

Making It Work: Increasing Code Compliance Through Energy Ratings A Rising Tide in Texas

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> 2004 RESNET Conference March 3, 2004



A story in 3 parts

- Pre-2001 (context matters)
 - 1999 electric deregulation (SB 7, 76th TX Leg.)
 - DFW regional code coordination
- 2001 (bill text matters)
 - SB 5 (77th) adopts IRC/IECC
 - Inside/Outside municipalities
- Current Situation (HERS matters)



Background

- Electric deregulation (SB 7, 76th TX Leg., 1999)
 - Regulated transmission and distribution utilities: 10% of planned growth must come from efficiency
 - Standard offer programs
 - Limited, targeted market transformation programs
- Air Quality
 - Major cities in non-attainment of standards
 - SIP commitments to improving efficiency
 - Houston-Galveston
 - Dallas/Fort Worth



Background



- North Central Texas Council of Governments Regional Codes Coordinating Committee
 - Recommended regional amendment to IECC:
 - 101.3.3. Alternative compliance. A building certified through a voluntary energy performance testing program approved as meeting or exceeding the provisions of this code may be deemed to comply with the requirements of this code.
 - (Reason: This amendment would encourage participation in above-code programs and provide an attractive alternative path for unconventional builders who are committed to quality and efficiency, but concerned about mechanics of code compliance. NCTCOG will arrange advisory review of such programs.)



SB 5, 77th TX Leg., 2001

- Establishes **Texas Emissions Reduction Plan**, including
 - a diesel emissions reduction incentive program,
 - a motor vehicle purchase or lease incentive program,
 - a new technology research and development program,
 - an energy efficiency grant program, and
 - building energy performance standards.



Energy Efficiency in SB 5

- Innovations of SB 5 re: the State Implementation Plan (SIP)
 - Emphasis on voluntary programs
 - Dependence on broad participation
 - Inclusion of building sector in solution set
- Building sector sources of EE
 - utility grant programs
 - political subdivision owned facilities
 - construction standards and HERS



ESL in SB 5

- Sec. 386.205. Evaluation Of State Energy Efficiency Programs.
- Sec. 388.003. Adoption Of Building Energy Efficiency Performance Standards.
- Sec. 388.004. Enforcement Of Energy Standards Outside Of Municipality.
- Sec. 388.007. Distribution Of Information and Technical Assistance.
- Sec. 388.008. Development Of Home Energy Ratings.



HERS in SB 5

- Standardized HERS Report for Homeowner
- Public Information Program
- Implementation by Sep 1, 2002 (1 year after presumed funding)

Building Energy Performance Standards Adopted

- energy efficiency chapter of the **International Residential Code**, as appropriate, for single family residential construction, and
- **International Energy Conservation Code** for all other residential, commercial and industrial construction in the state.
- Requires that municipalities establish procedures
 - administration and enforcement
 - ensure that code-certified inspectors perform inspections.





Local Amendments

- Local amendments allowed.
- In non-attainment areas and affected counties, may not result in less stringent energy efficiency requirements.
 - Energy Systems Laboratory (ESL) to review local amendments and submit annual report of savings impacts to TCEQ.



Outside of Municipal Jurisdictions



- A building certified through an energy efficiency (above-code) program is considered in compliance;
- A building inspected by a code-certified inspector (e.g., warranty inspection) is considered in compliance; otherwise,
- A builder may self-certify a building with a form to be provided by ESL.



- >120,000 new homes built in Texas in 2003
- > 30,000 were HERS rated and qualified for Energy Star
- Virtually all ratings were used for code compliance
- 17 providers now in Texas
- 69+ certified raters
- A tale of two cities



Current Situation - DFW

- Oncor
- 13,533(+) Energy Star rated homes
- 69 participating builders
- HERS score frequency



(Data provided by Oncor)



DFW Metroplex Builders

Oncor 2003 Energy Star Homes Participants*

- Aaron & Co. Builders
- Actus Lend Lease LLC
- Armadillo Homes
- Ashton Woods Homes
- Augusta Custom Homes
- Avery-Edwards Custom Homes
- Beaver Builders
- Beazer Homes
- Bob Priest Homes
- Bowen Family Homes
- Brazier Construction
- Buescher Homes
- Carl Franklin Homes
- Cary Clarke Homes
- Centex Homes
- Choice Homes
- * Listing from Oncor web site

- City Homes
- Coleman Homes
- Crestmark Homes
- DR Horton Homes
- David Roffino Homes
- Denton Hills
- Derecor Homes
- Energy Smart Solutions
- Ferrier Builders
- Fox & Jacob
- Fred Parker Co.
- Garnel Construction Co.
- Garvey Homes
- Gehan Homes
- Goodman Family of Builders
- Grand Texas Homes



DFW Metroplex Builders

Oncor 2003 Energy Star Homes Participants*

- Halifax Homes
- Harrison Homes Custom Builders
- Highland Homes-Austin
- Highland/Huntington/Sanders Homes
- Holmes Homes
- Homes by Hanes
- Jonathan Mark Homes
- KB Home
- Kiella Homebuilders
- Landstar Homes
- Legacy Homes
- LPJ Homes dba Classic Homes
- Mercedes Homes
- MHI
- Mid-Tex Homes
- Morrison Homes

- New Dawn Homes
- NHS of Waco
- Optima Homes
- Paul Taylor Homes
- Perry Homes–Austin
- Portrait Homes
- Pulte Homes
- Quantum Custom Homes
- Ridge Hill Investments
- Rieger Custom Homes
- Ryland Homes
- Sandlin Custom Homes
- Sotherby Homes
- Stoneleigh Homes
- Vanity Homes
- Vintage Contemporaries
- William Ryan Homes



- CenterPoint:
 - 11,965+ Energy Star homes in 2003
 - 26 Energy Star builders
- Area total is at least 16,349 rated homes, at least 36 builders
- All ratings were used for code compliance
- Average score for largest rater was 87.4 (Data compiled from Centerpoint, EnergySense, Guaranteed Watt Savers, and DPSI)



Houston Area Builders

CenterPoint Energy 2003 Energy Star Homes Participants*

- Ashton Woods Homes
- Beazer Homes
- Carlisle Homes
- Corinthian Custom Builders
- David Powers Homes
- David Weekley Homes
- DR Horton Custom Homes
- Emerald Homes
- Gateway Homes
- Hammonds Homes
- Heartland Homes
- HHN Homes
- Imperial Homes
 - * Listing from CenterPoint Energy web site

- Legacy Homes
- Lennar Homes
- Maplewood Homes
- Metropolitan Joint Venture
- MHI-McGuyer Homebuilders
- Newmark Homes
- Partners in Building
- Pulte Homes
- Royce Homes
- Supreme Builders
- Trendmaker Homes
- US Home
- Village Builders



Emissions Calculation

Emission reduction measures in SIP must be quantifiable, surplus, permanent and enforceable

- To analyze NOx emissions reductions, ESL developed for TCEQ a code-compliant DOE-2 simulation capable of peak day modeling linked to EPA's eGRID database.
- EPA is now considering this analysis for SIP credit.
- Analysis applies to code implementation, enhanced local codes, and above code building performance achieved through ratings





What's next?

ESL will establish a public information program about HERS

- Information aimed at homeowner/buyer choice
- Data collection on voluntary participation
- Quality assurance/verification of creditable results
- SB 5 success is enhanced by broad participation
 - continue to grow new home ratings
 - start rating 8 million existing homes
- Successful implementation may create opportunity for similar leverage with commercial building performance
- Continue to improve compliance/enforcement



Thanks!

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