



ARIZONA

Green Prosperity and Poverty Reduction

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Low-income households in Arizona could receive significant benefits from clean-energy investment in the state. These potential benefits would include a substantial expansion in job opportunities, especially for people with high school degrees or less; rising wages; reduced home heating and utility costs; and improved access and convenience for public transportation. All of these benefits would be in addition to the environmental gains achieved through large-scale investments in energy efficiency and renewable energy (see Table 1).

These benefits will be encouraged by the clean-energy features of the American Recovery and Reinvestment Act, the February 2009 Obama stimulus program. They will also be supported by the American Clean Energy and Security Act, now being considered in Congress. Among the features of this pending bill are measures to ensure that low-income households will not be affected by possible future oil, gas, and coal price increases tied to the legislation.

Below, we look at the potential impact on Arizona of an economy-wide \$150 billion shift in spending from fossil fuels to clean energy. According to a recent study by PERI and the Center for American Progress, based on the state's current population and the size of its economy, that would bring roughly \$2.8 billion in clean-energy investments into Arizona.* This is equivalent to over one percent of all economic activity in the state in 2008.

In Arizona, investment in a clean-energy economy would produce 29,548 jobs, almost 18,000 for workers with high school degrees or less, and cut unemployment by almost one percentage point.

EMPLOYMENT

A \$2.8 billion investment in clean energy in Arizona would create a net expansion of 29,548 jobs there, based on the state's labor market in 2008 (see Table 2). This would be enough to reduce unemployment in the state by 0.9 percentage points, from 5.5 to 4.6 percent as of 2008. A reduction in unemployment of this amount could, in turn, lead to a rise in the average wage for workers in the state of almost two percent.

* Pollin, Robert, James Heintz, and Heidi Garrett-Peltier. 2009. "The Economic Benefits of Investing in Clean Energy: How the economic stimulus program and new legislation will boost U.S. economic growth and employment" Washington, DC: Center for American Progress.

The impact would be particularly strong for workers with lower levels of education. In Table 3, we categorize the jobs that would be added by investing in clean energy according to three categories: 'college degree jobs,' requiring at least a B.A. degree; 'some college jobs,' requiring some college but not a B.A.; and 'high school or less jobs.' This last category includes jobs that tend to offer decent opportunities for advancement and higher wages over time, such as jobs in construction, manufacturing and transportation. These jobs are in contrast to 'high school or less' jobs in hotels, restaurants, and personal service industries, where opportunities for advancement are much lower.

As Table 3 shows, this shift of \$2.8 billion from fossil fuels to clean energy will produce almost 18,000 new 'high school or less' jobs (roughly half of all jobs generated by clean-energy investments in Arizona), including over 14,000 of those jobs that tend to offer opportunities for rising earnings over time.

TABLE 1. BENEFITS FROM A CLEAN-ENERGY INVESTMENT PROGRAM FOR LOW-INCOME HOUSEHOLDS

1) New jobs created	<ul style="list-style-type: none"> • 29,548 new jobs overall • 17,677 jobs for workers with high school degrees or less
2) Falling unemployment produces rising wages	<ul style="list-style-type: none"> • Earnings could rise 1.9% for low-income workers as unemployment in Arizona falls by almost one percentage point
3) Benefits of retrofitting buildings	<ul style="list-style-type: none"> • Retrofits could reduce living costs by about 2%
4) Improved public transportation	<ul style="list-style-type: none"> • Increasing public transit use could reduce living costs by 1-4% for households near urban centers • Households that forego the use of one car could reduce living costs by about 10%

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BUILDING RETROFITS

Arizona has a relatively new housing stock and a warm climate. This means the opportunities for achieving energy savings through building retrofits are lower than in other areas of the country. Still, it is possible that energy costs for the existing housing stock could fall enough for homeowners and renters to achieve energy savings in the range of two percent of their overall incomes.

In Arizona, homeowners and renters could save about 2 percent of their income by investing in retrofits, and 1 to 4 percent of their living costs through increased access to public transportation.

For the 69 percent of state residents who own their homes, retrofits (such as replacing windows or upgrading insulation) could be facilitated by organizations such as banks, utilities or non-profit community groups who could provide financing and management, thereby relieving individuals of the need to take the initiative and bear the up-front costs of arranging retrofits of their homes. For the 31 percent of households who rent, policies will need to ensure that renters, not just landlords, receive benefits from energy efficiency investments. Renters who pay utility bills directly would see their bills fall in proportion to the overall energy savings, sharing the benefit with their landlords. Renters in subsidized housing, who typically do not pay for their utilities directly, should see their fixed rents reduced proportionally to the reduction in energy costs.

PUBLIC TRANSPORTATION

Households in Arizona could save in the range of 1 - 4 percent of their incomes if they increase their use of public transportation to between 25 percent and 50 percent of their local travel. Households that forego the use of one car could reduce their living costs by roughly 10 percent.

Arizona currently has limited public transportation availability, in part because of the state's low population density. A clean-energy investment agenda would therefore be most effective if focused in the most densely populated areas within the Arizona, where it could provide a significant improvement in the living standard for some low-income households. Experiences in the region with the joint federal, state and local government Job Access and Reverse Commute program may offer useful lessons on how to expand public transportation in ways that are most beneficial to low-income people.

TABLE 2. NET EMPLOYMENT EXPANSION THROUGH \$2.8 BILLION SHIFT FROM FOSSIL FUELS TO CLEAN ENERGY (BASED ON 2008 LABOR MARKET)

Job creation	29,548 jobs
Unemployment rate before clean-energy investments	5.5 %
Unemployment rate after clean-energy investments	4.6%

source: 2004-2008 Current Population Survey; Bureau of Labor Statistics 2008, IMPLAN.

TABLE 3. BREAKDOWN OF NET JOB EXPANSION BY FORMAL EDUCATION CREDENTIALS

College degree jobs • B.A. or above • \$25.00 average wage	3,729 (12.6% of clean-energy jobs)
Some college jobs • some college but not B.A. • \$15.50 average wage	8,140 (27.6% of clean-energy jobs)
High school or less jobs • high school degree or less • \$12.00 average wage	17,677 (59.9% of clean-energy jobs)
High school or less jobs with decent earnings potential • \$15.30 average wage	14,070 (47.6% of clean-energy jobs)

source: 2004-2008 Current Population Survey; IMPLAN.

The full report from which the data in this fact sheet are drawn can be found at www.peri.umass.edu.

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