

# ENERGY EFFICIENCY

## SAVES MONEY AND CREATES JOBS



[www.homegrownprosperity.org](http://www.homegrownprosperity.org)

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*"It is often said that the cheapest and cleanest watt is the one that we never have to produce."*

Wyoming Governor Dave Freudenthal and Utah Governor Jon Huntsman, Jr.

*"If every Western state adopted the energy efficiency best practices [recommended by the Western Governors' Association], the need for new generating facilities in the region could be reduced by as much as 75 percent over the next 15 years, the equivalent of 100 new large power-generating facilities. Estimates project a regional net economic gain of \$53 billion from these energy efficiency practices, along with improved air quality, water savings and reductions in regional greenhouse gas emissions."*

Western Governors Association

Utilities across the U.S. are implementing energy efficiency programs at an average cost of saved energy of \$0.02 - \$0.03 per kilowatt-hour. Capital and operating costs associated with traditional supply-side resources usually range from \$0.07 to \$0.15 per kilowatt-hour, depending on the fuel source and region. The average residential customer uses approximately 650 kwh per month. On the lower end of that difference, homeowners would save \$26/month; on the high end of it they would save \$84.50/month.

In 2006, energy efficiency generated more than 8 million new jobs in the American economy. For the most part, these are not jobs that can be out sourced or exported, but instead rely on skilled labor, carpenters, plumbers, welders, electricians, sheet metal workers, and certified weatherization technicians. More than 50% of these jobs were in the manufacturing sector, with additional large numbers in the construction and recycling sectors. By pursuing an aggressive public policy agenda to address climate change and energy security, at every level of government, energy efficiency jobs would grow from over 8 million in 2006 to over 32 million in 2030.

In 2006, energy efficiency development in the U.S. Economy resulted in:

- Sales representing more than the combined sales of the 3 largest U.S. corporations (WalMart, ExxonMobil, and GM)
- Stimulus of U.S. manufacturing sector
- Significant displacement of imported oil
- Reduced U.S. trade deficit

### Power Up the Smart Grid

Smart energy is defined as the application of digital information technology to optimize electrical power generation, delivery and end use. For example, two-way communications between power providers and customers allows customers to receive financial incentives for cutting power demand at times when the grid is under pressure. Since the most expensive power is that generated to meet peak demands, this can result in significant savings to the consumer. In 20 years these systems could reduce annual power demand by 52-106 billion kwh annually for a savings of \$3-7 billion per year.

### Public Policy Strategies

- Many Western states have adopted policies to encourage Energy Star homes with superior energy efficiency performance compared to standard homes of at least 15% over the 2004 International Residential Code. Energy Star homes have the potential to exceed conventional home performance by 20-30%.
- Colorado, Utah, New Mexico, Arizona, Oregon, and Washington, and others have policies requiring state agency buildings to meet or exceed LEED green building standards through use of energy efficient technologies.
- Some public utilities and cooperatives have adopted rebate and incentive programs that hold down their base and peak loads and save their customers money. Seattle City Light, Delta-Montrose Electric Association, and Austin Energy are role models of progressive cost savings through energy efficiency oriented management practices.
- Federal and state tax incentives can direct investments toward energy efficiency and conservation. In Montana, home improvement investments that promote energy

efficiency and conservation are awarded tax deductions up to \$1,800 per residence.

- New Mexico offers home builders a tax credit for sustainable building, scaled to the level of efficiency achieved.
- In Arizona new homes that exceed the 1995 model energy code by at least 50% can receive an income tax deduction equal to 5% of the home sale price, capped at \$5,000.
- The state of Oregon offers free energy audits to homeowners who wish to take advantage of a statewide energy tax credit.

## Rural Agricultural and Industrial

- Improved irrigation technologies and management practices can save up to 40% of both electricity and water used, saving the average farmer more than \$5,000/year on electricity costs for irrigation alone.
- Energy efficient motors and variable speed motor drives can save 50% of the energy used.

## Commercial

- Turning off just one computer and monitor every night and weekend can save a small business up to \$80/year.
- Replacing incandescent lights in "EXIT" and "OPEN" signs with LED fixtures will use 80-95% less energy and last 10-20 times longer.
- Installing more efficient fans, chillers, and packaged air conditioning equipment can reduce overall electricity consumption by 15-20%

## Residential

- Geo-Exchange heat pumps are the most energy efficient, clean and cost-effective space conditioning system available, according to the U.S. Environmental Protection Agency. Installing a geothermal loop that uses a series of water-carrying pipes to extract heat from the ground can be used to heat and cool homes at low cost with minimal use of electricity. Homes with electric or propane heating can save up to 75% on their energy costs with this technology according to the Delta-Montrose Electric Association, which provides a low cost tariff to help make installation affordable and financing simple. For natural gas, payback would be closer to 7 years; for propane or electrically heated homes, payback takes 2-3 years.
- Replacing incandescent light bulbs with compact fluorescents can save the average consumer \$36 over the life of a 60 watt bulb (assumes electricity cost of \$0.10/kwh)
- In general, evaporative cooling uses one-quarter of the energy of traditional air conditioning. These systems use 80%-90% less electricity for cooling compared to standard compressor based air conditioning systems. In most parts of the West, the dry climate allows for optimal benefits from evaporative systems.

## For more information:

<http://www.westgov.org/wga/publicat/EnergyEfficiency07.pdf>  
<http://www.ases.org/ASES-JobsReport-Final.pdf>  
<http://www.climate.org/2002/green-energy/PoweringtheSmartGrid.pdf>  
<http://www.swenergy.org/pubs/reep/index.html>



WORC is a regional network of seven grassroots community organizations, which includes 10,000 members and 44 local chapters. WORC helps its member groups succeed by providing trainings and coordinating regional issue campaigns.

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