Testimony of:

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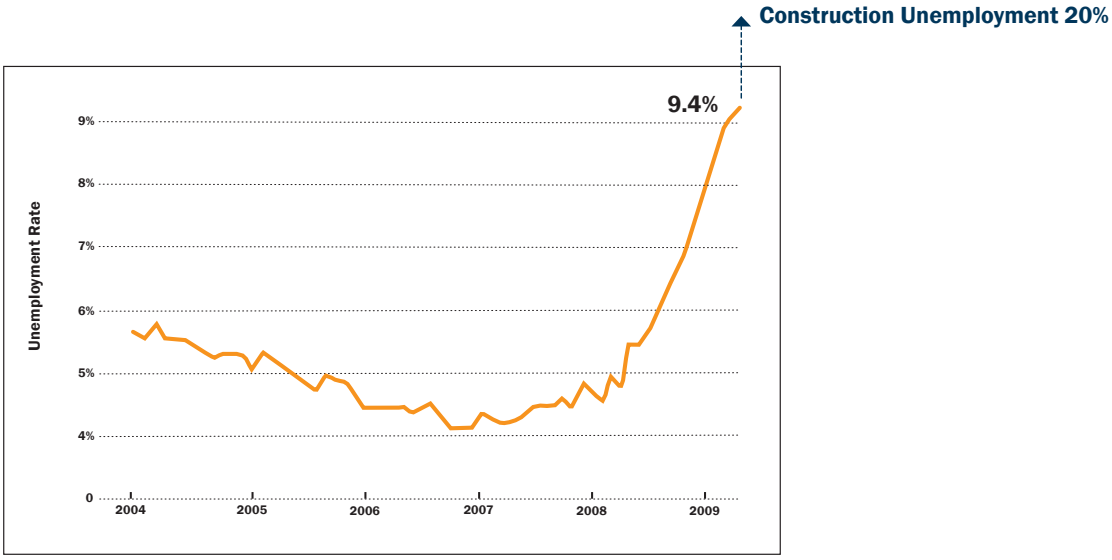
Before the U.S. House of Representatives
House Financial Services Subcommittee
on Housing and Community Opportunity
Self-Sustaining, Market-Based Jobs vs. "Handouts"

Thursday, June 11, 2009, 2:00 p.m.
Room 2128 of the Rayburn House Office Building

Madam Chairwoman and Members of the House Financial Services Subcommittee on Housing and Community Opportunity, thank you for the opportunity to comment on the "GREEN Act of 2009" as it relates to the critical issue of housing and jobs in the United States.

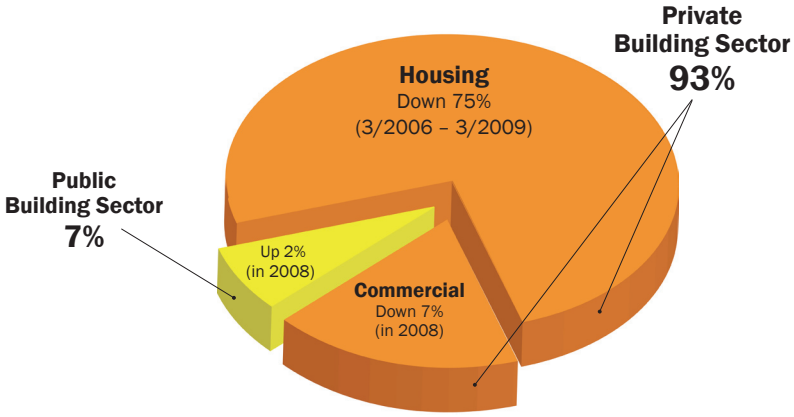
Background

The country continues to struggle with a deep economic recession as unemployment inches toward double digits. Construction unemployment is currently at 20%, more than double the national average. Over the past eight months, construction jobs have been evaporating at an astonishing 111,000 jobs per month with over 1.7 million construction workers now unemployed.



U.S. Unemployment (2004 – 2009)
Source: U.S. Bureau of Labor Statistics

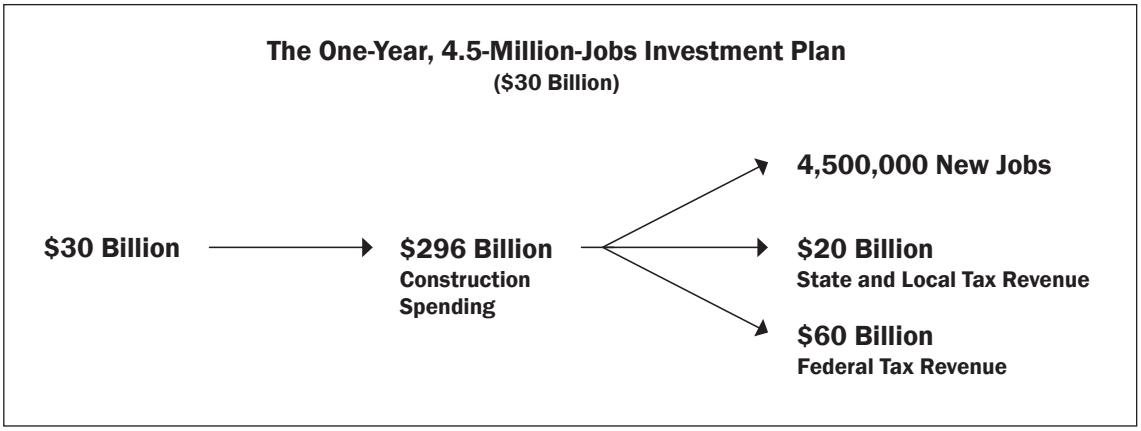
In March 2009, construction of residential buildings was down 48% from March 2008, 66% from March 2007, and a staggering 75% from March 2006 with no relief in sight. The average annual income for residential construction workers is $35,500, so rampant unemployment in this sector is devastating for families and communities across the US.



U.S. Building Construction
Source: U.S. Bureau of the Census, Construction Reports

Plan Summary

Because the private building sector represents 93% of total U.S. building stock, this sector is key to reviving the U.S. economy. Allocating $30 billion of stimulus dollars to the private building sector to provide a 'housing mortgage interest rate buy-down' for homes that meet or exceed the initial energy reduction target of the widely adopted 2030 Challenge will create 4.5 million new jobs and $296 billion in direct, non-federal investment and spending. It would also open up a new $47.6 billion renovation market that could grow to $1 trillion by 2030. Through the new tax base created, the Plan returns to the federal government twice its investment annually while generating 66% of its investment in tax revenue for local governments.



Plan Rationale

Although important, public infrastructure and building projects cannot solve the U.S. economic crisis:

- The public building sector accounts for just 7% of total U.S. building stock.
- Compared to private building, public infrastructure and building generate very little private investment and spending.
- Public Infrastructure and building projects are dependent on strong local and federal tax revenues, which are now in decline.
- Because these projects cannot produce a sustainable tax base, the federal government will have to continue to provide funding for each new project.

The private building sector, on the other hand, is key to solving this crisis:

- The private building sector accounts for 93% of total U.S. building stock and impacts the entire U.S. economy. Building construction alone accounts for approximately 10% of the U.S. GDP.
- Over 1.7 million construction workers are now unemployed, and every sector of the U.S. economy (from wholesale, retail, distribution, manufacturing and construction to professional services, banking and development) and every industry (from steel, rubber, insulation and caulking to mechanical and electrical equipment, glass, wood, metals, tile, fabrics and paint) is reeling from the effects.
- Investing in the private building sector generates demand for construction services and products, and private investment and spending, on a much larger scale than public infrastructure and building projects, creating millions of more jobs.
- The large tax base generated from the new jobs, private investment and spending, and new renovation market will both pay for the Plan each year it is in effect and provide the needed funding for future public infrastructure and building projects.

The Plan and Its Benefits

The Plan requires those participating in the housing mortgage interest rate buy-down to renovate (or build new) to specific energy reduction targets. This requirement is central to the Plan, immediately creating demand for Building Sector services and products, including $47.6 billion of building renovation. It is this demand within the private building sector that generates $296 billion in private investment and spending, and it is this $296 billion in private investment and spending that makes the 4.5 million new jobs possible. Without this additional investment and spending, the number of jobs created would be far less.

Only 2.3% of total U.S. housing stock would need to participate in the One-Year, 4.5-Million-Jobs Investment Plan to create these massive economic benefits. If demand for these construction services is also generated in the remaining 97.7% of the residential sector, either through market forces or continuation of the Plan over a period of years, the demand created could help fuel our economy for the next 40 to 50 years.

In addition, during the year the Plan is in effect, consumers will save a minimum of $11.7 billion in energy costs and mortgage payments, significantly reducing the risk of mortgage failure while increasing disposable income. With only 2.3% of the U.S. housing stock participating, at a minimum, the Plan will reduce CO_2 emissions by 11.5 MMT CO2e and on-site energy consumption by 104 TBtu. All of these benefits continue in perpetuity, so that over five years, consumers will save a minimum of $58.6 billion in energy costs and mortgage payments, and at a minimum, CO_2 emissions will be reduced by 57.6 MMT CO_2e and on-site energy consumption by 518 TBtu.

If the Plan is expanded to include 20% of the housing stock, at a minimum, it would reduce on-site energy consumption by 907 TBtu, as well as save consumers a minimum of $103 billion in energy costs and mortgage payments annually. Again, these benefits continue in perpetuity, so over 5 years, consumers will save a minimum of $514 billion in energy costs and mortgage payments.

Conclusion

Addressing the collapse of the private building sector is critical to stabilizing the U.S. economy. The Plan addresses this, as well as many other challenges facing the country, including energy independence and climate change. With a single investment, the U.S. can create millions of jobs, strengthen the U.S. economy, reduce CO_2 emissions and energy consumption, and save consumers billions of dollars. Investing in the private building sector is the only investment that can accomplish all of these objectives.

The One-Year, 4.5-Million-Jobs Investment Plan

Architecture 2030

A SIDE-BY-SIDE COMPARISON

HOMEOWNER SAVINGS	WITH PLAN	WITHOUT PLAN
Mortgage Payment	$1,054	$1, 439
Mortgage Savings	$385	$0
Energy Savings	$158	$0
Total Monthly Savings	**$543**	**$0**

JOBS & TAX REVENUE	WITH PLAN	WITHOUT PLAN
Government Spending	$30 billion	$30 billion
Private Spending Generated	**$296 billion**	negligible
Jobs Created	**4,500,000**	339,060
State and LG Taxes Collected	**$20 billion**	$2 billion
Federal Taxes Collected	**$60 billion**	$6 billion

The One-Year, 4.5-Million-Jobs Investment Plan

Architecture 2030

Plan Summary

Because the private building sector represents 93% of total U.S. building stock[1], and building construction alone accounts for approximately 10% of the U.S. GDP[2], the private building sector is the key to reviving the U.S. economy. Investing $30 billion in the private building sector to provide a 'housing mortgage interest rate buy-down' for homes that meet or exceed the initial energy reduction target of the widely adopted 2030 Challenge[3] will create **4.5 million new jobs** and **$296 billion in direct, non-federal investment and spending** while opening up a new **$47.6 billion renovation market** that could grow to $1 trillion by 2030. This Plan **returns to the federal government twice its investment annually** through the new tax base created and can be implemented quickly through existing federal programs (see How Quickly Can Investment Begin below).

Basis for Private Building Sector Focus

Although important, infrastructure and the public building sector cannot solve the U.S. economic crisis:

- The public building sector accounts for only 7% of total U.S. building stock.[4]
- Public infrastructure and building are not currently in decline.[5]
- Compared to private building, public infrastructure and building generate very little private investment and spending.
- Public infrastructure and building projects are dependent on strong tax revenues, which are now in decline.
- Because these projects cannot produce a sustainable tax base, the federal government will have to continue to provide funding for each new project.

The private building sector, on the other hand, is key to solving this crisis:

- The private building sector accounts for 93% of total U.S. building stock and impacts the entire U.S. economy. Building construction alone accounts for approximately 10% of the U.S. GDP.
- In March 2009, construction of residential buildings was down 48% from March 2008, 66% from March 2007, and a staggering 75% from March 2006 with no relief in sight.[6]
- Over 1.7 million construction workers are now unemployed[7], and every sector of the U.S. economy (from wholesale, retail, distribution, manufacturing, and construction to professional services, banking, and development) and every industry (from steel, rubber, insulation and caulking to mechanical and electrical equipment, glass, wood, metals, tile, fabrics, and paint) is reeling from the effects.
- Investing in the private building sector generates demand for construction services and products, and private investment and spending, on a much larger scale than public infrastructure and building projects, creating millions of more jobs.
- The large tax base generated from the new jobs, private investment and spending, and new renovation market will both pay for the Plan each year it is in effect *and* provide the needed funding for future public infrastructure and building projects.

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1 2007 Buildings Energy Data Book, Energy Information Administration, Tables 2.1.1, 2.2.1 and 2.2.3.

2 2007 Buildings Energy Data Book, Energy Information Administration, Table 4.5.1.

3 The 2030 Challenge, issued by Architecture 2030, calls for all new buildings and renovations to be designed so as to reduce their fossil-fuel, greenhouse-gas-emitting energy consumption by 30% below that required by the latest IECC 2006 and ASHRAE 90.1-2004 code standards, incrementally increasing the reductions to carbon neutral by 2030.

4 2007 Buildings Energy Data Book, Energy Information Administration, Tables 2.1.1, 2.2.1 and 2.2.3.

5 McGraw Hill Construction report, December 18, 2008. From January through November 2008, construction of infrastructure projects grew by 2%. Construction of institutional buildings grew by 6%, helped by public and government buildings (up 6%) and educational buildings and schools (up 6%).

6 Economics Department NAHB (www.HousingEconomics.com): U.S. Bureau of the Census, Construction Reports, Series C-20, Housing Starts.

7 U.S. Department of Labor, Bureau of Labor Statistics, Economic News Release, Employment Situation Summary, http://www.bls.gov/news.release/empsit.nr0.htm.

Plan Specifics

The Plan requires those participating in the housing mortgage interest rate buy-down to renovate (or build new) to specific energy reduction targets. This requirement is central to the Plan, immediately creating demand for Building Sector services and products, including $47.6 billion of building renovation. It is this demand within the private building sector that generates $296 billion in private investment and spending, and it is this $296 billion in private investment and spending that makes the 4.5 million new jobs possible. **Without this additional investment and spending, the number of jobs created would be far less**.

Only 2.3% of total U.S. housing stock would need to participate in the One-Year, 4.5-Million-Jobs Investment Plan to create these massive economic benefits. If demand for these construction services is also generated in the remaining 97.7% of the residential sector, either through market forces or continuation of the Plan every year, the demand created could help fuel the economy for the next 40 to 50 years.

In addition, during the year the Plan is in effect, consumers will save a minimum of $11.7 billion in energy costs and mortgage payments, significantly reducing the risk of mortgage failure while increasing disposable income. With only 2.3% of the U.S. housing stock participating, at a minimum, the Plan will reduce CO_2 emissions by 11.5 MMT CO_2e and on-site energy consumption by 104 TBtu. All of these benefits continue in perpetuity, so that over five years, consumers will save a minimum of $58.6 billion in energy costs and mortgage payments, and at a minimum, CO_2 emissions will be reduced by 57.6 MMT CO_2e and on-site energy consumption by 518 TBtu.

If the Plan is expanded to include 20% of the housing stock, at a minimum, it would reduce CO_2 emissions by 101 MMT CO_2e and on-site energy consumption by 907 TBtu, as well as save consumers a minimum of $103 billion in energy costs and mortgage payments annually. Again, these benefits continue in perpetuity, so over 5 years, consumers will save a minimum of $514 billion in energy costs and mortgage payments, and at a minimum, CO_2 emissions will be reduced by 505 MMT CO_2e and on-site energy consumption by 4.5 QBtu.

Residential Buildings

Plan benefits are weighted to encourage renovation in the current 'overbuilt' environment; however, the Plan also offers benefits for new buildings that meet the targets to further encourage an immediate and rapid shift to an energy-efficient built environment.

The Plan leverages the benefits of energy reductions by offering for both existing and new homes, through Fannie Mae, Freddie Mac and other GSEs, increased mortgage financing with reduced interest rates in relation to the energy reduction target reached:

A. Those seeking to purchase an existing home, refinance their mortgage (including to avoid foreclosure), or purchase a newly constructed home that qualifies for a 'location efficient mortgage'[8] could choose to reduce their qualifying mortgage rate by 1.0% or more, if the home meets or is renovated to meet one of the corresponding energy reduction targets provided below.

% Below Qualifying Mortgage Rate[9]	Minimum Energy Reduction Target (Energy Savings)[10]
1.0%	HERS 70 (30% below IECC 2006)[11]
1.5%	HERS 50 (50% below IECC 2006)
2.0%	HERS 25 (75% below IECC 2006)
2.5%	Net zero[12]

[8] The definition of a 'location efficient mortgage' can be found in the proposed Green Act of 2009 (H.R. 2336).

[9] Depending on market conditions, the interest rates made available under the Plan can either float with the market rate, as illustrated in the chart, or be fixed (such as, 4.0% for HERS 70, 3.5% for HERS 50, 3.0% for HERS 25, and 2.5% for net zero) . The cost of the Plan may vary, depending on the approach chosen.

[10] Building energy consumption from non-depletable energy sources collected on site or provided from within a development is considered an energy savings.

[11] Equivalent rating systems may be used. See 'Meeting the 2030 Challenge Through Building Codes' at www.architecture2030.org/news/multimedia.html.

[12] A net-zero energy building produces at least as much emissions-free renewable energy as it uses from emissions-producing energy sources.

To qualify for one of the percentage buy-downs listed in the chart above, the homeowner must both i) meet the minimum HERS rating and ii) invest a minimum amount in energy efficiency and/or renewable energy systems (which is added into the new mortgage). The minimum amount required to be invested is dependent on the amount of the new mortgage as illustrated in the following tables:

1.0% Buy-down/HERS 70:

New Mortgage Amount	**$150,000**	**$200,000**	**$250,000**	**$300,000**	**$350,000**	**$400,000**
Minimum Homeowner Investment	$12,000	$16,000	$20,000	$24,000	$28,000	$32,000

1.5% Buy-down/HERS 50:

New Mortgage Amount	**$150,000**	**$200,000**	**$250,000**	**$300,000**	**$350,000**	**$400,000**
Minimum Homeowner Investment	$18,000	$24,000	$30,000	$36,000	$42,000	$48,000

2.0% Buy-down/HERS 25:

New Mortgage Amount	**$150,000**	**$200,000**	**$250,000**	**$300,000**	**$350,000**	**$400,000**
Minimum Homeowner Investment	$24,000	$32,000	$40,000	$48,000	$56,000	$64,000

2.5% Buy-down/HERS 0:

New Mortgage Amount	**$150,000**	**$200,000**	**$250,000**	**$300,000**	**$350,000**	**$400,000**
Minimum Homeowner Investment	$30,000	$40,000	$50,000	$60,000	$70,000	$80,000

For example, a homeowner with a $240,000 mortgage at an interest rate of 6% would have a monthly mortgage payment of $1,439. Having paid in $30,000 in equity, his mortgage balance is currently $210,000. The homeowner qualifies for a 5% mortgage interest rate and wishes to take advantage of the 2.0% buy-down rate for a new rate of 3%. To **refinance his mortgage at 3.0%**, he will need to **renovate his home to use 75% less energy** than that required by code, **spending a minimum of $40,000 on efficiency measures**. The cost of the renovation would be **added into the new mortgage**, so that the new mortgage is now $250,000. However, because of the significantly lower interest rate, i.e. 3.0%, the new mortgage payment is just $1,054, a savings of $385 per month. With the additional monthly savings on energy bills of approximately $158[13], this homeowner would **save a total of $543 per month**.

[13] Anderson, R., "Example Performance Targets and Efficiency Packages, Greensburg, Kansas (Presentation)," National Renewable Energy Laboratory (NREL). Assumes a 75% reduction below codes is the average between 50% below and net zero energy. 2030 adjusted for renovation using relationship between percentage below code and percentage below existing energy use, based on 'Meeting the 2030 Challenge Through Building Codes' (see www.architecture2030.org/news/multimedia.html).

B. Those seeking a reduced-rate, 30-year mortgage to purchase a newly constructed home could choose to reduce their qualifying mortgage rate by 0.5% or more, if the home meet one of the corresponding energy reduction targets provided below:

% Below Qualifying Mortgage Rate[14]	Minimum Energy Reduction Target (Energy Savings)[15]
0.5%	HERS 70 (30% below IECC 2006)[16]
1.0%	HERS 50 (50% below IECC 2006)
1.5%	HERS 25 (75% below IECC 2006)
2.0%	Net zero[17]

Job Creation Results

The total number of new jobs created by the Plan is estimated as follows:

Building Sector	Indirect & Induced	TOTAL NEW JOBS
1,377,363	3,122,637	4,500,000

NOTE: Does not include an additional, minimum 130,530 jobs created by consumer spending of mortgage and energy savings.

Because of the effectiveness of energy efficiency, any economic stimulus and job-creation plan should require all Building Sector programs receiving federal funds, including public building projects (e.g. government, education and community facilities) to meet the 2030 Challenge targets.

To support the Plan, Architecture 2030 recommends funding State Energy Departments for the specific purpose of compliance training of building inspectors and others to verify that the buildings meet the energy reduction specifications. Other organizations have submitted proposals recommending funding for training. Architecture 2030 supports these proposals.[18]

Cost

$30 billion per year, based on an average cost of a 1.0% mortgage rate buy-down being 4 points (or 4.0% of the mortgage amount). The Plan will return to the federal government twice this amount in new tax revenue each year through the new tax base created by the 4.5 million new jobs, as well as the increased economic activity. In addition, the Plan will save the government the cost of unemployment benefits. Because the Plan returns twice the federal government's investment annually through the new tax base created, Architecture 2030 recommends that the Plan be implemented for at least three years or until the recession ends.

How Quickly Investment Can Begin

Ninety to 180 days. This Plan can be implemented through existing federal programs, such as Fannie Mae and Freddie Mac. The Secretary of the Treasury can carry out the Plan using the authority made available under the Housing and Economic Recovery Act of 2008.

For immediate implementation, Architecture 2030 has made available a version of this national plan for state and local governments to use as their Energy Efficiency and Conservation Strategy for the Energy Efficiency and Conversation Block

[14] Depending on market conditions, the interest rates made available under the Plan can either float with the market rate, as illustrated in the chart, or be fixed (such as, 4.5% for HERS 70, 4.0% for HERS 50, 3.5% for HERS 25, and 3.0% for net zero). The cost of the Plan may vary, depending on the approach chosen.

[15] Building energy consumption from non-depletable energy sources collected on site or provided from within a development is considered an energy savings.

[16] Equivalent rating systems may be used. See 'Meeting the 2030 Challenge Through Building Codes' at www.architecture2030.org/news/multimedia.html.

[17] A net-zero energy building produces at least as much emissions-free renewable energy as it uses from emissions-producing energy sources.

[18] The 4.5 million jobs created by this Plan does not include the jobs that will be created by the investment in compliance training.

Grants. Titled the *14x Stimulus* plan, the plan leverages each $1 of government money spent on the program to generate $14 of private spending, create 14 times the number of jobs, generate $3 in new taxes for the federal government, and return $1 in new tax revenues back to state and local government coffers.

Number of Jobs Produced

4.5 million (1.4 million direct jobs in the Building Sector, as well as an additional 3.1 million indirect and induced jobs. The 4.5 million jobs does not include an additional 130,530 jobs created by consumer spending of mortgage and energy savings.)

Plan Justification

Numerous studies have shown that investing in energy reductions in buildings is the most effective way to create American jobs and revitalize the economy. Energy reductions can be implemented immediately, creates the most jobs, costs the least and offers great benefits to the planet.[19] By integrating energy reduction requirements with a mortgage buy-down, we can leverage the effectiveness of these reductions to keep families in their homes and revive the economy.

The Building Sector has taken the brunt of the economic downturn with over 1.7 million construction workers out of work. A well-thought-out, strategic investment in this sector would revitalize it, and due to the large number of products and services involved, spread the investment across the entire U.S. and across all industries (from steel, insulation and caulking to mechanical and electrical equipment, glass, wood, metals, tile, fabrics and paint) and all sectors (from architecture, planning, design, engineering, banking and development to manufacturing, construction, wholesale, retail and distribution).

One of the greatest benefits of the Plan is the potential to create a whole new renovation market for the construction industry, which would immediately get this vital industry back to work and potentially provide work for the next 40 to 50 years. As noted above, in the first year alone, homeowners renovating their homes to meet or exceed the initial 2030 Challenge target will create a renovation market worth over $47.6 billion.[20] This market has the potential to reach $1 trillion by 2030.[21] As impressive as these numbers are, they are conservative because they assume each building is renovated only once and they do not take into account that many participants will complete additional renovations while doing the required energy-reduction renovations to take advantage of the reduced, one-time mortgage rate afforded under the Plan. It is important to note, however, that this market is only created if the mortgage rate buy-down requires participants to meet the energy reduction targets.

Unlike other plans, this Plan moves the U.S. toward significant energy and emissions reductions. The Building Sector is responsible for approximately half of all energy consumption and GHG emissions in the U.S. annually. An investment of $30 billion in the Plan would not only create jobs and save consumers money, it would also, over a five-year period, reduce at a minimum, CO_2 emissions by 57.6 MMT CO_2e and on-site energy consumption by 518 TBtu, including 163 billion cu. ft. of natural gas and almost one million barrels of oil, thereby addressing climate change and energy independence as well.

Another important benefit is that the Plan pays for itself *and* provides funding for public infrastructure and building projects through the large tax base generated from the new jobs, private investment and spending, and new renovation market. This ability to pay for itself provides the opportunity to continue the Plan for as long as needed or desired. For instance, there is 192 billion square feet of existing housing stock in the U.S. To encourage renovation of this existing stock, so as to achieve the necessary energy and GHG reductions called for by the scientific community to address climate change, the Plan could be continued until energy reduction goals are achieved or other mechanisms are in place.

Finally, a significant benefit of building performance standards is that they do not pick clean-energy technology winners or losers. Any existing or new non-CO_2-emitting technology or planning and design strategy can be employed to meet a standard.

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[19] Kershner, K. and Mazria, E., "The 2030 Blueprint: Solving Climate Change Saves Billions," 2030, Inc. / Architecture 2030, http://www.architecture2030.org/pdfs/2030Blueprint.pdf.

[20] For financial analysis, contact Architecture 2030.

[21] The total amount of the building renovation market available after the initial one-year Plan period assumes that the same level of renovation intensity will continue due either to continuation of the Plan, market forces, other incentives and/or improved building codes to drive additional energy reductions in the Building Sector.

This includes everything from increasing neighborhood density, building orientation and color, daylighting, appropriate materials, passive solar heating, and cooling and natural ventilation strategies, to insulation, high-performance glazing, solar hot water heating, photovoltaics, micro-wind turbines, energy management systems, daylighting controls and any other site, development or community-scale clean-energy source or strategy.

Conclusion

Addressing the collapse of the private building sector is critical to stabilizing the U.S. economy. The Plan addresses this, as well as many other challenges facing the country, including energy independence and climate change. With a single investment, the U.S. can create millions of jobs, strengthen the U.S. economy, reduce CO_2 emissions and energy consumption, and save consumers billions of dollars. **Investing in the private building sector is the only investment that can accomplish all of these objectives.**

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