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State Energy Conservation Office

LoanSTAR Revolving Loan Program

The Texas LoanSTAR (loans to Save Taxes And Resources) Program uses a revolving loan mechanism, which will allow it to continue indefinitely and benefit generations of future Texans. The program was initiated by the Texas Energy Office in 1988 and approved by the U. S. Department of Energy (DOE) as a statewide energy efficiency demonstration program. The quality control on all phases of LoanSTAR has made it one of the most successful and best-documented building energy efficiency programs, state or federal, in the United States.

As of November 2007, LoanSTAR has funded a total of 191 loans totaling over \$240 million dollars. As a result of these loans, the LoanSTAR Program has achieved total cumulative energy savings of over \$212 million dollars, which results in direct savings to Texas Taxpayers.

The funding source is petroleum violation escrow funds (PVE) from the federal government. LoanSTAR is unique in a number of ways (including the acronym for its name, since its origins are in the Lone Star State). The size, \$98.6 million, makes it the largest state-run building conservation program in the United States. The loans are targeted for public buildings, including state agencies, school districts, higher education, local governments and hospitals.

In order to comply with the mandate, the State Energy Office developed program procedures and guidelines to allow the LoanSTAR Program to not only prove that the financed energy retrofits would pay for themselves, but also to demonstrate that the actual energy savings were being exceeded by over 20% of the originally estimated savings. Included as part of the quality controls for the program were:

1. development of LoanSTAR technical energy assessment report guidelines;
2. training of energy engineering consulting firms on audit techniques and the LoanSTAR guidelines;
3. development of protocols to have each LoanSTAR project metered and monitored to track pre- and post-retrofit energy consumption; and,
4. creation of methods of analyzing energy savings from retrofits.

Due to quality controls such as good audit guidelines, training, metering and monitoring, follow-up with agencies to ensure the retrofits were working properly, and building commissioning assistance for improved operation and efficiency, the measured LoanSTAR savings exceeded audit estimates of energy savings. Few energy efficiency programs can make this claim. The initial loans (1989-1994) were made for a period of four years with program paybacks averaging 3.4 years. In 1995 the State Energy Office received approval from DOE to remove the "demonstration" label for LoanSTAR.

There have been several changes in the LoanSTAR Program since inception. Initially, loans had to pay back within four years and all major projects had to be metered and monitored for savings verification. In 1995

the loan period was lengthened to eight years and metering and monitoring became an option for the loan recipient with the cost allowed to be rolled into the loan. In 2001 the pay back period extended once again to the current 10 year maximum loan term.

Performance Contracting and Water Conservation

In 2001 SECO received DOE approval for LoanSTAR to finance Energy Saving Performance Contracts (ESPC) and for water conservation retrofits to be included as part of a LoanSTAR project. With this approval, loan recipients can now choose between traditional design/bid/build or design/build retrofits, and water conservation projects may be included as part of the LoanSTAR loan.

LoanSTAR Funded Projects

The LoanSTAR Program has been and continues to be extremely successful. Currently, and for the first time since program inception, the LoanSTAR Program has expended all available funds for new loans and has requests of over \$20 million dollars waiting for funding.

LoanSTAR Energy and Emissions Savings

The LoanSTAR Program has had a significant impact on environmental pollutants such as nitrogen oxides (NOx), carbon dioxide (CO2), and sulfur dioxide (SO2). These LoanSTAR funded projects have prevented the release of 7,073 tons of NOx, 2.1 million tons of CO2, and 4,788 tons of SO2. With the cumulative energy savings achieved to date and as new loans are funded, the LoanSTAR Program is expected to save Texas taxpayers over \$250 million in energy savings over the next 20 years as it continues to help public facilities become more energy efficient.

Texas/Mexico Small Schools Grant Project

The Texas/Mexico Small Schools Grant project provides energy efficiency grants of up to \$50,000 to schools along the Texas/Mexico border that will allow schools to install simple energy efficient projects such as air conditioning and high efficient lighting. The implementation of these projects will significantly improve air quality and classroom lighting, which ultimately leads to a better learning environment for the students. Grants have been awarded to 12 school districts with estimated annual savings of \$78,275.00.

LoanSTAR Technical Guidelines

The LoanSTAR Program requires that a Detailed Energy Assessment Report be prepared according to the following LoanSTAR Technical Guidelines in order to qualify for a LoanSTAR loan: LoanSTAR Technical Guidelines.

Lightening Up

Texas State Comptroller Fiscal Notes
May 2005

An article on the Texas Health and Human Services Commission's success in dramatically cutting energy costs through the installation of energy-efficient lighting; low-flow faucets; toilets and shower heads; and centralized climate controls that let maintenance workers adjust temperatures at any one of the campus' 21 buildings.