

## EE's GREEN, SUSTAINABLE AND ENERGY EFFICIENT ACTIVITIES

### **Wind power program PURE & SIMPLE**

Wind generated power has been part of Edmond Electric's portfolio of power since 2003. From inception to the end of 2007 EE sold 102,617,000 kWh of wind and 45,119,000 kWh in 2007. Wind generation utilizes no hydrocarbons and generates no greenhouse gases. For 2007 EE has been recognized by DOE's NREL as having the cheapest wind power in the nation and having the largest per capita wind power sales, with 5.7% of Edmond Electric's total power sales being wind power.

1141 3.9% of customers per kWh cost .0005, sale .0009, forgive FCA

### **Geothermal heat and air conditioning at Fire Admin/Fire #5 and the Public Service Center**

This demonstration project that was implemented in 2006 saves the city 532,857 kWh/year and serves to display how a geothermal system operates. It allows the public to see this high efficiency equipment in daily use and visualize its various processes. 5.5 year payback, saved \$42,628 per year

### **100% wind energy at Cross Timbers**

Edmond Electric's PURE & SIMPLE wind energy supplies 2,700,000 kWh/year for the powering of the Cross Timbers 135 acre city campus. This power has no associated fossil fuels and has not put off any greenhouse gas since 2006.

### **High efficiency transformers**

Distribution transformers purchased by Edmond Electric are evaluated using a transformer loss formula that takes the core and winding losses provided by the manufacturer and calculates the lowest loss and best priced transformer of each type and size. The lower loss transformers have the highest efficiency. Therefore Edmond Electric's transformers have been providing the most electrical power to our customer's at the cheapest cost since 1996.

### **High efficiency heat pump rebates**

Edmond Electric started a rebate program for high efficiency heat pumps in 1992. This program is designed to promote the installation of higher efficiency heat pumps in homes and commercial buildings. Rebates are based on minimum efficiency standards to qualify and must be certified by an inspector. For retrofits an energy audit is also required before installation of new equipment to promote other efficiency measures being implemented also.

### **City Energy Conservation Committee**

This committee was initiated in 2006 to review energy conservation projects for the City of Edmond. Current initiatives include an Edmond public employee "Turn It Off" campaign with brochures and light switch stickers and the approval of "STRATEGIC FACILITY GUIDELINES FOR IMPROVED ENERGY EFFICIENCY IN NEW BUILDINGS" Committee serves as a way to vet projects and obtain buy-in from department administrators

### **Development of Energy Efficient Construction Objectives for City Buildings**

Edmond's Energy Conservation Committee has recommended the use of "Strategic Facility Guidelines for Improved Energy Efficiency in New Buildings" to be utilized as a roadmap document for energy efficiency incorporation into new public facilities. This should allow energy efficiency to be incorporated into the design of a new facility from the inception and not as an afterthought.

### **Compact fluorescent light giveaways**

Started in 2006 more than 600 CFLs have been given to customers with estimated savings up to 6/30/08 of 39,420 kWh/yr. This program not only saves energy but is designed to educate customers to the saving of CFLs and to get the customer familiar with the product.

### **Presenting the "LivingWise" program in Edmond public schools**

The LivingWise Resource Action Program combines a set of classroom activities with hands-on home projects to install efficiency devices and introduce resource conscious behavior to students and their families. This program facilitates installation of resource

efficient technologies in homes and builds knowledge of environmental issues. Edmond Electric and Water Resources co-sponsored the Livingwise Program in 2007 for 140 Edmond students, due to the response from parents, teachers, and students it is planned to increase the sponsorship in 2008 to 280 students.

**Residential energy audits (no charge)**

The Residential Energy Audit Program was implemented in July 1992 and provides free home energy audits that present to the customer a detailed report on findings and recommendations with estimated energy savings if implemented. The free audit is a prerequisite for receiving a rebate after installing a high efficiency heat pump or AC unit.

**Commercial energy audits (no charge)**

The Commercial Energy Audits were implemented in July 1992. These are free walk through audits performed by utility professionals. The customer is provided with an analysis of their historic usage and a report following the audit that identifies potential energy saving areas. The audit will also include a rate analysis to insure that the customer is on the most beneficial rate. The audits are done at the request of the commercial or industrial customers on an individual basis.

**E4 Home**

The Edmond Electric Energy Efficient Home is a 2192 square foot home being built at 3716 Bonaire Place. This home will incorporate many energy efficient measures during construction enabling it to go beyond Energy Star efficiency standards. Such features as advanced insulation, ground coupled heating and air conditioning, upgraded windows and a durability plan make this one of the most affordable high performance homes in Edmond.

**Electric rate structure that promotes energy efficiency**

On January 1, 2007 Edmond Electric went to a progressive rate instead of a discount rate for residential customers. This means that now the more electricity a residential customer uses the more they pay for the electricity per kilowatt hour. The progressive rate will discourage excessive waste of electricity and encourage efficiency.

**Energy Services Manager to assist with energy efficiency programs**

Edmond Electric opened the position of Energy Services Manager in 2003 to facilitate and perform residential and commercial energy audits, perform commercial and residential billing audits, review electric rates for customers and make recommendations, analyze and recommend programs to improve customer's load factor, and review and recommend energy efficiency and alternate energy programs

**Edmond Electric's voluntary reporting on efforts to reduce greenhouse gases**

Every year since 1993 Edmond Electric has been reporting to the Department of Energy, on a voluntary basis, on efforts to reduce green house gas. For several years EE has received a certificate from DOE "for demonstrating a commitment to voluntary approaches to environmental protection through actions taken to reduce or capture emissions for greenhouse gases".

**Extensive public information/public education on energy efficiency and conservation**

Website information, brochures and public presentations on energy efficiency, conservation and sustainable energy are ongoing programs that Edmond Electric has offered since 2004. Speaking to mother's groups, neighborhood organization, Lion Club, etc. about EE's programs, energy efficiency and conservation are a part of EE's everyday business.

**Powerlines Newsletter**

Since 2006 Edmond Electric has provided an online newsletter for their Key accounts. Twice each month customers receive useful and informative articles on energy efficiency, identifying electric problems in business and new technology. Powerlines also connects key accounts to "Ask an Expert", benchmarks for businesses and facilities, self energy audit, online library of information and a database of technical business and engineering documents and resources.

**DEED Board of Directors**

Edmond Electric has had a member sit on the Board of Directors of the American Public Power's Demonstration of Energy-Efficient Developments since 2006. This board

provides grants to cutting edge energy efficiency technology and testing. Being a member on this board allows Edmond Electric early access to the newest technology in energy efficiency.

**Tree Plantings and Tree Giveaways**

Since 2001 Edmond Electric has participated in tree seedling giveaways at it's Annual Open House and at the City of Edmond's Arbor Day Celebration. To date 5,000+ seedlings have been given away.

**Tree Line Utility recognition**

In 2000 Edmond Electric became the first municipality in the State of Oklahoma to become Tree Line, USA certified. Tree Line, USA is a program of the National Arbor Day Foundation to promote the dual goals of dependable utility service and abundant, healthy trees along America's streets and highways. Trees and utility service lines are an integral component of the Edmond community.

**Analysis of City of Edmond energy use**

Since 2006, City utility accounts were grouped into categories of: treatment plants, waste water treatment, water towers, street and signal lights, city buildings and water wells. The energy use for each category was then totaled. Water supply for the city makes up 49% of the electrical energy utilized by the city. Waste water treatment is 12.6%, buildings 23.3%, street and signal lights 8.9%, with miscellaneous uses accounting for the last 6.4%. Now that we know where the city utilizes the most energy we know where to work the hardest to be efficient with energy.

**Energy profiling on most City buildings and benchmarking**

Most City of Edmond buildings have had their energy bills audited for consumption and compared to national benchmarks for similar use buildings. Profiling and benchmarking City buildings has been done by Edmond Electric since 2004.