

Easy Ways for Your City to Save Energy

The nation's mayors have called for a nationwide 10% reduction in energy use. How can you comply?



Ascension Technology, Inc./PIX04478

These ready-to-go ideas and technologies are proven ways that cities like yours have easily achieved energy savings. We give you ideas for minimal-effort solutions and ideas for going a step further, as well as financing suggestions and additional resources. By saving energy, you can add

money to your city budget and improve your region's air quality.

Minimum Effort Energy Solutions

Hire a Community Energy Manager

The annual savings, along with new funding opportunities identified, exceed salary costs of this important position.

Work With Your Local Utility on a Conservation Program for Residents and Business

Do an Energy Checkup on All City-Owned Facilities

Insulate hot water pipes and heaters

Shut off unused lights and equipment

Install motion detectors and timers on thermostats and lights

Clean or replace cooling coils, steam traps, and fans to ensure efficient operation

Fix broken dampers

Turn down hot water temperature

Implement telecommuting and flexible schedules for city personnel

Purchase energy-efficient office equipment and appliances.

Urban Landscaping and Heat Mitigation

Plant trees to reduce heat load on buildings, winter winds, pollution, and noise

Plant a "green roof" on City Hall.

Low-Energy Transportation

Encourage and provide incentives for public transit

Establish partnerships with employers to increase ridership

Create lanes designated only for buses in urban centers

Switch to light emitting diodes (LEDs) for traffic signals and exit signs.

What Else Can We Do to Save Energy?

To go above and beyond the minimal effort solutions to energy savings, use the following



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Portland, OR's, resource conservation manager has been on city staff for 10 years and has saved the city \$1.3 million annually.

Seattle, WA, has partnered with Seattle City Light on a voluntary citizen program to conserve energy at home and work. In February 2001, Seattle City Light customers cut power usage by 6%.

Portland, OR, requires purchase of products that meet EPA's Energy Star Efficiency standards. This requirement has projected annual energy savings of \$35,000.

Chicago, IL, planted rooftop gardens to reduce energy demand and lower temperatures in the city. The 20,300-square-foot garden on top of City Hall will save an estimated \$4,000 annually on the city's air conditioning and heating bill and will reduce ozone pollution and smog.

Overland Park, KS, replaced 2,023 red traffic lights with LED fixtures, with annual savings of more than \$160,000. The investment was paid back in less than 18 months.

The City of Santa Clara, CA, leases 640 acres of land to a private company which owns and operates a wind farm. The company sells the electricity to the local utility and pays a royalty to the city – about \$152,000 in 1994 alone.

Toledo, OH, has retrofitted 22 facilities with new heating, ventilation and cooling systems; energy efficiency lighting; better insulation and replaced exit signs with LED fixtures. The retrofit has cut Toledo's energy bills by over \$968,000 a year and helped improve air quality.

In May 2001, Denver, CO, purchased 38 Toyota Prius hybrid cars and coordinated leases for 8 Toyota RAV4 electric vehicles for use by city departments.

Ann Arbor, MI, found two companies to invest their own capital to collect and use landfill gas from the City's 133-acre landfill. Greenhouse gas emissions are reduced and coal-generated electricity is displaced by landfill gas.

ideas as a start for your research. These energy-saving ideas may require some investment but offer a high rate of return.

Renewable Energy

Investigate opportunities to use renewable energy in your community – including wind, photovoltaics, biomass, geothermal energy, hydropower, passive solar, and solar hot water

Use photovoltaics to power municipal parking meters

Install photovoltaics on highway sound barriers

Encourage your local utility to generate or buy a portion of its load from renewables.

Buildings

Convert to energy-efficient lighting, heating, and cooling equipment and motors

Give roofs and windows reflective coatings to reduce solar heating

Incorporate energy-efficient guidelines for all new construction and building retrofits

Retrofit most energy inefficient buildings first.

Schools

Help your schools become energy smart, and redirect the savings toward student education by using daylighting design, advanced ventilation systems, and water-source geothermal heat pumps.



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Transportation Alternatives

Use alternative fuels in municipal fleets (biodiesel now counts as a biofuel!), retire old and underused vehicles, and purchase fuel-efficient or alternative fuel vehicles

Use automated traffic management and signal synchronization to reduce gasoline consumption.

Community Water Management

Reduce energy consumption and save money in water and wastewater treatment

Reduce the flow of water through buildings and other city facilities to reduce energy used for pumping, treating, and heating the water by installing low flow faucets and toilets

Use wastewater for irrigation

Xeriscape city owned grounds using plants that don't require much water.

Waste To Energy

Use landfill gas to create energy.

How Can I Pay for These Improvements?

Performance Contracting – make no initial capital investment, decrease energy costs, and simultaneously reserve available capital for other projects by using an Energy Service Company.

Low Interest Loans – your state energy office can often be the key to funding from other state, federal, and utility programs.

Life Cycle Costing – a method of economic analysis that entails basing buying decisions not just on initial purchase price, but on the cost of operation over the projected life span.

Public/Private Partnerships – private sector companies can bring capital and expertise to help your city optimize operations and save money.

How Long Will It Take to Realize Financial Savings?

Lighting retrofits, steam traps, and LEDs usually pay for themselves in less than 2 years. Most energy efficiency improvements suggested above have a 2- to 5-year payback.

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Helpful Websites

State Energy Alternatives:
http://www.eren.doe.gov/state_energy/index.cfm

U.S. DOE Energy Efficiency and Renewable Energy Network:
<http://www.eren.doe.gov>

U.S. DOE Center for Excellence for Sustainable Development
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NREL/BR-710-30389
March 2002