

# Energy Efficiency Update



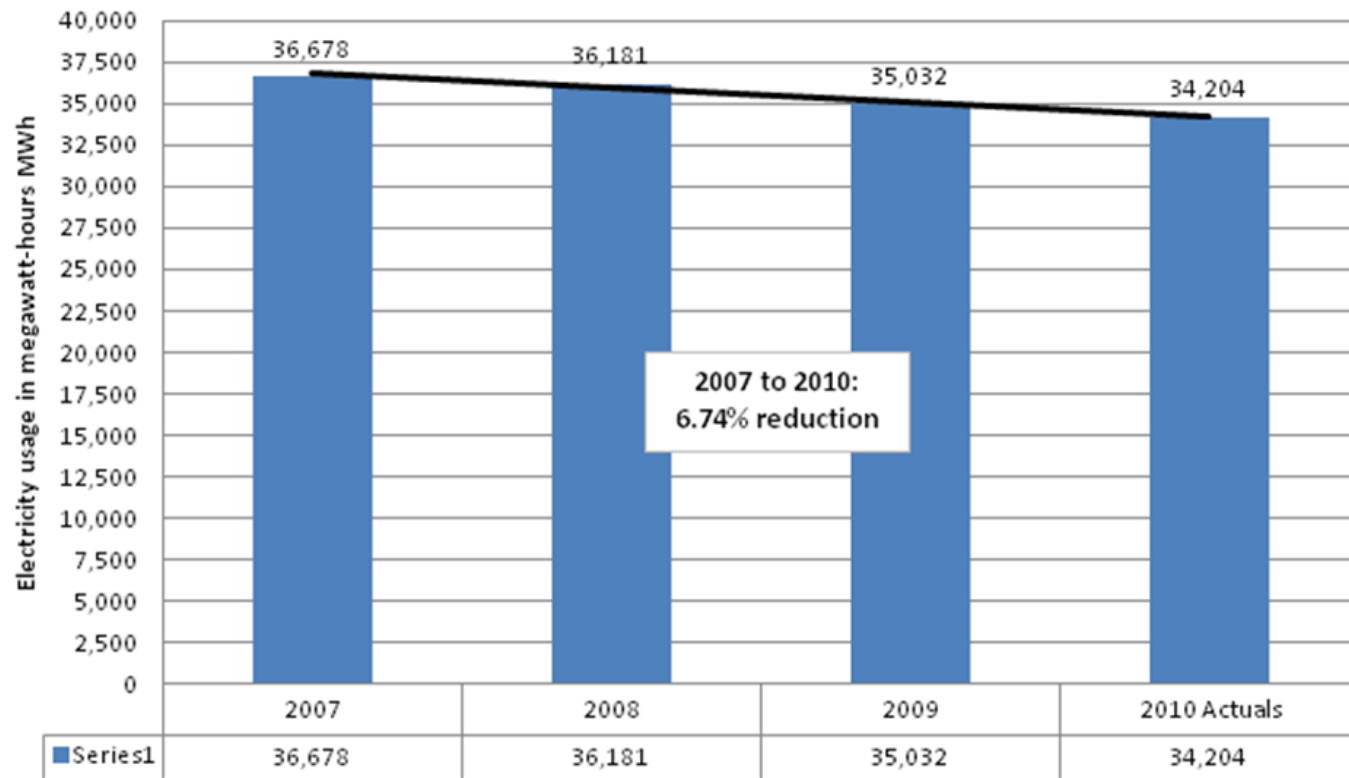
Eileen Horn  
Sustainability Coordinator



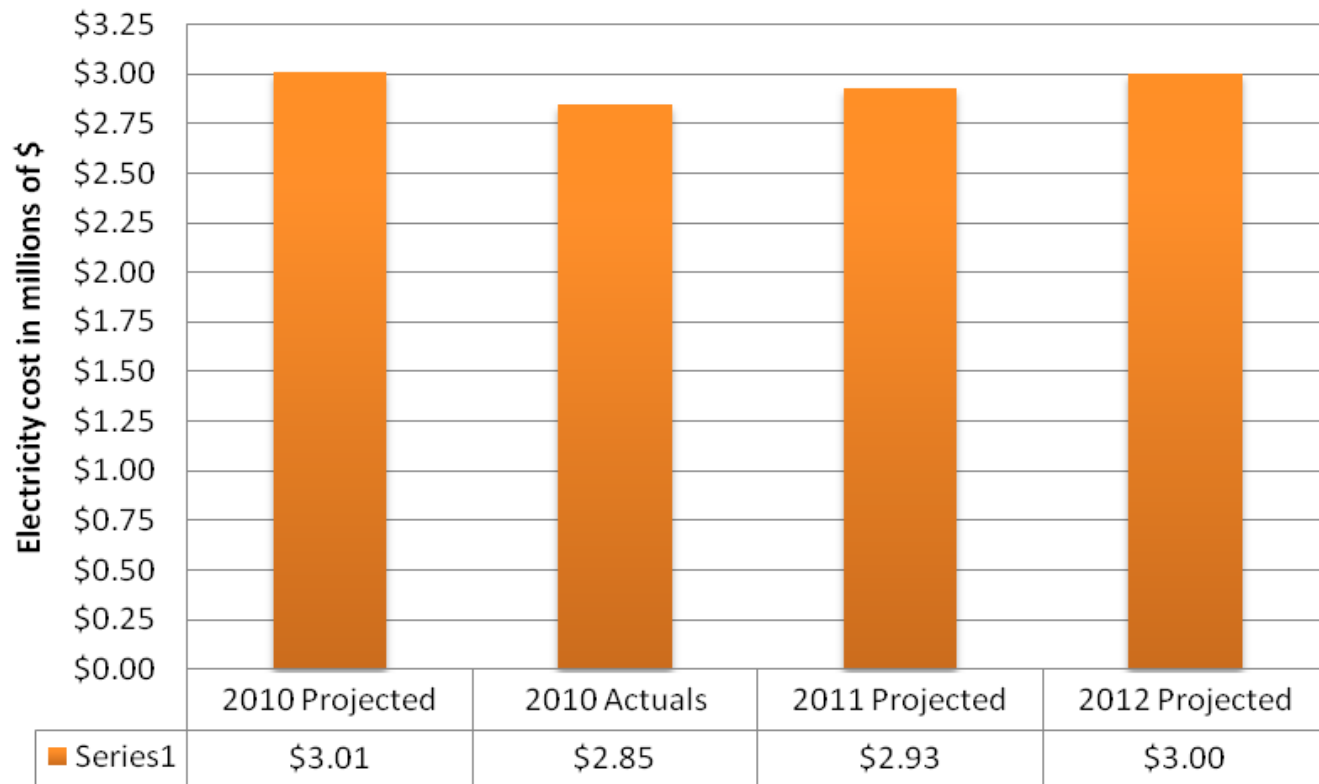
June 14, 2011

## City of Lawrence Electricity Usage 2007-2010

(\*2009 & 2010 numbers are seasonally-adjusted by Westar  
for weather variations - our best estimates)



## City of Lawrence Electricity Costs 2010-2012



# Energy Efficiency Projects

May 2010-May 2011

---

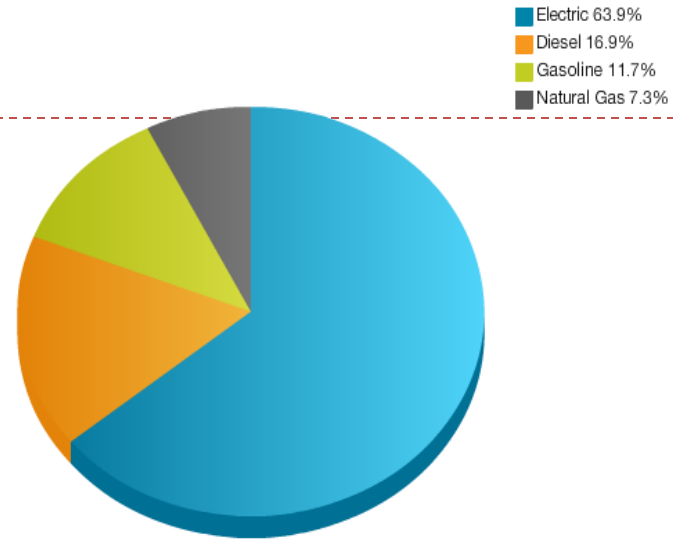
- ▶ **Energy Management Work Group**
  - ▶ Meets to recommend energy efficiency projects
- ▶ **EnergyCAP** software implementation
  - ▶ Tracks energy use, utility costs, GHG emissions
  - ▶ Tracks progress, helps plan cost-effective projects
- ▶ **Take Charge Challenge**
- ▶ Resourceful Kansas – free energy audit of ITC
- ▶ **EECBG** projects
- ▶ **Energy “Smackdown”** in Fire/Med Dept.



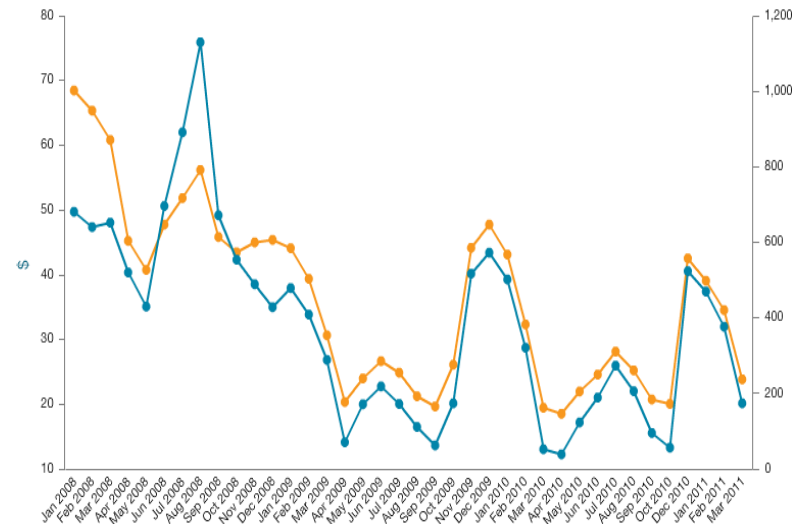
# Energy CAP

- Generate reports for tracking of utility bills in each dept.
- Rank city buildings by \$/sq.ft
- Calculate savings attributable to projects – comparing bills with a pre-retrofit baseline year.
- Report and track GHG emissions from energy use.
- Benchmark our facilities to assess our energy performance and qualify for ENERGYSTAR recognition.

Energy Cost Percentage



Use/Cost Per Day



# Energy Efficiency

---

- ▶ **Energy-saving behavioral change programs:**

- ▶ Energy Smackdown
- ▶ Take Charge Challenge

- ▶ **Equipment upgrades:**

- ▶ EECBG Update
  - (ARRA- Energy Efficiency and Conservation Block Grant)
- ▶ Take Charge prize candidates
- ▶ Energy efficiency priority projects for 2012



# Fire/Med Energy “Smackdown”



**CALLING ALL  
LAWRENCE  
FIRE/MED STATIONS:**

**WHAT IS IT?**  
An energy efficiency contest  
between the Five Lawrence  
Fire/Med stations

**WHEN?**  
June 1 through  
September 30

**HOW CAN YOU HELP CRUSH THE COMPETITION?**

- Turn out the lights when you leave the room
- Set summer thermostats at 78-80 degrees
- Plug chargers, fans, DVD players, TVs,  
and miscellaneous appliances into powerstrips
- Turn off TVs when not in use



**HELP THE STATION SAVE ENERGY AND MONEY!**

# Take Charge Challenge vs. Manhattan

---





- ▶ January 1 - September 30, 2011
- ▶ **Goal:** to reduce residential and small business energy use – implement whole house efficiency
- ▶ Part of statewide competition engaging 16 Kansas towns
- ▶ Received \$25,000 + part-time coordinator
- ▶ **Prize: \$100,000**
- ▶ **Current Standings:**





# How YOU can help Lawrence win:

---

1. **Schedule** an Efficiency Kansas  home energy audit.
2. **Make** the  switch to compact fluorescent bulbs.
3. **Enroll** in Westar's  energy efficiency programs.
4. **Attend** a Take Charge! Challenge  event.

\*Visit [TakeChargeKS.org](http://TakeChargeKS.org) to register your switches

[www.lawrenceks.org/takecharge](http://www.lawrenceks.org/takecharge)

# Energy Efficiency

---

- ▶ **Energy-saving behavioral change programs:**
  - ▶ Energy Smackdown
  - ▶ Take Charge Challenge
- ▶ **Equipment upgrades:**
  - ▶ EECBG Update
    - (ARRA- Energy Efficiency and Conservation Block Grant)
  - ▶ Take Charge prize candidates
  - ▶ Energy efficiency priority projects for 2012



# EECBG Update:

---

► Initial allocation: \$858,600

Project:	Cost:	Status:
Library HVAC upgrades	\$436,420	Complete
Sustainability Coordinator position	\$100,000	\$75,335 paid to-date
Downtown LED retrofit	\$171,230	Began 5/31
Library lighting upgrades	\$150,950	Pending library redesign



# Funding to achieve energy efficiency priorities

---

- ▶ Potential funds:

- ▶ \$100,000 Take Charge Challenge Prize

- ▶ Visible, cost-effective, community-wide impact

- ▶ City matches the Take Charge Challenge prize to achieve:

- ▶ Energy efficiency priority projects for 2012



# Take Charge Challenge Prize Candidates:

---

► Total funding = \$100,000

## Solar photovoltaic panels at Fire Station #5

- **\$66,000**
- 16,500 kWh (2%)
- Avg payback: 20 years
- Visible, south-facing roof, 30,000 cars pass daily, largest energy usage of all stations

## Solar thermal panels at Prairie Park Nature Center

- **\$8,000**
- 2500 kWh
- Payback: 15 years
- Ground-mount will allow for educational programs, will offset all hot water usage in building

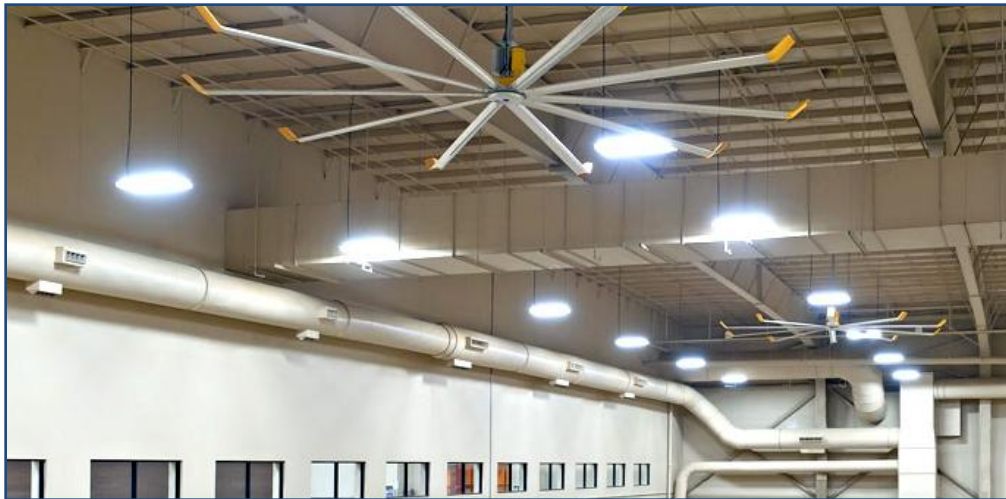
## Install big fans at East Lawrence Recreation Center

- **\$16,000**
- Reduce HVAC use by 15%/yr (approx \$1400)
- These fans are currently in use at the indoor aquatic center, and have proven results

## Energy audits of city buildings

- Utilize **\$10,000** of prize remaining to fund 2-3 energy audits of city buildings
- Will utilize EnergyCAP to ID building candidates





# Energy Efficiency Priority Projects:

Project Description:	Location:	Estimated Cost:	Estimated payback (years):
Downtown Parking Garage Rewiring, daylight harvesting	9th & NH	\$1,000	0.33
Parking lights upgrade at Traffic Building parking lot	Traffic Div. Lot	\$2,220	2.75
Replace metal halide fixtures at SWAN	SWAN	\$7,380	3
Upgrade parking lot lights	Prairie Park Nature Center	\$3,400	4.9
Airport beacon lighting technology upgrade	Airport	\$10,123	5
Replace park lights with LED fixtures	Watson Park	\$1,308	9.5
Riverfront Garage lighting upgrade	Riverfront Parking	\$9,100	15
Install big fans	Holcom Park Center	\$20,000	15.9
Replace park lights with LED fixtures	Veterans Park	\$17,000	
Insulate and heat maintenance building (to avoid using inefficient space heaters)	Holcom Complex	\$4,500	?
Replace duct work in office	Memorial Park Cemetery	\$4,500	?
Arts Center: motion sensors, replace incandescents with LED or CFL	Lawrence Arts Center	\$20,000	estimate
		Sum:	\$100,531
Replace ball diamond lights with energy efficient lighting	Holcom 1 field (blue or ice)	\$136,000	
Replace ball diamond lights with energy efficient lighting	Holcom Complex	\$545,000	
Replace ball diamond lights with energy efficient lighting	Hobbs Park	\$130,000	
Complete downtown LED lighting retrofit	downtown decorative lights	\$100,000	
Fire Station #3 HVAC upgrade (replace system with 1, 20 ton heat pump and zone controls	FS #3	\$110,000	
Install new electrical system to allow for use of electric golf carts	Eagle Bend Golf Course	\$50,000	

# Additional Projects of Sustainability Coordinator:

---

- ▶ Climate Action Plan
- ▶ Solid Waste Task Force
- ▶ Electric Vehicle Collaborative
- ▶ Sustainability Advisory Board
- ▶ Douglas County Food Policy Council

