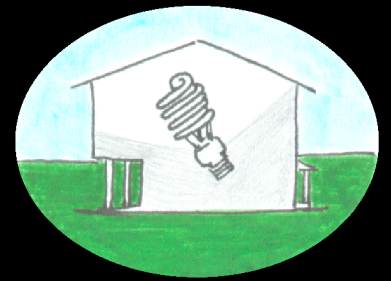


# We Can Meet Growing Demand for Power in Texas with Energy Efficiency

***It is cheaper to use energy efficiently by modifying buildings and buying energy efficient equipment than building and fueling new power plants. Statewide, Texas can save the equivalent of 32 new coal plants in the next 15 years with a skillful efficiency plan.***



## The Invisible Power Plant

Texas can cost-effectively save 80% of new electric growth in the next 15 years with non-polluting energy efficiency programs that reduce energy in existing and new buildings, at 1/3 of the average current cost of power. Combined Heat & Power (using waste heat in buildings and industries for electricity) and Demand Response (strategic use of incentives to reduce peak demand) *can lower electric consumption to even less than the state uses now!*

Most buildings in Texas can save between 10 to 50% on their electric bill with cost effective efficiency measures. Technologies and techniques include duct sealing, insulation, heat-rejecting glazing and window screens, efficient heating and cooling equipment, and efficient lighting.

Since 1960, Texas electric use has soared more than 300% per capita. *As a result, average Texas residential electric bills are the highest of any state in the continental U.S.* High usage from inefficient buildings, combined with rate shock from electric deregulation and high fuel costs, have caused power prices to be a center-stage issue in Texas.

The 15 new coal plants proposed for Texas will cost almost \$16 billion plus interest! Operating them over their 30-year life will cost about \$40 billion more. This is almost \$7,000 for every household in Texas – investment capital Texas needs to create local jobs with clean energy.

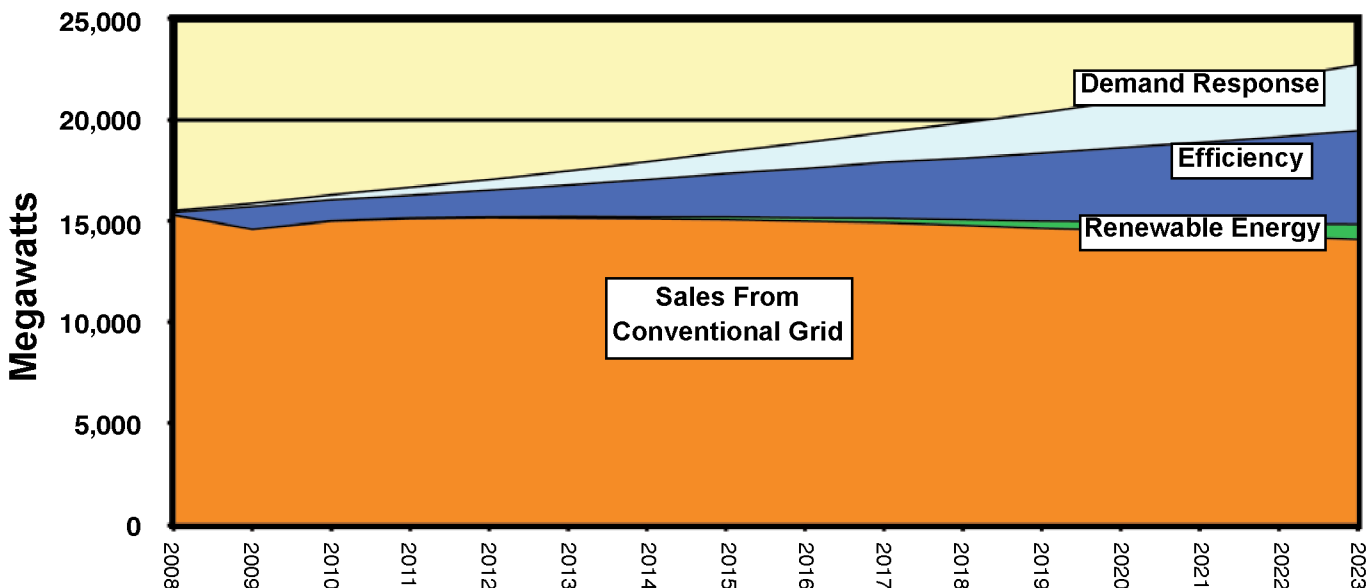
Cities in non-attainment of federal air safety standards because of coal plants will be hurt as their economic development is restricted. And climate change caused by coal plants threatens Texas with torrential rains, devastating droughts and crop losses, hotter summers, and higher energy costs.

By encouraging efficiency measures in millions of buildings in an organized effort, “demand side” management programs funded by electric utilities far surpass what would be done without market intervention. Building and business owners are usually not energy experts, and lack knowledge to make the right choices and the quality control to assure measures are installed correctly. Centrally managed programs have been an essential tool in successful efficiency efforts in states throughout the country.

The states of Massachusetts, Connecticut, and Rhode Island spend more than 3% of electric utility revenues on efficiency. The state of California is spending almost 2.5% of revenues on efficiency, amounting to about \$700 million a year. The State of Vermont will increase its spending to almost 5% of gross electric revenue, expecting to save more than 1% of total electric use per year. *But the state of Texas collectively spends only 4/10ths of 1% of its electric bill on efficiency programs.*

The chart below shows what a real efficiency plan can do for the Dallas/Ft. Worth area. The information inside this brochure will discuss how we can get there.

## A Comprehensive Clean Energy Plan for Dallas/Ft. Worth



## California – The Largest and Longest

The state with the longest successful and well-funded efficiency program is California, which has saved 15% of its electricity since 1975 with building codes and appliance standards. This amounts to a total of \$56 billion in consumer savings and thousands of jobs directly created by the programs or saved by lower bills. Incentive programs run by electric utilities have saved even more.

Since 1960, Texas per capita electric use has grown 300% and U.S. use has grown by 240%. But California's use has stayed flat, in large part due to its programs to reduce consumption. Important program components include:

- **Retrofit Programs:** Between 2006-2008, electric utilities in California will spend \$2 billion on efficiency programs. This effort includes air conditioning and appliance rebates, incentives for building weatherization measures such as insulation, and efficient lighting measures. It also checks for quality control of the work. These programs will save enough electricity to power about 190,000 California homes.

- **Aggressive building codes:** California's Title 24 energy codes for new residential and commercial buildings are known as trendsetters throughout the country. Stringent insulation and window standards, heating and air conditioning, water heating, and lighting are all addressed. Electric utilities also offer design assistance. Heating and cooling energy use in homes built today has fallen 75% since the first energy code was created in 1978.

## A Regional Approach – Efficiency Utilities

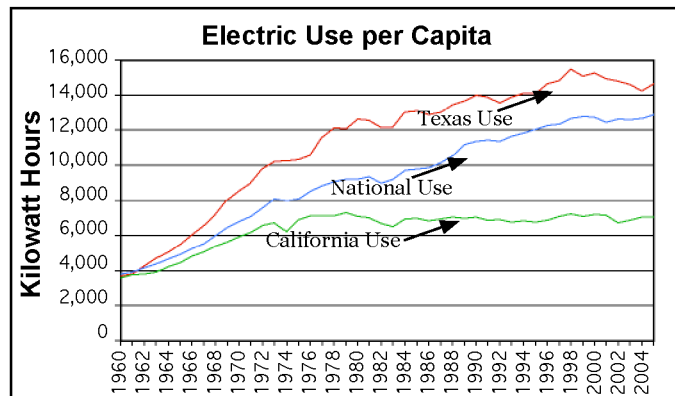
Both Vermont and Oregon have funded independent non-profit organizations that provide efficiency programs. These are funded by surcharges on electric and gas utility bills. These two "efficiency utilities" are largely free of the direct conflict of interest between energy suppliers and demand-side managers. It is a good model for regional governments to consider when crafting long-term policy.

Both states are considerably smaller in population and territory than Texas. But Texas metropolitan areas, including Houston, Dallas/Ft. Worth, San Antonio, and Austin, have populations similar to a small state.

Vermont has the highest per capita expenditures for efficiency programs in the nation – approximately 12 times that of Texas. The state's agent for this aggressive effort is Efficiency Vermont, created by the Vermont legislature in 1986 to provide energy assistance to consumers. Since 2000, the organization has been run by a non-profit organization that provides efficiency services to all consumers except those served by Burlington Electric, which offers its own efficiency services.

Between 2000-2006, Efficiency Vermont investments totaled \$207 million. These programs include building design assistance, rebates and loans for retrofits, and quality control inspections. Since 2000, Vermont has saved 5% of its energy use at about 1/3 of the cost of electric power.

The Energy Trust of Oregon runs a similar program for



- **Appliance Standards:** The state has adopted minimum appliance and equipment codes that have been models for other states and the federal government.

Aside from the huge programs to install currently available efficiency measures, the state also invests in the research and development of even more efficient products. Since 1996, the California Energy Commission has administered a research and development effort called Public Interest Energy Research (PIER).

This program will invest \$80.5 million in 2008 to develop products and technologies that contribute to the efficiency and environmental performance of California utilities. PIER is funded with a surcharge on utility sales. Technologies it has developed include efficient air conditioners, water heaters, lighting products, and renewable energy. In most cases, PIER receives a royalty from these sales.



*This renovated Portland office building received design assistance from the Energy Trust of Oregon. It saves 40% of its energy with efficient lighting and equipment.*

both energy efficiency and renewable energy. The Trust is a non-profit organization providing program services for both electric and natural gas utilities in the most populated areas of the state. Its 2006 budget of \$48 million affected enough energy savings to supply 20,000 average Oregon homes, and enough gas savings to supply 5,000 homes. There were also 400 jobs created from these programs.

In addition to these impressive results, the Trust spent about 5% of its budget promoting renewable energy, providing rebates for onsite photovoltaic installations, and funding for biogas projects and utility-scale wind power.

## Mandatory Rental Retrofits

Nationally, some 34% of residential dwellings and 44% of commercial buildings are rented. In some major urban areas in Texas, such as Dallas and Austin, almost *half* of all residences are rented. Installing energy efficiency measures in rental buildings, both residential and commercial, is particularly challenging. Renters have a disincentive to spend money on efficiency improvements since they do not own the building. Landlords do not have a direct incentive to upgrade a building since they do not pay the utility bills.

While one can argue that owner-occupied buildings have an incentive to save energy and that government should leave such decisions to the market, tenants are often (literally) left out in the cold. One way to address these disparities is to mandate retrofits for the rental sector.

The State of Wisconsin has enforced a retrofit ordinance exclusively for rental units in single family and multifamily buildings since 1985. It requires building shell modifications such as ceiling insulation, caulking, weatherstripping, and storm windows and doors. About 6,000 buildings, with varying numbers of units, are certified each year.

Three California cities, San Francisco, Berkeley, and Davis, mandate that homes and apartments be brought up to a certain code when buildings change owners. These ordinances have spending caps that prevent large increases in the cost of buildings. Measures include ceiling and wall insulation, duct sealing, water heater blankets, and low-flow showerheads and toilets.

## Model City Program – Austin

The City of Austin has one of the most aggressive electric energy conservation programs in the country. It began as a response to the rising fuel prices and power plant cost overruns during the Energy Crisis of the late 1970s. Since Austin owned its own municipal electric utility, it invested in a long-term aggressive efficiency program rather than a new power plant. Officially launched in 1982, the program has saved the equivalent of a 700-Megawatt power plant running on the hottest day of summer. And it has saved energy equivalent to the power used in 90,000 homes.

Since the program has been in place, it has served all sectors of electric customers, including residential, commercial, industrial, multifamily, and low-income, as well as including a program to lower energy in Austin's municipal operations. And since their inception, the programs have lowered the energy use of the majority of Austin's ratepayers. The efficiency programs cost about \$19 million in 2006, about 2% of Austin's gross electric utility revenue.

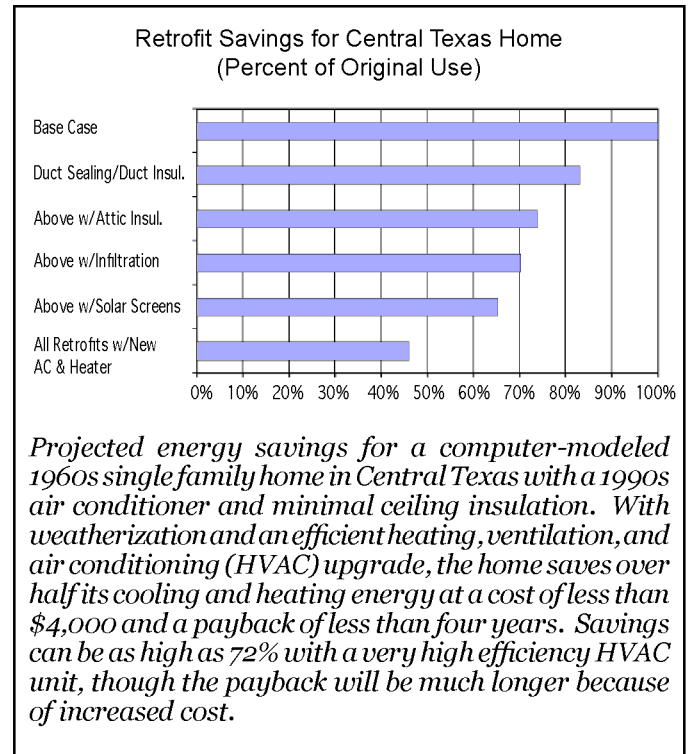
The efficiency programs have also been responsible for creating several hundred jobs for weatherization contractors and commercial energy professionals.

Another facet of the Austin's efficiency efforts is requiring the privately owned gas company in the region to implement its own efficiency programs. Beginning in 1987, the City of Austin mandated that the gas utility operating in its service area implement efficiency programs through the company's franchise. The City approves an annual budget



Berkeley has the only commercial point of sale requirement in the U.S., requiring more than 30 different tune-up or retrofit items. While most are low cost, certain requirements carry higher costs along with greater benefits. These include change-out of inefficient lighting systems and duct sealing.

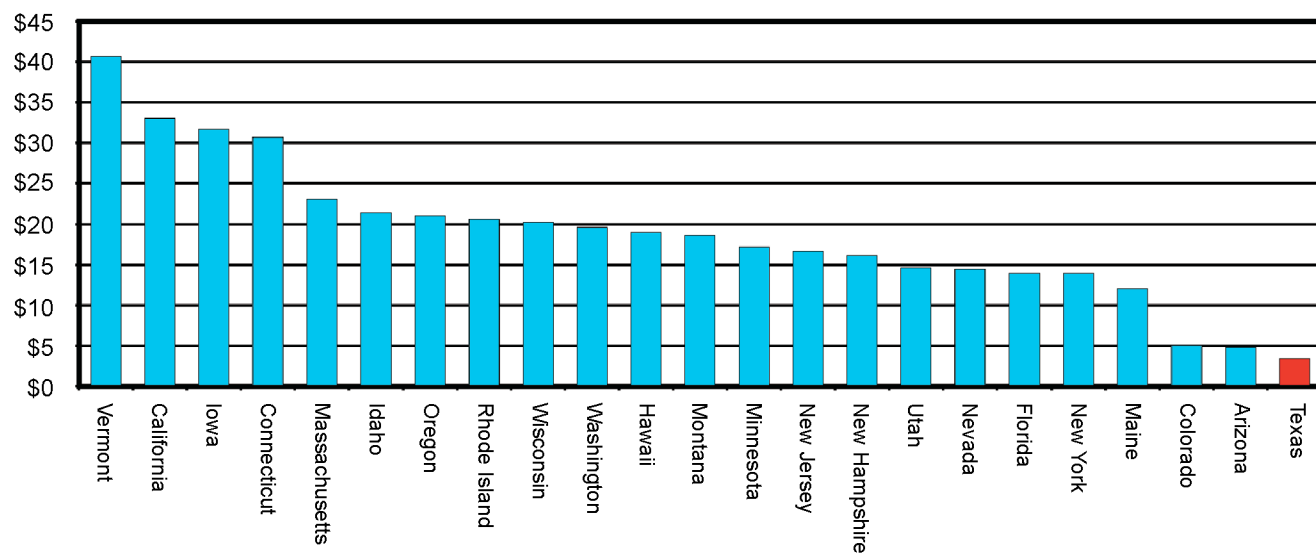
There are also successful voluntary programs around the country that have made large inroads in the rental sector, including ones in the state of Oregon and the City of Austin. But these programs generally require a very high level of incentive because most landlords do not see the value of helping their tenants. A few enlightened owners of rental buildings will upgrade their buildings to make their tenants happy and lower turnover. But most rental buildings simply will not become efficient unless mandated by law.



that includes financial incentives for efficient appliances and weatherization for residences, efficient cooking equipment for restaurants, and special assistance to low-income dwellings. This is the only efficiency program for a gas utility in Texas, and serves as a model to cities that do not own their own utility.



**State Efficiency Program Spending Per Capita in 2007**



Texas electric utilities have never invested heavily in efficiency to defer new power plants. As the chart above shows, 22 states in the U.S. currently spend more per capita on efficiency programs than Texas. These states are saving their ratepayers money while reducing pollution and retaining jobs in their own economies. Meanwhile, Texans continue to operate a fleet of buildings and appliances that are economically uncompetitive and obsolete.

Texas can cost-effectively save all of its of predicted new electric growth with comprehensive efficiency programs that reduce energy in existing and new buildings – enough to displace 32 new 600-Megawatt coal plants. And it can do it at 1/3 of the average cost of power. This can be done as a state-wide plan or as separate regional efforts.

*Instead of investing tens of billions of dollars building and operating coal plants, let's invest in efficient buildings and boost local employment within our own state.*

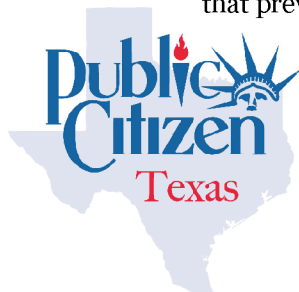
## What Can You Do to Support Increased Energy Efficiency Programs?

### If You Are an Individual

- 1. Retrofit Your Residence** – Almost any building can save 10 to 50% of its energy with weatherization measures, efficient appliances, and lighting. Even renters who cannot invest huge sums in a building they do not own can install low-cost measures such as compact fluorescent lamps.
- 2. Build an Efficient House** – If you build a new home, plan it for maximum efficiency. You will save money and be more comfortable, and you can showcase it to your friends.
- 3. Retrofit Your Workplace** – If you own a business, if you are a decision maker in your workplace, or if you can influence decision makers, have an energy audit done by a professional and invest in efficiency.

### If You Are a Public Official

- 1. Retrofit Government Operations** – Government services use enormous amounts of energy. State and local governments should create their own efficiency programs.
- 2. Start a Local Efficiency Program** – Local governments can start their own independent regional efficiency programs to serve their citizens. Why should regions wait for the state or federal government to act when they can tailor programs for their local needs and goals?
- 3. Support State Efficiency Legislation** – Bills that mandate efficient appliances and building codes, and that boost funding for efficiency programs, guarantee strategies that prevent new power plants.



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