

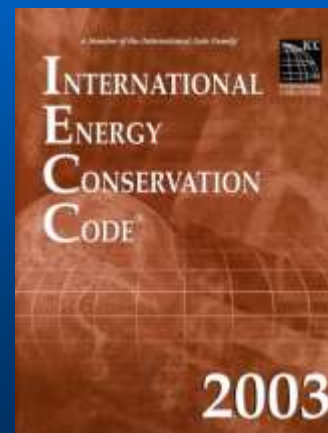
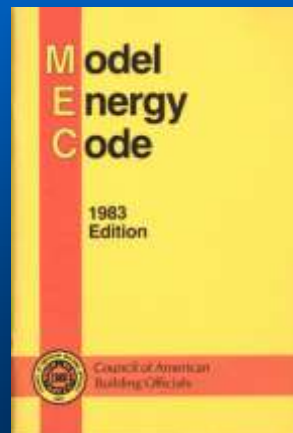
N E B R A S K A



ENERGY OFFICE

Building Energy Codes Partnerships with Utilities and Others

The Nebraska Experience

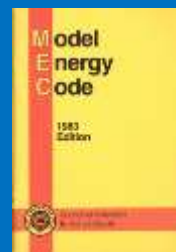




Building Energy Codes Partnerships with Utilities and Others

Here's a brief overview of how the state and it's partners moved from the 1983 MEC to the 2009 IECC.

Legislature established the Nebraska Building Energy Conservation Standard: ASHRAE 90-75.



1980

1983

1985

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Legislature adopted the 2003 IECC for all state-funded buildings.



Legislature adopted the 2009 IECC and ASHRAE 90.1-2007 as the Nebraska Energy Code.

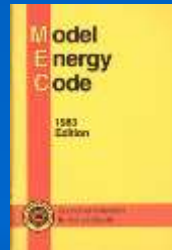




Partnerships with Utilities and Others

A New Approach

Legislature adopts the *1983 Model Energy Code* as the Nebraska Energy Standard.



1980 **1983** 1985 **1989** 1990 1995 2000 2005 2010

The Legislature considers updating energy code.

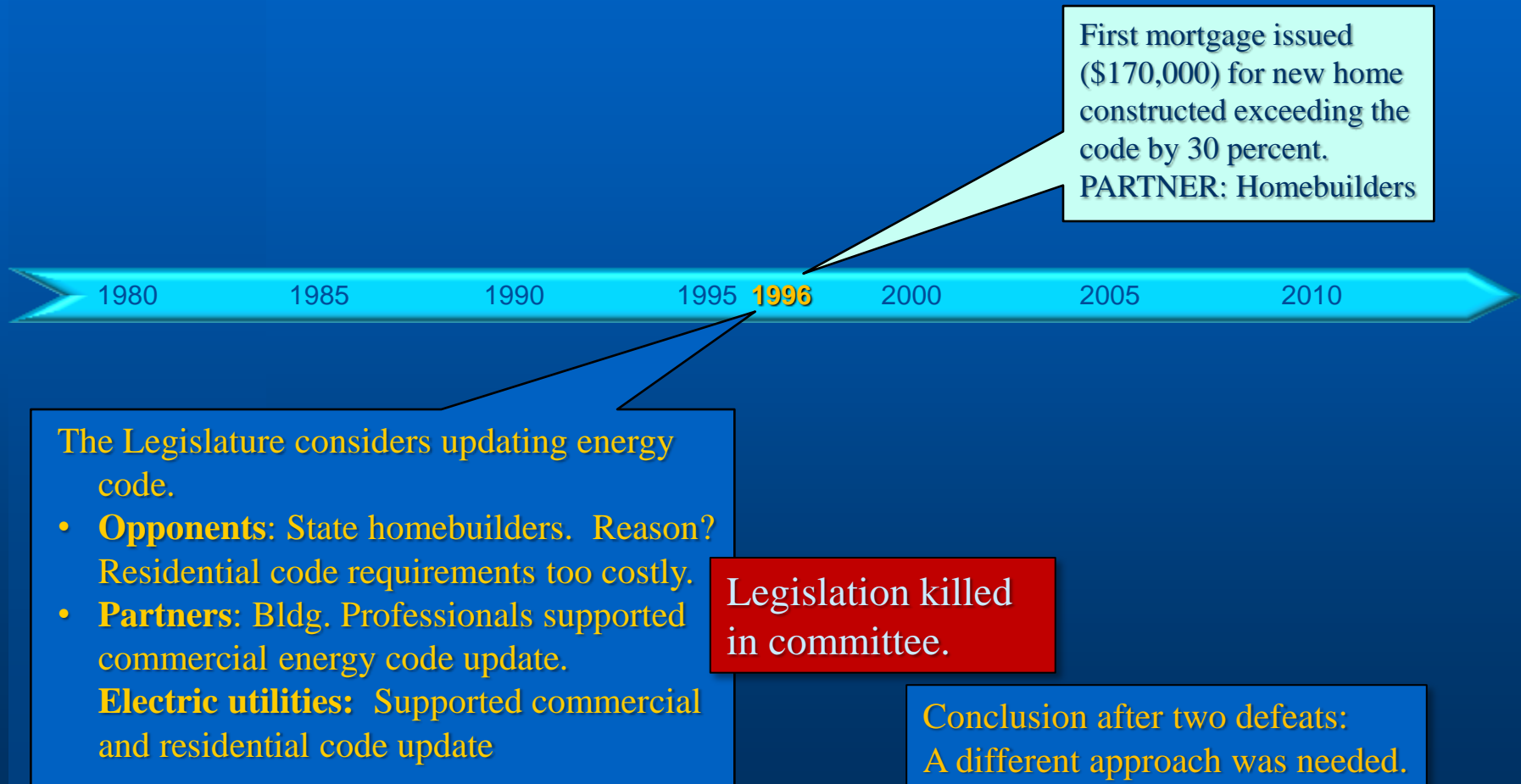
- **Opponents:** State homebuilders. Reason? Residential code requirements too costly.
- **Partners:** Bldg. Professionals supported commercial energy code update.
Electric utilities: Supported commercial and residential code update.

Legislation killed in committee.



Partnerships with Utilities and Others

A New Approach





Partnerships with Utilities and Others

A New Approach

The agency and lenders financed 122 homes totaling \$21.38 million which met or surpassed the *1995 Model Energy Code* then 1998 IECC by at least 30 percent. The agency offered interest rate reductions, from $\frac{1}{4}$ to 1 percent, to encourage the construction of very energy efficient homes. **Partners:** Home builders, utilities and lenders.

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1995 **1996**

2000 **2002**

2005

2010





Partnerships with Utilities and Others

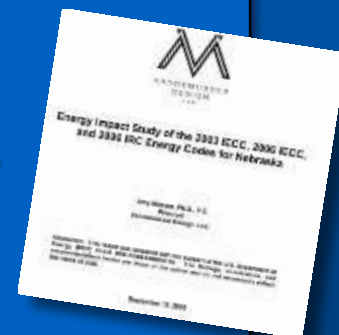
A New Approach

2006 US DOE SEP Special Projects grant received

- \$24,725 for 37 code workshops for 1,172 building professionals, code officials and suppliers.
- Certification examinations for 75 local codes officials.

- 2006 IECC compared to 2003 IECC Energy Impact Study of the 2003 IECC, 2006 IECC, and 2006 IRC Energy Codes for Nebraska, September 2006.

Findings: 2006 IECC would have increased energy use compared to 2003; State made no effort to adopt 2006 for this reason.



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Legislature passes bill requiring 2003 IECC for all state-funded buildings.



Partnerships with Utilities and Others

A New Approach

US DOE SEP Special Projects grant received

- \$303,065 for creating a commercial building energy code 30 percent beyond 2006 IECC Nebraska-specific Advanced Commercial Building Energy Code Study, Final Report Documentation, November 2009

American Recovery and Reinvestment Act

- Building Codes Advisory Council created with representatives [Partners] utilities, builders, local codes staff and architects
- ARRA requirement of adoption of 2009 IECC
- Nebraska allocated \$315,000 in SEP ARRA funds for building energy codes projects
- \$12 million added to loan pool. Financing new homes that are 50 percent or more above code

- Analysis of 2009 IECC International Energy Conservation Code Cost Impact Memo, September 2009. Compliance cost \$476; annual savings = \$164; 3 year simple payback.

1980

1985



Net Zero Home

2000

2005

2008

2009

2010

- Net Zero Home financed and built (\$700,000+).



Partnerships with Utilities and Others

A New Approach



PNNL Building Energy Codes grant received

- \$276,417+ for four tasks:
 1. Assess code compliance; 100 homes evaluated. Findings: State code compliance average is 64%
 2. Measure economic value of compliance Nebraska Incremental Cost Analysis for New Single Family Homes and True Cost of the 2009
 3. Provide code training. More than 700 building professionals were trained at 11 workshops; 700 IECC/ASHRAE code books distributed.
 4. Evaluate compliance strategies; A “Gap Analysis” suggesting ways to reach 90 percent compliance.

International Energy Conservation Code for New Homes in Nebraska

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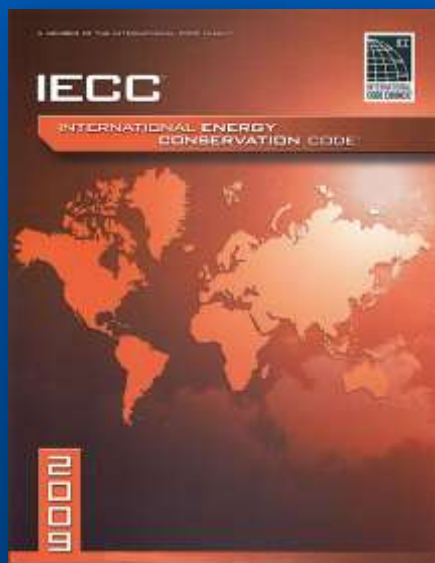


- The Legislature adopted the 2009 IECC replacing the 2003 IECC. Homebuilders remained neutral .



Partnerships with Utilities and Others

A New Approach



Now completing *ARRA* Building Energy Codes projects

- Analyze 2012 IECC [Energy Impact Study of the 2009 IECC and 2012 IECC Energy Codes for Nebraska, March 14, 2012](#)
- RESCheck and COMCheck training at 6 workshops.
- Certification for codes officials offered.
- Using findings on compliance for residential construction (100 homes), a retired “Dean of Codes” is providing customized one-on-one training at more than half the state’s jurisdictions.
- ARRA financed mortgages: 61 homes totaling \$23.51 million.

ARRA financed mortgages: 61 homes at 50 percent above code or better totaling \$23.51 million.

1980

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2012



Partnerships with Utilities and Others

A New Approach

What did we learn over 32 years?

1. Updating codes isn't easy.
2. Compliance is harder than updating a code.
3. You can't achieve success alone.
4. It takes money: analyzing, training, educating, financing.
5. Work with partners and others wherever possible.
 - **Homebuilders:** provided training, designed, built and financed homes well above code.
 - **Code officials:** provided code tools, training and certification costs.
 - **Utilities:** Provide testimony in code adoption, support trainings, attending meetings, and financial investment

1980

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1990

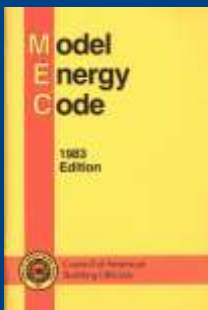
1995

2000

2005

2010

2012





The 2012 Great Plains Energy Codes Conference

Great Plains

Energy Codes Conference

October 16-18, 2012
Omaha, Nebraska



Compliance & Advocacy



Commercial Building Design



Residential Building Design



Value & Practical Applications

Utility Support \$14,250

- 2 electric utilities
- 2 natural gas utilities

- Assisted with agenda setting
- Help secure speakers
- Sponsorship
- Attendees from utilities will be present

N E B R A S K A



E N E R G Y O F F I C E

**Energy Building Code
information and resources are
a click away at**

www.neo.ne.gov