Energy Efficiency Requirements For Public Buildings or Public Housing

In a Nutshell

Buildings are responsible for nearly half of the energy used (48.7%) in the United States – more than both the transportation and industry sectors. Of this 48.7%, the majority (43.1%) comes from building operations, while building construction & materials is responsible for the remainder (5.6%). Additionally, buildings in the US consume 75% of all electricity and account for 46.7% of the greenhouse gases emitted. Enacting energy efficiency standards for public buildings and/or public housing is an excellent opportunity to save money on energy bills while protecting the environment and serving as an example to the broader community.

Data source: US Energy Information Administration (2011) via Architecture 2013.

The "How To"

To ensure that public buildings and public housing use energy resources responsibly, local governments can adopt energy efficiency targets for their own buildings by passing legislation or through executive order. Any policy should address new construction, major renovations, and equipment replacement as well as the on-going maintenance and operations of buildings. First, take steps to reduce energy use by enacting energy savings targets for buildings – requiring a certain reeducation in energy use by a certain date. Then measure energy use to set a benchmark and collect and review energy usage data regularly. The old saying, "you cannot change what you don't measure" applies to this important step, which will also help identify additional energy savings in the day-to-day operations of a local governments' buildings.

Planning & Zoning

Examples of Federal, State and Local Governments leveraging ENERGY STAR through legislation or policy: http://www.energystar.gov/ia/business/government/downloads/State_Local_Govts_Leveraging_ES.pdf?d1ef-ff17

American Council for and Energy Efficient Economy's Local Policy Case Studies: http://aceee.org/sector/local-policy/case-studies

The City of St. Louis, Clayton and Ferguson have all passed ordinances requiring any newly constructed city-owned buildings over 5,000 square feet meet LEED Silver standards, which will provide the minimum energy performance that is required by LEED. Additionally, the City of St. Louis passed an ordinance in 2008 outlining energy efficiency requirements for new construction, major renovation and equipment replacement and the University City is considering a similar one.

Dollars & Cents

There should be little cost to a municipality or government entity to adopt energy efficiency standards. Many

tools exist that local governments can use to monitor energy use, the primary one is ENERGY STAR Portfolio Manager, which is a free on-line tool created by the U.S. Environmental Protection Agency and the U.S. Department of Government. All a local government needs to get started and set a benchmark are a year's worth of energy bills. There are many no and low costs measures that can be implemented to reduce energy use – from turning off lights, appliances and computers when not in use to lighting upgrades or the installation of programmable thermostats. The next step up may include replacing heating and cooling equipment, adding insulation or replacing lighting fixtures. While there may be an up front investment required, the local government will save money by reducing energy use and thus lowering energy bills. Many states offer low-interest loans and sometimes grants for local governments to implement energy efficiency projects for buildings, fleets, etc. (Such as Missouri Department of Natural Resources Low-Interest Loans for Schools and Local Governments: http://dnr.mo.gov/energy/financial/loan.htm). And don't forget to take advantage of any incentive or rebate programs offered by your local utilities.

Measuring Success

The best way to measure energy efficiency improvements is to collect energy and water bills and review them regularly using a tool like ENERGY STAR's Portfolio Manager. Alternately, a Greenhouse Gas Inventory (LINK TO THIS BEST PRACTICE!) can also provide a baseline for a local government's energy use. The best measure will be lower utility bills (water, gas or electric) after implementing energy efficiency or conservation measures. Cost savings projected or realized by local governments will have a broad range depending on the size of projects. The City of Alton, IL has saved almost $1 million since 2009 throughsmarter power procurement, facility and vehicle upgrades, and more efficient use of energy (Source: Matthew Asselmeier, City of Alton Associate Director of Public Relations/City Council Liaison). The City of Columbia, MO implemented lighting upgrades at their Health Department building in 2011, which will pay for themselves in 8 years and in 15 years (the expected lifetime of the improvements) will save $90,000 in energy bills, 1.5 times more than the cost of the project. For more information about Columbia's energy efficiency projects, see:

https://maps.google.com/maps/ms?msa=0&msid=209574363874935104544.0004a51943666d05c67d8&ie=UTF8&t=h&
92.232628&spn=0.184699,0.308647&z=12&iwloc=0004a519885a7aa5f42a8

Discover More

ENERGY STAR is an indispensible resource for anyone interested in energy conservation and energy efficiency. They offer a Toolkit for Local Governments that provides information on how to establish an energy management program, how to measure and track water and energy use using ENERGY STAR's Portfolio Manager and links to free online training sessions:

http://www.energystar.gov/index.cfm?c=government.bus_government_local

The American Council for an Energy Efficient Economy also offers information on Local Policy Resources and Priorities (http://aceee.org/sector/local-policy), including a Local Technical Assistance Toolkit: http://aceee.org/sector/local-policy/toolkit.

For local governments wishing to share information with residents, the U.S. Department of Energy's Energy Saver website is a wealth of resources on how to create a more energy efficient home: http://energy.gov/energysaver/energy-saver. Their booklet, *Energy Savers: Tips on Saving Money & Energy at Home*, is especially useful: *http://energy.gov/sites/prod/files/energy_savers.pdf*