



# Energy Conservation Audit & Disclosure Ordinance

## *First Year Status Report*

*Ordinance No. 20091106-47*

*City Code 6-7, June 2009*





# Residential

- Austin home sales: 9,549
- 3,999 ECAD exempted
- 4,862 ECAD audits received
  - Energy audit :
    - Weatherization
    - Duct Leakage
    - Attic Insulation
    - Solar Shading
    - Identifying opportunities for upgrading HVAC systems, home appliance, Austin Water qualified conservation measures





# Residential Audit Results

- Ducts leak almost twice the code standard 10%
- Older homes need 10 inches of insulation
- 96% of audited homes received at least one energy efficiency recommendation:
  - 78% need in-home weatherization
  - 58% need solar shading
  - 68% need HVAC air duct system renovation and sealing
  - 79% need additional attic insulation



# Expected Savings

- 4,862 Audited Homes
- Potential annual savings:
  - 7,788,000 kWh/yr
  - \$723,650 per year
  - 3.9 MW saved
  - Equivalent to powering 650 homes
  - Emissions:
    - 4,897 Tons of CO<sub>2</sub>/yr





# Improvements Created

- Auditors certification and training
  - RESNET & BPI Affiliates:
    - Private Training Centers
    - Community College
    - Grant Funded Programs
- ECAD database
- Public information
  - Website, marketing collateral, advertising, press briefings, real estate group presentations, and 311/AE call center



# Austin City Council Resolution



- City Council Resolution Goal for First Year:
  - 25% of Homes Sold to Receive Retrofits
  - Currently tracking 10% participation
- Overall increase in Rebate Program





# Multifamily Properties

- Requires energy audit performed no later than June 1, 2011
- Multifamily property profile
  - Number of properties: 1,411
  - Number of properties needing audit: 1,196



# Multifamily Properties

- High usage properties must implement energy efficiency improvements
- Energy utilization index (EUI) benchmark
  - Six categories were created:
    - All Electric or Gas and Electric built prior to 1985
    - All Electric or Gas and Electric built between 1985 and 2001
    - All Electric or Gas and Electric built between 2001 and present



# Multifamily EUI

Preliminary energy utilization index (EUI)

<b>kWh/Usage per Sq. Ft.</b>	<i>Built prior to 1985</i>	<i>Built between 1985 and 2001</i>	<i>2001 to Present</i>
All Electric	12.1	13.2	10.8
Gas & Electric	10.4	9.1	8.1



# Preliminary Results

<b>High Use</b>	<i>Built prior to 1985</i>	<i>Built between 1985 and 2001</i>	<i>2001 to Present</i>
All Electric	44	8	3
Gas & Electric	8	3	0

- 66 high use properties
- Average size: 505 square foot
- Currently verifying data



# Audit Approach for Multi-family Properties

- ECAD enhanced rebates to encourage participation
  - Audit data points similar to rebate data collection
- ECAD auditors training
  - Duct remediation/sealing
  - Attic insulation
  - Solar shading
  - Demand response: water heater timers, energy miser, thermostats
  - Lighting
  - HVAC
  - Reflective roofing



# Commercial Building Energy Ratings

- Report building rating by June 1, 2011
  - Two building energy rating systems
    - EPA Energy Star Portfolio Manager
    - Austin Energy's "Business Audit" tool
- [www.austinenergy.com/go/businessaudit](http://www.austinenergy.com/go/businessaudit)

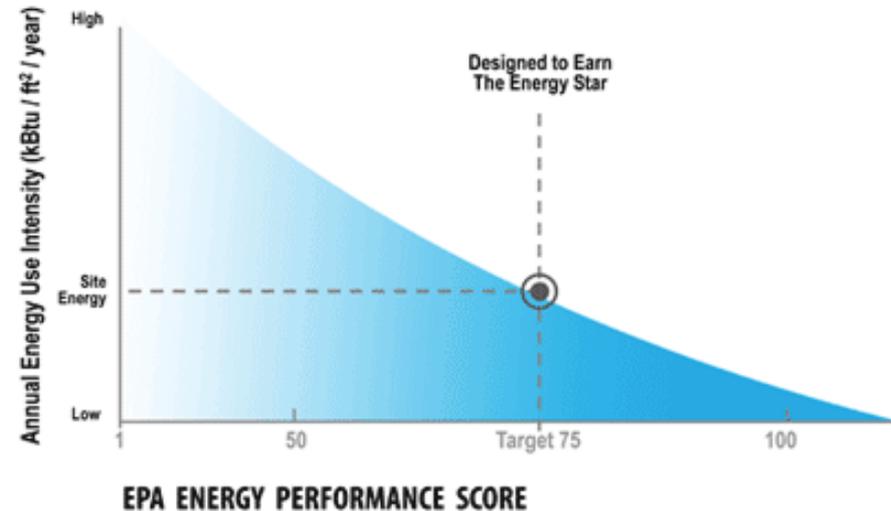


# Portfolio Manager



## Types of Commercial Buildings:

- Bank/Financial Institution
- Courthouse
- Data Center
- Hospital (acute care and children's)
- Hotel
- House of Worship
- K-12 School
- Medical Office
- Municipal Wastewater Treatment Plant
- Office
- Residence Hall/Dormitory
- Retail Store
- Supermarket
- Warehouse (refrigerated and non-refrigerated)



Austin Ranks 18<sup>th</sup> in US Cities for Energy Star Rated Building  
Disadvantage is that it doesn't rate all buildings.



# Portfolio Manager



- Ratings received:45
  - Highest rating 95
  - Lowest rating 22
  - Variances: 3 for high energy use



- Energy Star Buildings (Not Reported to AE):
  - 32 building are listed as ES in 2010
  - 44 building are listed as ES in 2009





# Lessons Learned

- ECAD energy audit not onerous
- Outreach and awareness campaign
- Audit form technical and difficult to interpret
- Point of violation difficult to enforcement residential
- Not all properties are clearly addressed
  - Condominiums
  - Commercial buildings
- Need more comprehensive database

