# The 2030 Challenge Stimulus Plan

*Transition Team Brief*

*Architecture 2030*

## Project

Because investing in energy efficiency in buildings is the most effective way to create jobs and revive the economy (see **Justification**), we recommend an investment of $167.3 billion ($83.65 billion each year for two years) in a plan that integrates a housing mortgage interest rate buy-down and an accelerated depreciation program for commercial buildings with energy efficiency in buildings, specifically with the widely adopted energy reduction plan called the 2030 Challenge. This investment will create ***3.75 million direct jobs in the Building Sector, as well as 4.34 million indirect and induced jobs and over 350,000 jobs from consumer spending***.

The plan, called the 2030 Challenge Stimulus Plan ('Plan'), would save consumers $142.33 billion to $200.88 billion[1] in energy costs and mortgage payments over a five-year period, significantly reducing the risk of mortgage failure while increasing disposable income. Because the 2030 Challenge calls for buildings to be renovated or designed to reduce their fossil-fuel, GHG-emitting energy consumption from 30% below that required by the IECC 2006 and ASHRAE 90.1-2004 code standards to carbon neutral, the Plan will also reduce $CO_2$ emissions by 481.13 MMT and energy consumption by 6.17 QBtu. (A detailed analysis of costs and benefits of the Plan is attached.)

The Plan requires participants to meet the energy reduction targets of the 2030 Challenge. Plan benefits are weighted so as 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.

### Residential Buildings

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

A. Those seeking to purchase an existing home or refinance their mortgage (including to avoid foreclosure) would be required to renovate the home to meet one of the following energy reduction targets of the 2030 Challenge, depending on the interest rate desired:

| Mortgage Interest Rate | Efficiency Requirement (Energy Savings)* |
|---|---|
| 4.5% | 30% below code |
| 4.0% | 50% below code |
| 3.0% | 75% below code |
| 2.0% | Carbon Neutral** |

NOTES:

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

** Carbon neutral means any imported energy from a new development or community-scale energy system is not produced from fossil fuels.

[1] Depreciation savings was not included in this figure because tax savings from accelerated depreciation is repaid at the time of building sale, which varies greatly.

B. For those seeking a reduced-rate, 30-year mortgage to purchase a newly constructed home, the new home will be required to meet one of the energy reduction targets of the 2030 Challenge, depending on the interest rate desired:

| Mortgage Interest Rate | Efficiency Requirement (Energy Savings) |
|---|---|
| 5.0% | 30% below code |
| 4.5% | 50% below code |
| 3.5% | 75% below code |
| 3.0% | Carbon Neutral |

**Commercial Buildings**

To stimulate sustainable commercial-building-sector renovation and development, the Plan calls for accelerated depreciation for property placed into service between 2009 and 2011 as follows:

A. For those seeking to renovate an existing commercial building or commercial building space, the renovated building or space will be required to meet one of the energy reduction targets of the 2030 Challenge, depending on the accelerated depreciation schedule desired:

| Accelerated Depreciation | Efficiency Requirement (Energy Savings) |
|---|---|
| 10 years | 30% below code |
| 8 years | 50% below code |
| 4 years | 75% below code |
| 2 years | Carbon Neutral |

B. For those seeking to purchase or build a new commercial building, the building will be required to meet one of the energy reduction targets of the 2030 Challenge, depending on the accelerated depreciation schedule desired:

| Accelerated Depreciation | Efficiency Requirement (Energy Savings) |
|---|---|
| 15 years | 30% below code |
| 12 years | 50% below code |
| 8 years | 75% below code |
| 5 years | Carbon Neutral |

**Results**

The total number of new jobs created by implementing the 2030 Challenge Stimulus Plan is estimated as follows:

| Building Sector | Indirect & Induced | Consumer Spending (Residential Savings) | Consumer Spending (Commercial Savings) | TOTAL NEW JOBS |
|---|---|---|---|---|
| 3,750,686 | 4,342,336 | 309,374 | 42,616 | 8,445,012 |

NOTE: The total number of new jobs is based on 1.25 million new and 2.1 million refinanced 30-year mortgages and 400 million square feet of new and 900 million square feet of renovated commercial building space in each year.

Because of the effectiveness of energy efficiency, any economic stimulus and job creation plan should require all programs receiving federal funds (e.g. government, education and community facilities) to meet the 2030 Challenge energy consumption reduction targets (i.e. from 30% below code to carbon neutral).

The Residential Energy Services Network's (RESNET) standards are officially recognized by the U.S. mortgage industry for capitalizing a building's energy performance into a mortgage loan. It is also officially recognized by the federal government for verification of building energy performance for federal tax incentives. Architecture 2030 recommends expanding this program and its funding to accommodate the mortgage interest rate buy-down portion of the Plan.

The Energy Policy Act of 2005 established the Energy-Efficient Commercial Buildings Deduction program for commercial building property. To support the 2030 Challenge Stimulus Plan, Architecture 2030 recommends expanding the funding and capabilities of this existing program to accommodate the accelerated depreciation portion of the Plan. This would include verifying and certifying that Plan participants meet the required energy reduction targets.

## Cost

$167.3 billion ($83.65 billion each year for two years).

## How Quickly Spending Can Begin (Between 90 days and 12 months)

Ninety to 180 days. This is how long Architecture 2030 estimates it will take to modify existing federal programs based on the proposed mortgage buy-down rates, depreciation schedules and energy reduction targets.

## Number of Jobs Produced

8.45 million (3.75 million direct jobs in the Building Sector, as well as an additional 4.34 million indirect and induced jobs and over 350,000 jobs from consumer spending).

## Justification

Numerous studies have shown that investing in **energy efficiency in buildings** is the most effective way to create American jobs and revitalize the economy. Efficiency can be implemented immediately, creates the most jobs, costs the least and offers great benefits to the planet[2]. By integrating efficiency requirements with a mortgage buy-down program, we can leverage the effectiveness of efficiency to keep families in their homes and revive the economy.

### Building Energy Efficiency

The Building Sector has taken the brunt of the economic downturn with tens of thousands of professionals, builders and laborers 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 US 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 design, engineering, banking, development to manufacturing, construction, wholesale, retail and distribution).

Also, approximately half of every dollar spent on building construction goes to local wages and benefits. Because building is a local activity that cannot be outsourced, money invested in this sector cycles through local economies several times, bolstering the entire US economy. The breadth and depth of the Building Sector provides the best opportunity for both immediate and long-term positive impacts on the US economy.

Unlike other plans, this plan would also move the US toward significant energy and emissions reductions. The Building Sector is responsible for almost half of all energy consumption and greenhouse gas (GHG) emissions in the US annually. An investment of $83.65 billion each year for two years in the Plan would not only create jobs and save consumers money, it would also, over a five-year period, reduce $CO_2$ emissions by 481.13 MMT and energy consumption by 6.17 QBtu, including 1,829.43 billion cu. ft. of natural gas and 83.35 million barrels of oil, thereby addressing climate change and energy independence as well.

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

A significant benefit of building performance standards, such as IECC and ASHRAE 90.1, 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. 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.

**30-Year Mortgage Interest Rate Buy-down**

Addressing the foreclosure crisis is critical to stabilizing the economy; however, taxpayers are increasingly resistant to 'bailouts', no matter how needed. Integrating a buy-down with efficiency is a much stronger strategy than a buy-down alone, and sends a much more positive message. With an integrated strategy, the administration will be able to focus on a message of job creation, stable homeownership, low costs and real energy and $CO_2$ reductions. That the program pays for itself in taxpayer savings in just 5 years, money that goes directly back to consumers and is used to stimulate the economy, will make the Plan even more palatable to taxpayers.

## Conclusion

Requiring participants in the Plan to meet one of the energy-reduction targets of the 2030 Challenge takes advantage of the many economic benefits of efficiency, including getting the construction industry back to work and creating new jobs in a wide range of fields, from energy auditors and field inspectors to jobs in the manufacturing and installation of solar equipment, efficient lighting, boilers, hot water heaters and appliances. The limited duration of the Plan will encourage early action and participation, jumpstarting the economy.

With a single investment, the U.S. can create jobs, strengthen the US economy, reduce $CO_2$ emissions and energy consumption, and save consumers billions of dollars. **Investing in the Building Sector is the only investment that can accomplish all of these objectives.**

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