

### The City of Phoenix

#### Energy Management Program

The City of Phoenix's Energy Management program for its municipal facilities is one of the best kept efficiency secrets in the United States. Years ago, Phoenix officials became aware of the fact that if the City's energy bills were treated as a single expense, energy would be the City's largest budget item after payroll. This provided the initial impetus for efficiency in Phoenix. Now its success story -- 16 years in the making -- has proceeded with little fanfare or accolades, but has provided \$18 million in net repayments to the City's General Fund.

Phoenix has some 300 buildings including an airport, water and waste water treatment plants, downtown office facilities, libraries, fire and police stations, and public works maintenance service centers. To date, nearly 1,000 projects have taken place from small lighting retrofits to the construction of a 600,000 square foot, \$84 million New City Hall which embodies state-of-the-art design and which is a showcase of energy-efficient equipment. The Energy Management program has been part of the Public Works Department and thus integrally tied to the City's Facilities Management department. This, its staff assert, has been a key ingredient to its success as Phoenix has taken a pragmatic orientation to efficiency, tying facilities managers' functions with energy management and thus providing durable savings through increased awareness of efficiency's interface with both day-to-day operations and longer-term equipment replacements and capital improvements.

The savings reinvestment mechanism established in Phoenix has also been an important factor in Phoenix's success. Each year a portion of documented energy savings are reinvested in further energy efficiency improvements, providing a means for leveraging greater and greater energy savings. To date \$4.4 million (20% of the total savings) has been reinvested, resulting in direct and accountable savings of \$22.8 million. Furthermore, the entire program was bootstrapped with virtually no capital outlays. Early program retrofits employed no- and low-cost measures and provided demonstrable results that laid a solid foundation for ever-more sophisticated efforts.

The core of Phoenix's success with energy management has been the existence and influence of its Energy Management Team. The team of professionals that has been devoted to the rational use of energy has created an effect in Phoenix well worthy of replication around the world. Through its concentration on energy efficiency -- from routine, relatively simple measures to highly sophisticated measures such as district cooling and direct digital control of buildings -- the focus on energy management has resulted in both direct and indirect savings that bolster Phoenix's overall resource efficiency and exemplary city management.

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#### THE CITY OF PHOENIX Energy Management Program

**Sector:** Municipal buildings and facilities

**Measures:** Comprehensive energy management of Phoenix's 300 buildings from extensive lighting and HVAC retrofits to highly sophisticated design and control of new City buildings

**Mechanism:** Capital reinvestment plan provides fund for efficiency improvements through energy and dollar savings

**History:** Municipal energy management began in 1978; capital reinvestment commenced in 1983; by 1994 City had trimmed 10% of its utility bills; greater reinvestment now planned

#### 1993-94 PROGRAM DATA

Energy savings:	2,277 MWh
Gas savings:	2,037 MCF
Lifecycle energy savings:	34,155 MWh
Cost Savings:	\$183,618

#### CUMULATIVE DATA

Energy savings:	290,692 MWh
Lifecycle energy savings:	551,521 MWh
Gas savings:	260,093 MCF
Cost savings:	\$22,841,156

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)