 9th Ward residents found themselves trapped in their homes and had to cut holes in their attics to gain access to their roofs. All Make It Right homes are equipped with roof hatches allowing residents easy access to a secure area of the roof. While we hope none of these hatches will ever need to be used, they help reassure the homeowner that they would be able to escape in an emergency.

Sustainability: Materials, Energy Conservation and Site Impacts
Developers, builders, affordable housing advocates and others often say they would love to build green, but they can't figure out how to make it work. For Make It Right, green building was our baseline, not our ideal. Through product evaluation and testing and aggressive sustainability strategies, we aim to transform the building industry and act as a catalyst for building energy-efficient homes that are healthy for humans and safe for the environment.

The Make It Right design process is rooted in Cradle to Cradle thinking, as developed by Bill McDonough with Michael Braungart in *Cradle to Cradle: Remaking the Way We Make Things* (North Point Press, 2002). This philosophy suggests that everything humans create can contribute positively to society, the economy and the environment. The Make It Right team is using Cradle to Cradle thinking to guide design and the selection of materials for new homes in the Lower 9th Ward as a part of the Make It Right project. Bill McDonough will tell you more about this process in his testimony, but I want to emphasize the importance of his work and how his guidelines help ensure that Make It Right is a replicable model for sustainability.

Healthy Materials
Make It Right uses a protocol designed by McDonough and his team to assess materials and products used in construction by analyzing their material chemistry, recyclability, manufacturing process and the social and environmental profile of the product company. See examples of Cradle to Cradle certified products used in Make It Right homes in the appendix.

Strategies for Energy-efficiency and Resource Conservation
Make It Right is committed to providing the highest level of energy-efficiency available for residential homes through a variety of strategies. A home achieves energy-efficiency by integrating and aggregating a variety of construction components and Make It Right homes are no exception. The roof, walls and floors of every Make It Right home are built so that the home is 5-10 times as "tight" as a typical home.

That means the heating and cooling systems are not forced to exhaust as much energy as in a typical home because the air that has been heated or cooled stays that way longer. Make It Right homes also employ low-emission windows, meaning the glass allows light through, but prevents solar heat gain and UV rays from penetrating into the home.

By installing ENERGY STAR appliances, metal roofs and efficient lighting fixtures, Make It Right has further reduced the overall energy use of the home. For example, the metal roof used on Make It Right homes is more reflective, absorbs less heat, and reduces the need to cool a home by 20-70 percent. Make It Right is also acting as a catalyst for clean, renewable energy by installing residential solar Photo Voltaic (PV) systems that work in tandem with the homes' energy efficient features to conserve energy, reducing energy bills by as much as 75 percent.

Site Sustainability

Make It Right works with experts in landscape architecture, local ecology and storm water management to implement an innovative site sustainability platform that could revolutionize the way New Orleans and other low-lying regions manage storm water, a serious problem currently faced by many regions of the world.

Make It Right has developed a system that allows storm water to be retained and reused on site. Our homes have driveways and sidewalks made of pervious concrete, which allows up to 40 gallons of storm water per hour to drain freely through the pavement, eliminating runoff.

This approach to storm water helps combat localized flooding. Make It Right is working with the city of New Orleans public works department to implement a pilot streets program using pervious concrete. This program could potentially be adopted citywide, reducing the need for public infrastructure investment in storm water management.

The Make It Right Site Sustainability Program also uses native landscaping in an affordable template that easily can be replicated throughout the city, even on individually owned, non-contiguous lots. Landscape design strategies reduce irrigation needs, require minimal weekly maintenance, handle droughts or temporary inundation, provide habitat for birds and beneficial wildlife and provide edible and medicinal gardens. Read more about Make It Right's use of native plants, rain gardens, green roofs and other landscape strategies in the appendix.

Affordability: Making Green Homes Affordable through Innovation

In order to achieve the goal of affordability, Make It Right established a budget requirement for the base construction cost of a prototype home at $200 per square foot and $130 per square foot for replicable models thereafter, approximately the same cost as traditional construction in the neighborhood. Currently, Make It Right is building houses that cost as low as $150 per square foot, including the green and sustainability features described here. In other words, we have already made significant progress towards achieving our goal of delivering the most advanced houses in the world at or even below market rate.

However, the drive to improve quality and reduce cost is never ending. To build greener homes more affordably, Make It Right has created new applications for familiar materials, revamped traditional construction processes, implemented new technologies and products, and worked with manufacturers to improve their products, generating new markets and lowering costs. As a result, Make It Right was able to reduce the cost of building a LEED Platinum home – the highest attainable green rating by the US

Green Building Council – in New Orleans by 50% in our first attempt. We expect to achieve market rate construction costs for LEED Platinum homes by the end of 2010.

In our drive to affordability, our goal is never to compromise structural integrity, green features or design quality, which in turn drives innovation. This approach and the strategies listed below for reducing construction costs while increasing energy-efficiency and the use of eco-friendly materials are simple and can and should be implemented by builders everywhere.

Lowering Costs Through Experimentation with Building Methods

By experimenting with various types of construction, Make It Right is able to review and compare data on cost, materials used, energy-efficiency and other variables to determine which methodology is most efficient and cost effective for large-scale construction projects. Currently, we employ three primary construction methods: modular, site-built (with advanced framing) and panelized (SIP). As we begin to draw conclusions by building similar house designs using our three different processes, we anticipate sharing the results of this experiment with the construction universe.

Lowering Labor Costs Through Training

A primary way Make It Right can reduce construction costs in New Orleans is homebuilder and subcontractor education. Make It Right homes use advanced materials and technologies many local builders and contractors have not previously encountered. Often, installers of new technologies have never installed systems that work in conjunction with other new systems and technologies, such as combining solar and geothermal systems. By raising contractors' skill sets, they are able to increase speed and efficiency on the jobsite. Raising the education level of contractors reduces the cost of implementing new technologies due to accurate pricing and quotes. Experience working with a particular system or product prevents contractors from overestimating the time/cost associated with its installation; often quotes are reduced by 50% after a contractor has gained experience installing a new technology. Once contractors are trained, they can apply that training to other jobs, thereby reducing the cost implementing cutting-edge systems across the market.

Lowering Costs Through Innovation

Make It Right has been able to lower the cost of construction by focusing on a specific system, such as HVAC or electrical, and concentrating on eliminating inefficiencies within that system. Specially-engineered wall sections are one example. The University of New Orleans Engineering Division executed a series of structural tests on Make It Right-engineered wall sections that use 30 percent less lumber (saving both resources and money), and found that ours exceeded building code strength by over five times. For additional Make It Right innovations, see the appendix.

Sourcing Materials

While sourcing the latest green products and materials can be challenging and expensive on the front end, Make It Right has identified many advanced materials and introduced them to the New Orleans market by working with local distributors, thereby lowering costs of attaining sustainable materials for future Make It Right houses and builders throughout the city.

Product Comparisons and Development

Make It Right has the unique opportunity to act as a laboratory for new and sustainable building materials and systems. Given the high-profile nature of the project, manufacturers seek out Make It Right to demonstrate and test their technologies in a design and building environment that supports experimentation. By comparing products on cost, ease of use, maintenance required, energy-efficiency,

and eco-friendliness, Make It Right has the potential to identify the best systems. By making these findings public, Make It Right increases demand for sustainable products and materials, thereby lowering costs over time.

Making Homes Affordable to Purchase and Maintain

Homeowners in the Lower Ninth Ward face many obstacles to rebuilding post-Katrina, including increased construction, utility and insurance costs and higher property taxes. Many homeowners in the Make It Right program are retired and/or disabled and unable to work. Value-based property tax exemptions and other conditions that made homeownership affordable before Hurricane Katrina are unlikely to be adequate in the future. These unique challenges to sustainable rebuilding require extreme diligence to ensure that homes are truly affordable.

To that end, Make It Right has partnered with NeighborWorks America to develop and oversee the Make It Right homeownership counseling program. Established by Congress to increase the capacity of local community-based organizations, to expand affordable housing opportunities for low-income people and to strengthen distressed communities, Neighborworks has three decades of experience helping low-income families across the country become homeowners.

Exact Make It Right home prices depend on the size of the home and its features, but the average sales price is about $150,000. Most families have or can borrow about half of that amount. Make It Right helps close the financing gap for some homeowners with soft second mortgages, typically loans that are forgivable after 5-10 years. Make It Right works closely with every family to ensure that the price of the home, including taxes and insurance, is no more than 30% of household income.

While the homes must be affordable to purchase, the maintenance and long-term care of the homes must be affordable as well. Energy-efficient appliances, solar panels, tankless water heaters and other features help keep power and water bills low. Make It Right uses various products to increase the durability of the homes and decrease the need for costly repairs by reducing the homes' vulnerability to mold, fire, rot and termites. While many of the materials used in the homes are cutting-edge, Make It Right only uses off-the-shelf products and materials that can be purchased, replaced and/or repaired at local retailers for affordable prices.

Challenges

Although we face many challenges every day, we believe that failure in this endeavor is not an option. Therefore, we hope that each challenge we face will create a lesson learned to help inform the future of disaster recovery and sustainable and affordable housing.

Working with Families Post-Katrina

Many of the challenges we have seen and continue to face relate to working with displaced families in a post-disaster recovery environment. Establishing and maintaining contact with displaced homeowners is expensive and time consuming. Make It Right originally began contacting displaced families through word of mouth and partnerships with community organizations. However, as families settled in other cities where they evacuated over three and a half years ago, it has become even more difficult to locate families. Another challenge we encounter with more frequency is the complexity of legal issues many of the families we counsel face, such as the difficulty of obtaining clear title for families with undocumented succession rights or other encumbrances that make obtaining financing problematic. Make It Right continues to work meticulously with the city of New Orleans, pro bono law firms and title companies to resolve each case, but this strategy has added time to the counseling process.

Finally, the housing market crisis has impacted Make It Right's ability to obtain third party financing for affordable mortgages to supplement Make It Right forgivable or low-interest loans, which increases the counseling time spent working with each family to find creative solutions. Compounded with the need for families to spend increasing amounts of disaster recovery funds received through federal and state programs on other necessities, Make It Right must consider funding a higher portion of the subsidy to each homeowner, which could result in an increased overall project cost until the Make It Right loans are either repaid or sold, both long-term objectives.

Post-Disaster Construction

Building beautiful, safe, and sustainable homes in a post-disaster environment is inherently challenging. Not only are we seeking to build houses that are energy-efficient and that use advanced green materials, we must also build houses that are elevated above the flood plain and protected against future storms, all while meeting the complex needs of displaced homeowners. It is our hope that the strategies described in this testimony for addressing these challenges will be useful to others seeking to build the right way.

Successes

Despite ongoing challenges, Make It Right has achieved significant successes in our short history. Our new houses sustained no significant damage during Hurricane Gustav, which made landfall as a category three storm just days after the paint dried on our first six houses. The U.S. Green Building Council recently declared that our project in the Lower 9th Ward is the "largest, greenest neighborhood of single family homes" in the country. Several of Make It Right's homeowners have reported a cessation in the asthma they once suffered as a result of living in a green home and breathing cleaner air. We are seeing evidence that Make It Right is fulfilling its mission to be a catalyst for sustainable development in the Lower 9th Ward as other builders have adopted the use of green materials. Make It Right's experiments and innovations have resulted in a 30% reduction in materials used and 21% cut in construction costs from the first phase of construction to the second phase, followed by another 16% reduction in the third phase.

But none of these metrics compare with the personal stories of Make It Right homeowners. Courageous families who survived the worst natural disaster in our nation's history and thought they would never again live in the neighborhood they loved, are now planting gardens, sharing meals with neighbors, caring for their elderly relatives and raising their children in beautiful new homes. The Make It Right homeowners are the key to transformation in the Lower 9th Ward and the best ambassadors for a movement toward green homes for working families. You can read some of their compelling stories in the appendix.

The Role of Government

The worst natural disaster in United States history presented a unique opportunity to be a catalyst for change. But it is not enough for our work to be limited to New Orleans. Make It Right believes that it should not take a hurricane to make sustainable, healthy homes available for working families.

Make It Right is cracking the code on combining affordability and environmentally-sensitive design in new home construction. This project can serve as a national model that will benefit cities and towns across the nation that are seeking to address two of the most difficult challenges facing us: affordable housing and environmental stewardship.

Make It Right will continue to catalogue the lessons we learn through this process and share information across the country with those who are trying to provide safe and affordable homes to working families and advance the latest technologies that reduce our environmental footprint.

Congress and the federal government have a role to play as well. By setting standards, investing in green jobs and establishing resource centers and encouraging broad partnerships, you can help make sustainability a reality in more American communities.

Standards

The federal government must make sustainability an essential element of its housing, transportation and infrastructure efforts as well as its energy-related legislation, regulations and programs. If our government is serious about protecting the environment, reducing our dependence on foreign oil and helping Americans save on energy costs, you must make sustainability a baseline, not a theoretical ideal. Demonstrate commitment to promoting sustainability by adopting government-wide standards.

Why not require that new construction implement every energy-efficiency feature with a payback shorter than five years? Our failure to do this imposes a lifetime of built-in inefficiency and drag on our economy that does not need to happen.

Offer tax credits, grant funding, support for research and development and other incentives to tax-payers, businesses and non-profits that aggressively pursue sustainability. Create financing mechanisms to promote sustainable retrofits for the 100 million existing homes in America, funding energy-saving innovations with attractive paybacks.

The money America would save from implementing the most basic short-term payback efficiency measures could finance all of the bailout programs. American homes – just homes, not other buildings – could save 20-25% resulting in an average savings of $50 billion per year. $50 billion per year would pay the interest on $1 trillion of debt at a 5% interest rate. Therefore, the economic drag of $1 trillion in bailout money could be offset by the economic pickup of $50 billion per year of energy savings. The savings would go to the homeowners and renters, not to the government, but the overall impact to the economy is the same.

An easy cost-cutting home improvement is a smart-grid meter, which tests have shown to reduce household energy consumption by 20%. They cost $500, which would payback in a little over a year. A few more simple measures that result in big savings are low-energy light bulbs, low-flow showerheads and HVAC duct seals. The federal government could require that homeowners make these basic changes in a similar manner to the recent mandated digital TV conversion.

Green Jobs and Resource Centers

The United States is overdue for serious investment in green jobs. As we at Make It Right have learned, investment in experimentation, research and testing lead to cost-saving, energy-saving innovations. Cities like Pittsburgh, Detroit and New Orleans whose inhabitants once bolstered the nation with their technological advancement, contribution to culture and indefatigable workforce are fertile ground for tomorrow's breakthroughs in sustainability. America loves a good comeback story – just ask the New Orleans Saints.

The Sustainable Communities initiative could help translate sustainability ideas into practice by

establishing national and regional resource centers and clearinghouses for shared knowledge, design, construction methods, labor best practices, products, materials and a host of other elements necessary to make these goals a reality. These regional public/private partnerships or consortiums would promote sustainability at the local, state and regional level.

Partnerships

Finally, the federal government should encourage broader partnerships in order to multiply the economic, environmental and societal benefits of sustainability. Initiatives like ENERGY STAR as well as allowing non-profit entities to participate directly in federal housing and construction efforts such as the Neighborhood Stabilization Program (NSP) and the Hope VI and Choice Neighborhoods programs have been productive. Make a broader array of organizations eligible for such programs and include more robust sustainability elements for these and other programs.

Conclusion

Sustainability is not a set of abstract ideas or unattainable goals, but a daily practice in New Orleans' Lower 9th Ward. Our commitment to building sustainable homes has measurable results including increased energy-efficiency resulting in lower power bills, technological and economic development, reduction in materials used lower construction costs, and improved health and safety for families and the environment.

Make It Right's green and affordable homes were designed for the Lower 9th Ward, but they could be replicated in communities across the country and around the world. We intend to prove that by rebuilding one of the most devastated neighborhoods in New Orleans, we can create a sustainable future by changing the way buildings are constructed. We can work together to Make It Right.