EERE FY 2008-2012 Budget

Weatherization and Intergovernmental Program

2006

Multi-Year Program Goals

The mission of the Weatherization and Intergovernmental Program (WIP) is to develop, promote, and accelerate the adoption of energy efficiency, renewable energy, and oil displacement technologies and practices by a wide range of stakeholders. These include state and local governments, weatherization agencies, communities, companies, fleet managers, building code officials, and Native American tribal Governments.

The Department's Strategic Plan identifies five strategic themes (one each for energy security, nuclear security, scientific discovery, environmental responsibility, and management excellence), and 17 goals related to the strategic themes. WIP supports the following goals:

1.1 Energy Diversity. Increase our energy options and reduce dependence on foreign fuel supplies, thereby reducing vulnerability to disruption and increasing the flexibility of the market to meet U.S. needs.

1.2 Environmental Impacts of Energy. Reduce greenhouse gas emissions and other environmental impacts (water use, land use, criteria pollutants) from our energy production and use.

1.4 Energy Use: Cost effectively improve energy efficiency of the U.S. economy.

WIP has five subprograms which contribute to these strategic goals:

Weatherization Assistance Program grants increase the energy efficiency of dwellings occupied by low-income Americans, reduces their total residential energy expenditures, and improves their health and safety, thereby reducing their energy costs. The program plans to weatherize 61,198 low-income homes with DOE funds in FY 2008. Priority is given to the elderly, persons with disabilities, families with children, and households that spend a disproportionate amount of their income on energy bills or have high energy usage (fuel bills consume an average of about 16 percent of household income for low income families, compared to 4.5 percent or less for all other Americans). DOE works directly with States and certain Native American tribes that contract with local governmental or non-profit agencies to deliver weatherization services.

The State Energy Program (SEP) provides grants and technical assistance to the States and U.S. territories to promote energy efficiency and increase the use of renewable energy. Through the states, SEP funds cost-shared projects in every sector of the economy ─ state facilities, transportation, industry, local communities, schools, hospitals, businesses, and residences. SEP is the only EERE program that supports outreach and project development for all technologies and markets. States develop tailored strategic and annual energy plans while DOE provides States with technical assistance to help them plan and develop energy projects. The program also funds energy emergency planning at the state and local levels, a critical security benefit. States are developing plans to increase the energy efficiency of their economies by 25% over 1990 levels by 2012, as required by the Energy Policy Act of 2005.

Under Intergovernmental Activities, Tribal Energy and the International Renewable Energy Program provide highly leveraged financial and technical assistance in targeted communities that accelerates the adoption of clean cost-effective energy efficiency and renewable energy technologies. These activities benefit the public by improving energy productivity, reducing demand, and lessening the burden of energy costs on the disadvantaged. This could lead to the installation of 1000 MW of renewable generation globally by 2015 and 100 MW of generation in Indian country by 2010. The Renewable Energy Production Incentive (REPI) increases the

generation and utilization of electricity from renewable energy sources. It is estimated that REPI qualified facilities will generate 16 billion KWh by 2010.

Proposed FY08-12 Five Year Plan

	FY08-12 Proposed Five-Year Plan				
Activity	08	09	10	11	12
Weatherization Assistance	133,914	93,251	51,901	60,251	60,251
State Energy Program	50,000	25,000	25,000	25,000	25,000
Tribal	2,000				
Total (at target)	185,914	118,251	76,901	85,251	85,251
State Energy Program		25,000	25,000	25,000	25,000
Weatherization Assistance	98,119	149,249	190,599	182,249	182,249
Tribal Energy Program	1,957	3,957	3,957	3,957	3,957
Renewable Energy Production Incentive (REPI)		4,946	4,946	4,946	4,946
International Renewable Energy Program (IREP)		2,473	2,473	2,473	2,473
Total with Additions	285,990	303,876	303,876	303,876	303,876

Comparison of FY07 & FY08 Requests

Activity	FY 2006 Appropriation	FY 2007 Request	FY 2008 Request
Weatherization Assistance	242,550	164,198	133,914
State Energy Program	35,640	49,457	50,000
State Energy Activities	495	0	0
Gateway Deployment	25,400	0	0
Tribal Energy Program	3,960	3,957	2,000
Renewable Energy Production Incentive	4,950	4,946	0
International Renewable Energy Program (IREP)	3,871	2,473	0
Total (at Target)	316,866	225,031	185,914
State Energy Program	0	0	
Weatherization Assistance	0	0	98,119
Tribal Energy Program	0	0	1,957
Renewable Energy Production Incentive	0	0	
International Renewable Energy Program (IREP)	0	0	
Total with Additions	316,866	225,031	285,990

Program Performance

Program Assessment and Rating Tool (PART): The Weatherization Assistance Program was rated moderately effective in 2003. The program rated 100% for program purpose and design, 88% for strategic planning, 78% for program management and 75% for program results and accountability.

The State Energy Program participated in its first PART review in 2004. The program rated 100% for program purpose and design, 25% for strategic planning, 89% for program management and 16% for program results and accountability with an overall rating of Results Not Demonstrated.

The State Energy program is making progress towards the following OMB recommendations:

Year Began	Follow-up Action	Status	Comments
2005	Establish the current amount of energy saved by the program and set ambitious targets for the future.	Action taken, but not completed	DOE has begun the process to develop a new SEP Strategic Plan. Along with establishing long and short-term goals for SEP and strategies to meet those goals, a key part of this Strategic Plan will be to develop both long-term and annual performance measures by which to assess progress against those goals.
2005	Undertake an independent analysis of program benefits and effectiveness.	Action taken, but not completed	In 2005, ORNL's methodology for analyzing the benefits and effectiveness of SEP was reviewed by the Board of Directors of the International Energy Program Evaluation Conference. The Board suggested that the methodology was a "good start", but a completely independent analysis originating from outside the program is warranted.

Weatherization Assistance Performance Measures:

Term	Type	
Long-term	Outcome	**Measure:** Cumulative number of low-income family homes weatherized starting in 2002, in thousands. *Explanation:* Weatherizing homes saves money for low-income families and energy for the Nation

Year	Target	Actual

2002	105	104.9
2003	198.8	205.3
2004	293.2	305.3
2005	412.1	405.1
2011	1200	

Annual Output

Measure: Number of low-income family homes weatherized annually.

Explanation: Annual targets are adjusted based on appropriations and policy changes, such as the decision to fund the lead-safe weatherization protocol in 2003, which increased the cost per home.

Year	Target	Actual
2000	67,340	74,316
2001	75,350	77,697
2002	105,000	104,860
2003	93,750	100,484
2004	94.450	99,918
2005	118,900	99,756 (prelim)

Annual Output

Measure: Average DOE cost per home weatherized

Explanation: The maximum average cost per home weatherized is determined by statute formula and is shown in the Target column. Actual average costs should not exceed these values.

Year	Target	Actual
1999	2,032	1,413
2000	2,085	1,589

2001	2,500	1,524
2002	2,568	1,628
2003	2,614	1,701
2004	2,672	1,685
2005	2,744	1,900 (prelim)

Long-term Efficiency

Measure: Program benefit-cost ratio excluding non-energy benefits. This ratio represents the discounted value (3.2 percent discount rate) of energy saved divided by program costs (excluding some management costs). Internal program assessment; not conducted by independent third party.

Explanation: The ratio depends in part on EIA-estimated long-term energy prices at the time of the assessment and average energy savings per household of 29.1 Btu. Estimates of the B/C ratio tested for the 90 percent confidence range of MBtu savings and various price scenarios range from 1.19 to greater than 2 but in no event are less than 1.

Year	Target	Actual
1989	-	1.06
1996	-	1.79
1999	-	1.51
2002	-	1.30
2005	-	1.34
2010	>1.00	

Long-term Efficiency

Measure: Average household natural gas savings after weatherization (90 percent confidence interval in parentheses) in thousands of British thermal units (MBtu)

Explanation: Point results for the 1996, 1999, and 2002 Metaevaluations all fall within the 90 percent confidence range of the most recent Metaevaluation of weatherization program results.

Year	Target	Actual

1989	-	17.3 (15.1-19.5)
1996	-	31.2 (22.0-38.6)
1999	-	26.1 (19.4-32.8)
2002	-	29.1 (25.6-31.6)
2005	29.1 (25.6-31.6)	30.5 (26.0-35.0)

SUMMARY OF JOULE TARGETS AND RESULTS

FY 2004 Results	FY 2005 Results
Program Goal 04.09.00.00 **Weatherization Assistance Grants**	
Weatherize 94,450 homes, with DOE funds. [MET]	Weatherize 92,500 homes, with DOE funds, and support the weatherization of approximately 100,000 additional homes with leveraged funds. [MET]
Cumulative total of 2.8 million homes will be weatherized with DOE funds. [MET] Cumulative total of 5.4 million homes will be weatherized with DOE and leveraged funds. [MET]	Program will update the energy savings benefit-cost ratio and savings per DOE dollar invested as part of a National evaluation of the program. This will allow the program to track an annual performance efficiency of Btus per Federal dollar invested. [MET]
Program Goal 04.10.00.00 **State Energy Program Grants**	
Achieve an annual energy savings of 52,406,930 source Btu and $317,772,960 in annual energy cost savings by awarding $43,952,000 in grants to States and Territories. [MET]	Achieve an annual energy savings of 10,250,000 source Btus and $64,780.000 in annual energy cost savings with DOE funds. Achieve an annual energy savings 36,695,000 source Btus and $231,912.400 in annual energy cost savings with leveraged funds. [MET] Program will update Btu to dollar calculation derived from 2003 metrics study to establish new baseline. [MET]
Program Goal 04.11.00.00: (Intergovernmental Activities) **Gateway Deployment/Rebuild America**	
Assist over 500 new and existing *Rebuild America* community partnerships to upgrade 70 million square feet of floor space in K-12 schools, colleges, public housing, and state/local governments, reducing the average energy used in these buildings by 18 percent. [MET]	Help *Rebuild America* community partnerships to upgrade 60 million square feet of floor space in K-12 schools, colleges, public housing, and state/local governments, reducing the average energy used in these buildings by 18 percent. [MET]
Gateway Deployment/Building Codes Training and Assistance	
Provide technical assistance to States resulting in 4 States adopting upgraded 2001 and 2003 model commercial or residential building energy codes. [MET] Train 2,000 architects, engineers, builders and code officials to implement the above codes and upgraded 2004 model commercial code. [MET]	Provide technical assistance to States resulting in 4 States adopting upgraded 2001 and 2003 model commercial or residential building energy codes. [MET]
Gateway Deployment/Clean Cities	
Clean Cities will conduct 7 major workshops, award $6 million in special project funding, and report a total of 180,000 number of alternative fuel vehicles in operation in clean cities. Achieving these outcomes will result in an estimated displacement of 153 million gallons of petroleum based fuels. [NOT MET]	Clean Cities will conduct 7 major workshops, award $4 million in special project funding for alt fuel, anti-idling, and hybrid technology, and provide technical support to coalitions. Program will report a total number of 198,000 alternative fuel vehicles in operation in clean cities. Achieving these outcomes will result in an estimated displacement of 168 million gallons of petroleum based fuels and 70 new ethanol fueling stations. [MET]
Gateway Deployment/ENERGY STAR®	
Recruit 500 additional retail stores, 5 additional utilities and 10	Recruit 500 additional retail stores, 5 additional utilities and 10

additional manufacturers. Add domestic hot water heaters to the program. Begin work on a Commercial Window Specification. Expand room air-conditioner program to include heating cycle. Continue outreach to non-English speaking communities and Weatherization activities. [NOT MET]	additional manufacturers. Complete draft Commercial Window specification. Begin update of Residential Window specification. Expand coordination with all gateway activities. [PARTIALLY MET]
Program Goal 04.11.00.00 (Intergovernmental Activities) **International Renewable Energy**	
International Renewable Energy will strengthen and broaden activities supporting priority agreements, e.g., expanded the harmonization of standards to additional countries, ramped up implementation of the Energy Efficiency and Village Energy initiatives. Continue to work with APEC and NAEWG. [MET]	Provide technical analysis and reviews, data access, training and project support for 7 international clean energy projects which includes: developing 2 components for GIS tools to analyze U.S. EERE technology export markets; provide phase 1 technical assistance to secure access for EERE technologies to build 1,000 MW of generation globally over 10 years. [MET]
Tribal Energy	
Tribal Energy will conduct 6 technical and policy development workshops. [MET]	Tribal Energy will provide direct technical assistance to tribal nations including: 4 development workshops, 2-3 economic development projects, 8-10 "first steps" efforts, and 6-10 feasibility studies, working toward the goal of 100 MW of generation in Indian country by 2010. [PARTIALLY MET]

Rationale for Ranking

At the 90% band, the top priority for the Weatherization and Intergovernmental Program is the Weatherization Assistance Program. The funding requested will maintain a base level of support for the States that continue to participate in the program. At these low funding levels, the 10% ceiling on administrative costs will be a barrier to involvement. The State Energy Program is the second priority. The funding requested maintains State-level capacity to support energy efficiency and renewable energy project development, energy emergency planning, and the newly proposed competitive solicitation for EPACT implementation. Tribal Energy funding is reduced to allow a minimum investment in encouraging the development of renewable energy technology deployment.

At target level, additional funding is allocated to the Weatherization Assistance Program, a former presidential priority. This will encourage additional States to participate in the program at the base level. REPI and IREP are relatively small with minimal benefit and therefore a low priority.

At unconstrained level, Weatherization is the highest priority to ensure reasonable progress toward the goal of weatherizing 34 million homes. Tribal Energy continues at the FY 2007 request level, while IREP and REPI are discontinued.

Options for Accelerating Work

1. The Weatherization Program has weatherized over 5 million out of 34 million eligible homes. Additional funding would help reduce the backlog of low-income homes waiting for weatherization services.

2. Options for accelerating work in the State Energy Program consist of revising the way we support State Energy Offices, and focusing on more sustainable strategies. This reinvention would be initiated in FY07 to assist with EPAct implementation. Rather than adding additional funds to the formula grant program, a more leveraged strategy would be to offer the funding to States through a competitive solicitation. DOE would seek proposals that established policies which increase available capital for energy efficiency and renewable energy projects and implement strategies that would create a self-sustaining resource base for state programs over the long term, e.g. revolving loan funds, financing risk reduction, performance contracting, etc. The budget request for FY08 – FY12 would include $25 million (in formula grants) to meet the minimum requirements for the State Energy Office network existence and an additional $25 million to be offered competitively. The competitively awarded funds would support policy and project development that was highly leveraged and sustainable without the long term mortgage of Federal funding.

Appendix A: Last year the Secretary was asking tough Questions

1. What technologies (or outcomes) do you expect to deliver, and when?

The Weatherization Assistance Program has funded the weatherization of 5 million homes to date. There are 34 million homes eligible for program services. By FY 2011 at target budget levels, the program will weatherize over 216,000 homes.

In 2002, DOE contributed $46 million to State Energy Program projects toward a total project investment of $540.9 million. States reported energy savings of 1.03 million source Btus and cost savings on energy bills of $7.22 for every dollar invested by SEP. Other key average annual outputs from these projects included:

- Provide $30.4 million in loans and $12.3 million in grants for energy projects.
- Perform 15,264 energy audits covering 325 million square feet of floor space.
- Retrofit 12,896 buildings for energy savings covering 153 million square feet.
- Install 92,488 light-emitting diode (LED) traffic signals.
- Purchase or convert 6,434 alternative fuel vehicles.
- Add 205 alternative fuel refueling stations.
- Install 73,180 kilowatts of generating capacity from wind and solar energy.
- Train 102,067 people at workshops and training sessions.
- Distribute 2.4 million printed materials.
- Teach 604,050 students in energy education programs.

These savings are achieved at very low risk and provide benefits to U.S citizens immediately and continuously.

2. Why do you think the efforts you are making will yield the results you are seeking?

Unlike research and development efforts, measurable energy impacts are produced within 12-18 months. Assessments are based on empirical data, not best case scenarios, long term forecasts, or speculative models. The impact our actions will have on ultimate energy use and clean energy supply.

3. How did you come to select the technologies or the approaches you are using in pursuit of the initiative?

WIP does not focus on a particular technology. Again, short term deployment encourages specific market sectors to select both our strategies and our technologies. A portfolio of technologies and practices that are optimized for a specific market sector, e.g. schools, local governments, low income housing, tribes are used. Increasing awareness of clean energy benefits, helping key decision-makers make informed decisions, and reducing financial development barriers are all examples of successful low cost activities.

4. What confidence do you have in our ability to deliver the desired outcome or result, and why?

WIP has a proven track record of getting results in the near term.

5. Why do you think the technology will work (or the outcome will come to pass), and why?

WIP has shown through extensive evaluation that energy efficiency works, is cost effective, and still represents a large market opportunity.

6. What progress have you made thus far, and how are you measuring/monitoring that progress?

Out of 34 million eligible homes, over 5.4 million homes weatherized. The State Energy Program has a benefit/cost ratio of 7.22 to 1.

7. How much will it cost, and how did you come to that cost estimate?

TBD. This depends on market transformation goals, but we might assume that future

8. How much has been spent thus far?

	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006
Weatherization Assistance Program Grants	230,000	223,537	227,166	228,160	242,550
State Energy Program Grants	45,000	44,708	43,952	44,176	35,640
International Renewable Energy Program	2,840	3,853	5,841	6,359	3,871
Tribal Energy Activities	2,840	5,780	4,906	5,457	3,960
Renewable Energy Production Incentive	3,787	4,816	3,926	4,960	4,950
Total, Weatherization and Intergovernmental Activities	**284,467**	**282,718**	**285,791**	**289,112**	**290,971**

9. Does the progress you have achieved thus far match the expenditures you have made thus far?

Yes. During the last 27 years, the U.S. Department of Energy 's (DOE) Weatherization Assistance Program has provided weatherization services to more than 5.4 million low-income families. The State Energy Program has a benefit/cost ratio of 7.22 to 1.

10. Who are your partners, and how much are they contributing to the effort?

Partners include state and local governments, utilities, project developers, weatherization agencies, community organizations, businesses, fleet managers, building code officials, and Native American tribal governments. Both the Weatherization and State Energy Programs achieve high leverages from utilities, states, and the financial sector.

11. What are the factors that endanger the initiative?

WIP and other short term deployment programs encourage the replication, proliferation and acceleration of clean energy technologies. Excessive reliance on longer term technology development solutions while compromising support for market transformation and short term project development is a risky strategy. A balance needs to be maintained between long term R&D and short term deployment. Short term efforts can transform future markets for technological breakthroughs. Using the same comparative metrics for R&D programs and deployment programs distorts the value of the deployment programs and puts the programs in competition for funding.

Funding levels that fall below minimum required to support viability of weatherization crews and state energy offices.

12. If we had it to do all over again, would we have launched the initiative?

Absolutely. We have weatherized over 5 million homes and since the inception of the Weatherization Program. This is one of the Federal Government's most successful programs because it helps low-income families who too often have to bypass other necessities, such as food and health care to pay energy bills. It keeps more money in the local community and reduces the export of local energy dollars and decreases electricity generation and pollution.

The State Energy Program has built a Nation-wide state energy office network that has delivered energy efficiency and renewable energy projects for over 30 years. Studies have shown the increase in market transformation in programs like Energy Star when energy offices are actively engaged with the Federal Government activities. With benefit/cost ratios of 7.22 to 1, this program has been and continues to be an exceptional investment.

13. Would it make sense to delay the initiative until more fundamental work on enabling technologies is completed?

This question is focused on R&D, however, technologies available today have the potential to dramatically reduce energy use while increasing electricity generation from renewables. It makes good financial sense from an individual perspective and from a societal perspective to aggressively promote the use of commercially available energy efficiency and renewable energy today.

Appendix B: Improving Cooperation with the DOE Office of Science and other Agencies

N/A