



Approach toward Greener Buildings



ED, Planning and Tourism LRC

March 1, 2012



Background

- September 2010- City Council adopts latest series of building codes to include the 2009 edition of the International Energy Conservation Code (IECC)
 - **First of its kind for El Paso community**
 - **Phased in implementation of April 1, 2011**
- Fall 2010- City Council direction to assemble a “task force” to evaluate opportunities to move beyond 2009 International Energy Conservation Code (IECC)
- Throughout 2011 internal and external discussions transpired
 - Sought initial input on possible options/approach
 - Opportunity to implement and assess new code that went into effect April 1st



Alternatives Explored

- Identifying local amendments to increase cost savings/efficiencies in existing 2009 IECC
- Creation of a City initiated rating system
- Review of other green building codes
 - International Green Construction Code
 - California Green Building Code
 - Phoenix Green Building Code
- **Possible adoption of 2012 IECC model code**



Green Building Elements

- Life cycle assessment (LCA)
- Site and structure design efficiency
- Energy efficiency
- Water efficiency
- Materials efficiency
- Indoor environmental quality enhancement
- Operations and maintenance optimization
- Waste reduction



2012 IECC Improvements

- 1) Better thermal envelope
 - Windows/Insulation
- 2) Less Duct Leakage in HVAC
- 3) Tighter thermal envelopes (improved air barriers and sealing)
- 4) Insulated hot water piping
- 5) Increased percentage of energy efficient lighting
- 6) Improved homeowner information



2012 IECC Highlights

Improves upon the highlighted Green Building elements:

- Life cycle assessment (LCA)
- Site and structure design efficiency
- Energy efficiency
- Water efficiency
- Materials efficiency
- Indoor environmental quality enhancement
- Operations and maintenance optimization
- Waste reduction



Percentage in Savings

The corresponding percentage savings based on cooling, heating and domestic hot water consumption of the code compliant house are:

For an electric/gas house:

19% for Harris County,

25% for Tarrant County (same climate zone as El Paso)

25% Potter County.

For a heat pump house:

14% for Harris County,

20% for Tarrant County (Same climate zone as El Paso)

19% for Potter County.



EECC Analysis

Energy Efficient Codes Coalition (EECC) performed analysis of energy savings and incremental construction costs under 2012 IECC

- New 2,400 square foot single family homes in Houston, TX
- Findings: incremental costs should be approximately \$1,623 per new home
 - Represents an estimated increase in first-cost of new home of less than one percent
- Energy cost savings achieved by the new code are estimated as \$252 per year



EECC Analysis

- **As a result, monthly utility bill savings to the homeowner are more than three times as much as the additional mortgage payment needed to cover the added first-cost of energy saving features required by the 2012 code**
- Cash-flow difference enough to pay back buyer's added down-payment in less than two years (or sooner if the loan allows a down payment below 20%).
- After that date, the owner continues to save \$177 annually in lower utility bills – and even more if energy prices increase.



Other Texas Communities

City	Current Standard	2012 IECC
Midland	2009 IRC for 1&2 family dwellings and 2009 IECC for all other residential buildings, NO local amendments	Planned adoption by September 1, 2012
McAllen	2009 IRC chapter 11 or the 2009 IECC as per state mandate	By the end of the year
Katy	2003 IRC	Adopting 2012 IECC this year, hopefully before June
Galveston	2009 IECC	Possibly by the end of 2012 or beginning 2013
Southlake	2009 IECC and 2009 IRC with regional amendments recommended by North Central Texas Council of Governments.	Southlake code history is to review and adopt the latest codes within one year of its printing.
Fort Worth	2009 IECC and Chapter 11 of the 2009 IRC	Currently in review through the Dallas Fort Worth Council of Governments
Odessa	2006 IRC	Under review at this time

**Information extracted from a survey recently completed by Environment Texas*



Recommendation

- Adopt 2012 IECC for use on a voluntary basis
- Provide training opportunities
- Consider incentives (Economic Development Department developing package for Adaptive Reuse & Downtown revitalization projects)
- Everyone who uses 2012 IECC will be able to use our expedited permit review process
- Consider implementing an energy data collection tool, such as “OPower”
- Evaluate how implementation is going and if successful, adopt 2012 IECC as the mandatory code by 2013 or 2014



Next Steps

- Continue vetting with stakeholders
- Prepare and propose local amendments where necessary
- Provide internal and external training opportunities
- Finalize code language for City Council consideration
 - 90 days



Comments/Questions