



American Council for an Energy-Efficient Economy

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Case Study — Austin Energy Conservation Audit and Disclosure (ECAD) Ordinance

September 2011

California Energy Commission

DOCKETED

12-AB1103-1

TN # 68669

NOV. 26 2012

In Brief

Location: Austin, Texas
Lead organization(s): City of Austin and Austin Energy
Policy type(s): Building Rating and Disclosure, Building Codes, Retrofits, Utility Regulation and Policy, Multi-Family Homes
Sector: Residential and Commercial
Start Date: June 2009
Summary: ECAD requires properties within Austin or served by Austin Energy to undergo energy audits before the sale of the property. This ordinance applies to single-family, multi-family, and commercial properties ten years or older.
Impact: Compliance with ECAD can result in implementation of energy efficiency measures, lower utility bills for customers, reduced greenhouse gas emissions, and more affordable housing. Potential annual savings from the measures identified in the first year of ECAD residential audits includes savings of \$723,650, 7,788,000 kWh, and 4,897 tons of carbon dioxide per year.

Overview

The Energy Conservation Audit and Disclosure Ordinance (ECAD), approved in November 2008 and amended as City of Austin Ordinance No. 20110421-002 [PDF] in April 2011, is a mechanism to disclose building energy performance and facilitate energy improvements in existing homes and commercial buildings. ECAD requires properties within Austin and served by Austin Energy to undergo energy audits before the sale of the property. The ordinance went into effect in June 2009 and is implemented and enforced by Austin Energy, the municipal electric utility.

The overarching goal of ECAD is to increase energy efficiency retrofits of existing buildings, but, with a few exceptions, it does not require that owners implement energy efficiency upgrades and instead focuses on providing better information on energy use to owners and tenants. To better achieve the energy saving goal, Austin Energy seeks to use ECAD compliance requirements to promote energy efficiency upgrades. Methods of increasing voluntary retrofits of homes include continuing energy efficiency outreach and education, identifying low-cost opportunities, and providing financial and technical resources. Also, under ECAD, voluntary adoption of some energy efficiency measures will exempt properties owners from audit requirements.

The ECAD serves as a mechanism to implement energy goals identified in the city's 2007 Climate Protection Plan. The climate plan includes goals of 700 megawatt energy savings, 30% renewable energy sources, and carbon neutrality of all City facilities, vehicles and operations by 2020. By 2015, all new homes must be "zero net energy-capable" and all new non-residential construction must be 75% more efficient. Austin Energy is the ninth largest municipal utility in the United States, serving 320,000 residential customers and 40,000 commercial customers.



Management and Funding

ECAD applies to all buildings: single-family (four units or less), multi-family (five units or more), and commercial buildings, unless exempt. Exemptions include properties less than ten years old, properties

that have recently made certain energy efficiency improvements, low income properties qualified for free weatherization, properties in probate or similar status, manufactured housing, and manufacturing facilities that receive a Texas Sales Tax Exemption. All other sellers must perform an audit or rating and provide a copy of the results to potential buyers.

For single-family residential properties, starting June 1, 2009, an energy audit must be performed before being sold and disclosed to potential buyers, in a similar manner to the sellers disclosure already required by Texas law. ECAD audits must be performed by auditors certified by Residential Energy Service Network (RESNET) as a Home Energy Rater or by Building Performance Institute (BPI) as a Building Analyst. Austin Energy verifies that ECAD auditors are properly certified. The ECAD audit report includes the evaluation of the audited home components, recommendations for energy-efficiency updates, and information about Austin Energy loan and rebate programs. The ECAD home audit evaluates the most common cost-effective updates for homes in Austin and includes suggestions for improving the home's energy efficiency. Audits assess:

- Attic insulation: the condition and estimated R-value needed to achieve an R38 level.
- Duct System: percentage of air leakage. Leakage >10% sealing is recommended.
- Windows: the number receiving more than one hour of direct sunlight a day
- Air Conditioning Equipment: the estimated Energy Efficiency Rating (EER) and the general condition on the mechanical system are identified.
- Other potential conservation measures are identified: age of appliances, old 3 gallon toilets, sprinkler systems, and pool pumps with suggestions for buyers to consider.

For multifamily residential properties, ECAD requires an energy audit to be performed and results posted in the buildings, disseminated to tenants, and sent to Austin Energy in the calendar year in which the property is ten years old, starting June 1, 2011. Energy efficiency improvements are voluntary except for buildings with very high relative energy usage. If the multifamily property has a high energy use per square-foot (exceeds 150% of average energy use of multifamily properties), owners have 18 months from the date of the notification to make energy-efficiency improvements, or they may apply for an extension within 90 days of receiving notice. Owners were initially required to complete energy improvements to achieve an energy use per square foot of 110% of the average multifamily property. April 2011 amendments now require a 20% reduction if a property's energy use exceeds 150% of average. Furthermore, owners of properties in the high energy use category are required to disclose the high energy use designation to tenants and prospective tenants. In total it is expected that around 1,200 multifamily buildings will be required to submit audits, but only 50 would be impacted by this policy for high energy users.

Commercial properties ten years or older are required to determine an energy rating annually and submit it to the City

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HOW TO GET STARTED

OPTION 1:

GET A FREE ENERGY ANALYSIS

Home Performance with ENERGY STAR® participating companies offer a free energy analysis to homes 10 years old and older. This walk-through analysis can give you a good idea of what needs work and the cost. All of the participating companies understand how to work with the rebates offered by Austin Energy and Texas Gas Service to make sure you stretch your energy dollars.

Bonus: if you receive rebates of more than \$500 or make three or more of the recommended improvements, you are exempt from the mandatory Energy Conservation and Disclosure Ordinance (ECAD) Audit (City of Austin Ordinance No. 20081106-047, June 2009).

OR



OPTION 2:

GET AN ENERGY AUDIT

A multitude of options exist for energy audits, which involve testing the working parts of your home with specialized equipment. These audits are available at a cost, which is generally in keeping with the size of your house.

Home sellers are required by the City of Austin to have a specialized audit, the ECAD Audit, before a home 10 years or older is sold. This audit covers four basic areas:

- A. Heating and Cooling System (HVAC) Efficiency
- B. Air Infiltration: Duct Performance, Air Sealing in Plumbing Areas and Weatherstripping
- C. Windows: Shading, Low "E" Glass and Solar Screens
- D. Attic Insulation

Refer to the home improvement incentive chart found on the back of this insert for details on the incentives relating directly to the recommended ECAD Audit improvements.

Excerpt from Austin Energy's A Guide for Homebuyers, Homesellers & Homeowners describing options for compliance with ECAD.

of Austin. Approved rating systems include the Portfolio Manager rating tool from Energy Star or, for buildings less than 100,000 square feet, the Austin Energy Business Energy Analysis. Commercial energy ratings are translated into a single number, ranging from 1 to 100, with 50 indicating the average energy use for other buildings of the same building type. The rating is coupled with voluntary goals to help interpret the rating: "no action necessary" for ratings 75 and above; "raise score to at least 75" for ratings 63-74; "raise the score by 20%" for ratings 42- 62; and "raise score to 50" for ratings below 42.

The price of residential audits is established by the auditor and is dependent on the size of the property. The estimated cost of an ECAD audit is \$200 to \$300 for a typical single-family home of 1,800 square feet or less with a single air-conditioning system. The market is very competitive with over 100 auditors in the area. Austin Energy maintains records of energy audits and energy-efficiency improvements made by registered Austin Energy contractors. ECAD audits are required by law and the property owner is legally responsible for a violation. Reported violations are forwarded to the City of Austin Legal department for review and action. Each instance of violation is a separate offense and is subject to a fine of \$500-\$2,000.

Although not required, certain energy efficiency improvements can exempt residential buildings from ECAD. For single-family homes these improvements include participation in the Austin Energy Home Performance with Energy Star Program or making at least three energy improvements or receiving at total of \$500 in Austin Energy efficiency rebates within the previous ten years. Qualifying single-family improvements include increasing attic insulation to R38; installing solar screens, solar film, or low-E windows; adding radiant barriers in the attic; replacing or insulating ducts; reducing air infiltration and sealing ducts; and installing new qualifying HVAC systems. For multifamily properties, exemptions include comprehensive duct remediation or replacement of air conditioning for all units through Austin Energy programs within the previous ten years.

To provide a smooth transition between requiring improved information on energy use and voluntary action by owners to improve energy efficiency, Austin Energy makes available energy-efficiency rebates and education for residential, multifamily and commercial property owners. Since ECAD was enacted, Austin Energy has increased its budget for building energy improvement rebates and low-cost loans by \$1 million. The average rebate varies by improvement, but may cover up to 60% in single-family homes. For multi-family buildings rebates will cover up to 80% of the installed cost of air duct sealing, ceiling insulation, and solar screen or window films for a limited time. Austin Energy sends interns to small businesses to assist with developing energy ratings and sponsors free classes at the local community college to teach commercial building owners and operators how to use free online energy rating tools.

Key partners in developing, passing and implementing ECAD include the Austin Resource Management Commission, the Austin Electric Utility Commission, the original members of the Energy Efficiency Task Force, the Austin Board of Realtors (ABOR), the Austin Apartment Association (AAA), the Building Owners and Managers Association, building inspectors, home performance contractors, Home Energy Rating System Companies, other energy auditors, title companies, real estate companies, property management groups, and lenders. Many of these partners remain involved. For example, ABOR and AAA are partnering with Austin Energy to host outreach and educational workshops for their members. ABOR has also integrated ECAD into their efforts to develop a "Green" Multiple Listing Service (MLS) for the region, which will allow for the energy performance of homes to be uniformly accounted for in transactions.

Performance

The city of Austin's goal for the first year ending mid-2010 was for 25% of homes sold to implement energy improvements before sale or within 12 months after sale. For the second year ending mid-2011 the goal was set at 45% of homes. Austin Energy tracked actual rates in the first year at 12% and for the second year at 7%. In the first program year 9,549 homes were sold, 4,862 homes had been audited and 3,999 were determined to be exempt. It is estimated the ordinance could affect about 3,000 homes annually going forward. Of homes sold in the first year 712 implement energy improvements and, as of May 2011, 271 homes had received improvements in the second year. Despite the policy lagging behind

its original goals, there has been an overall increase in participation in Austin's rebate program as the funds available for incentives were increased. Potential budget impacts of the increased incentives were projected to be \$860,000 in the first year and \$2.7 million in the second.

Of the single-family residential units audited in the first year, 98% of 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; ducts leaked almost twice the code standard of 10%; and, many older homes need up to 10 inches of insulation. If all of the recommendations from the first year audits were implemented the annual results would include cost savings of \$723,650, energy savings of 7,788,000 kWh and 3.9 MW (the equivalent of powering 650 homes), and greenhouse gas emission reductions of 4,897 tons of carbon dioxide.

Multi-family residential properties built before 2001 had until June 1, 2011 to have an energy audit or meet an exemption of comprehensive duct sealing or HVAC replacement. Of the 1,400 multifamily communities in Austin, around 20% have made energy efficiency improvements and are exempt from all requirements of the ECAD Ordinance. By the reporting deadline, Austin Energy received close to 600 energy audits and processed summary energy audit results documents showing duct leakage, solar shading, and attic/roof insulation to be posted at the property in public areas. Austin Energy's Multifamily Power Saver Program was achieving significant results in fiscal year 2011. As of May 2011, the program had spent less than \$1 million of the \$1.8 million annual budget while achieving greater than expected savings of 2.5 MW compared to the goal of 2.68 MW. Additional savings potential from remaining budget was projected at 1.1 MW.

Although commercial buildings are not required to have their properties rated until June 2012, as of May 2011 owners of 548 commercial buildings had already submitted their ratings. 29 buildings received variances. Of the first round of submissions received, the highest energy rating was a 95 and the lowest a 22.

Lessons Learned

The implementation of ECAD and knowledge gained through discussions with other jurisdictions implementing energy disclosure laws (such as Seattle, Washington DC, Washington State, New York City and San Francisco) has already provided valuable lessons. Initially, the ordinance was set to be in full force by June 2011, but, in April 2011, the Austin City Council voted to amend the ordinance to apply lessons learned. They chose to stagger reporting deadlines for commercial properties based on the size of the property and clarified some requirements for residential buildings.

The point of sale disclosure requirement for residential owners had proven difficult to enforce. Originally, ECAD required audit results of single family properties to be provided "before the time of sale." This resulted in energy disclosures at the end of a real estate transaction, often too far into the transaction process to negotiate prices or purchase improvements. To overcome this obstacle, the Council, in April 2011, approved a change that will require sellers of single family homes to provide audit results at least three days before the end of the "option period" during which a potential buyer can cancel their contract to purchase their home. Additionally, amendments were included to address condominiums, which were originally not identified in the ordinance. Owners of four or fewer condominiums must meet the requirements for single-family homes. Owners of condominiums of five or more units at one location must meet requirements for multifamily properties.

The Council has also amended commercial property deadlines for calculating energy ratings on their properties. These changes are intended to provide owners and managers of commercial facilities more time in order to better track their energy use and determine and implement cost-effective, energy efficiency improvements. Original ECAD requirements established reporting deadlines for all commercial buildings by June 1, 2011. The April 2011 amendments established deadlines dependent on the square footage of the facilities. The first reports for buildings 75,000 square feet or larger must be submitted by June 1, 2012; for those 30,000 to 75,000 square feet by June 1, 2013; and for those 10,000 to 30,000 square feet by June 1, 2014.

Related Resources

Austin Climate Protection Plan: www.coolaustin.org

Austin Energy's "About the Energy Conservation Audit and Disclosure (ECAD) Ordinance":
<http://www.austinenergy.com/about%20us/environmental%20initiatives/ordinance/index.htm>

Energy Conservation in the Code of the City of Austin (Chapter 6-7) www.amlegal.com/austin_tx/

ECAD First Year Status Report – July 2010 [PDF]:
<http://www.ci.austin.tx.us/edims/document.cfm?id=139825>

Press Release: Council approves amendments to energy audit/rating ordinance – April 22, 2011:
<http://www.austinenergy.com/about%20us/newsroom/Press%20Releases/2011/amendmentsToECAD.html>

Austin Energy - energy efficiency rebate programs: www.austinenergy.com/go/programs

Austin Board of Realtors Green Real Estate page: http://www.abor.com/about_abor/GreenRealEstate.cfm

BuildingRating.org – technical assistance resources on energy rating and disclosure, including references to existing policies around the world and technical reports.

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