

## The State of Texas

### LoanSTAR Revolving Fund

The State of Texas' LoanSTAR program is a model design for retrofitting public buildings. By loaning money to existing institutional facilities at low-interest rates the Loan to Save Taxes and Resources program is a revolving loan fund that has enabled a tremendous amount of retrofit activity in medical institutions, schools, libraries, university buildings, state offices, and other public facilities that would otherwise simply not have occurred.

LoanSTAR has leveraged significant dollar savings through the use of oil overcharge funds, money that the Federal government sought to have redistributed for maximum societal benefit. By identifying exceptional retrofit candidates, auditing facilities, enabling retrofits, and then working closely with facility managers to maximize operational improvements over time, through the use of approximately \$100 million dollars worth of loan fund activity LoanSTAR has the potential to leverage as much as \$850 million in savings over the next 20 years.

One of most important aspects of LoanSTAR has been its emphasis on monitoring and verification of energy savings. Rather than resting on auditors' projections and engineering estimates of potential savings, the State of Texas instead chose to carefully analyze the program's impact. To fulfill this function, the State Energy Conservation Office contracted with the Energy Systems Laboratory (ESL) at Texas A&M University. Through this collaboration and ESL's extensive knowledge of building systems, LoanSTAR has a tremendous amount of technical depth as well as resilience to political shifts that might have otherwise threatened a less well-documented program. Through careful attention to the detail uncovered through rigorous monitoring procedures, the program has achieved even greater savings through operations and maintenance improvements.

By the end of 1994 and only four years, LoanSTAR had provided capital for the retrofit of over 22 million square feet of space in 225 buildings at 34 sites. The average payback of the projects was 3.5 years while the program has stimulated retrofits ranging from lighting conversions to HVAC upgrades, shell improvements, high efficiency motors and variable speed drives, energy management control systems, and boiler upgrades. Already the program has generated over \$20 million in cost savings derived from reductions in the use of electricity, natural gas, steam, and chilled water.

Given the challenges to conventional energy efficiency incentive programs promoted by utilities, revolving loan funds will likely become that much more important as a means of providing capital for cost effective retrofits in institutional facilities. While oil overcharge funds are drying up, the model that LoanSTAR represents can be funded through utility seed capital programs and from Federal, state, and municipal sources. LoanSTAR represents an attractive program design for the capture of efficiency in institutional facilities that can and likely will be replicated in other states and jurisdictions keen on the success enjoyed by the program in Texas.

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**Sector:** Government buildings and schools

**Measures:** Retrofits to lighting, HVAC systems, building shell, distribution systems, electric motors and drives, control systems, boilers, and thermal energy recovery systems

**Mechanism:** Revolving loan mechanism provides financial catalyst whereby low-interest loans are granted for energy efficiency retrofits

**History:** In 1988, SECO received approval from U.S. DOE to establish and administer \$98.5 million program; by November 1994 over 225 buildings at 34 sites were retrofitted

#### CUMULATIVE ENERGY SAVINGS DATA

Electricity:	116,000 MWh
Capacity:	4.9 MW
Chilled water:	631,200 MMBtu
Hot water/steam/natural gas:	550,500 MMBtu

#### CUMULATIVE COST SAVINGS DATA

Electricity:	\$5,059,000
Chilled water:	\$6,044,000
Hot water/steam/natural gas:	\$2,621,000
<b>Total cost savings:</b>	<b>\$13,724,000</b>

The Results Center produced 126 profiles of the most successful energy efficiency and renewable energy programs in the United States and around the world in the early and mid 1990s. With the support of the John D. and Catherine T. MacArthur Foundation, Ted Flanigan directed a research team at Colorado-based IRT Environment to produce and distribute these exceptional examples. Thanks to strong demand for solid case studies, The Results Center was supported by dozens of major utilities and energy associations worldwide. Today, The Results Center is managed again by Ted Flanigan, now at California-based EcoMotion Incorporated, a firm focused on strategic consulting, information dissemination, program design, outreach services, and aggressive implementation. To nominate highly successful programs, contact: The Results Center, c/o EcoMotion, 15375 Barranca Parkway, F-104, Irvine, CA 92618, (949) 450-7155, or [TFlanigan@EcoMotion.us](mailto:TFlanigan@EcoMotion.us)