

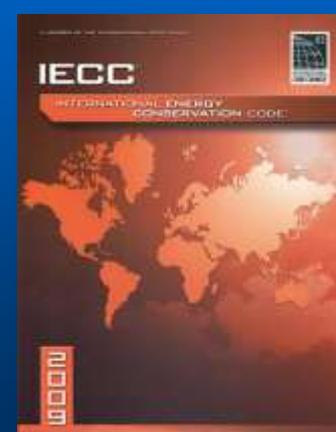
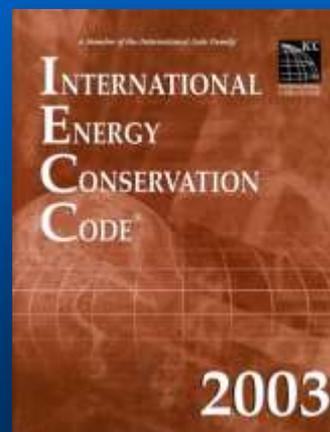
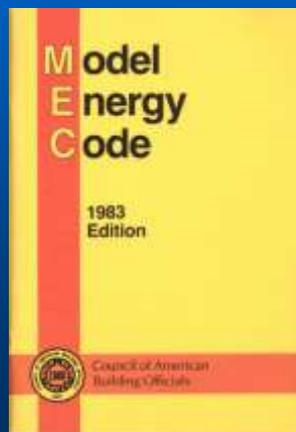
N E B R A S K A



ENERGY OFFICE

# Building Energy Codes Partnerships with Utilities and Others

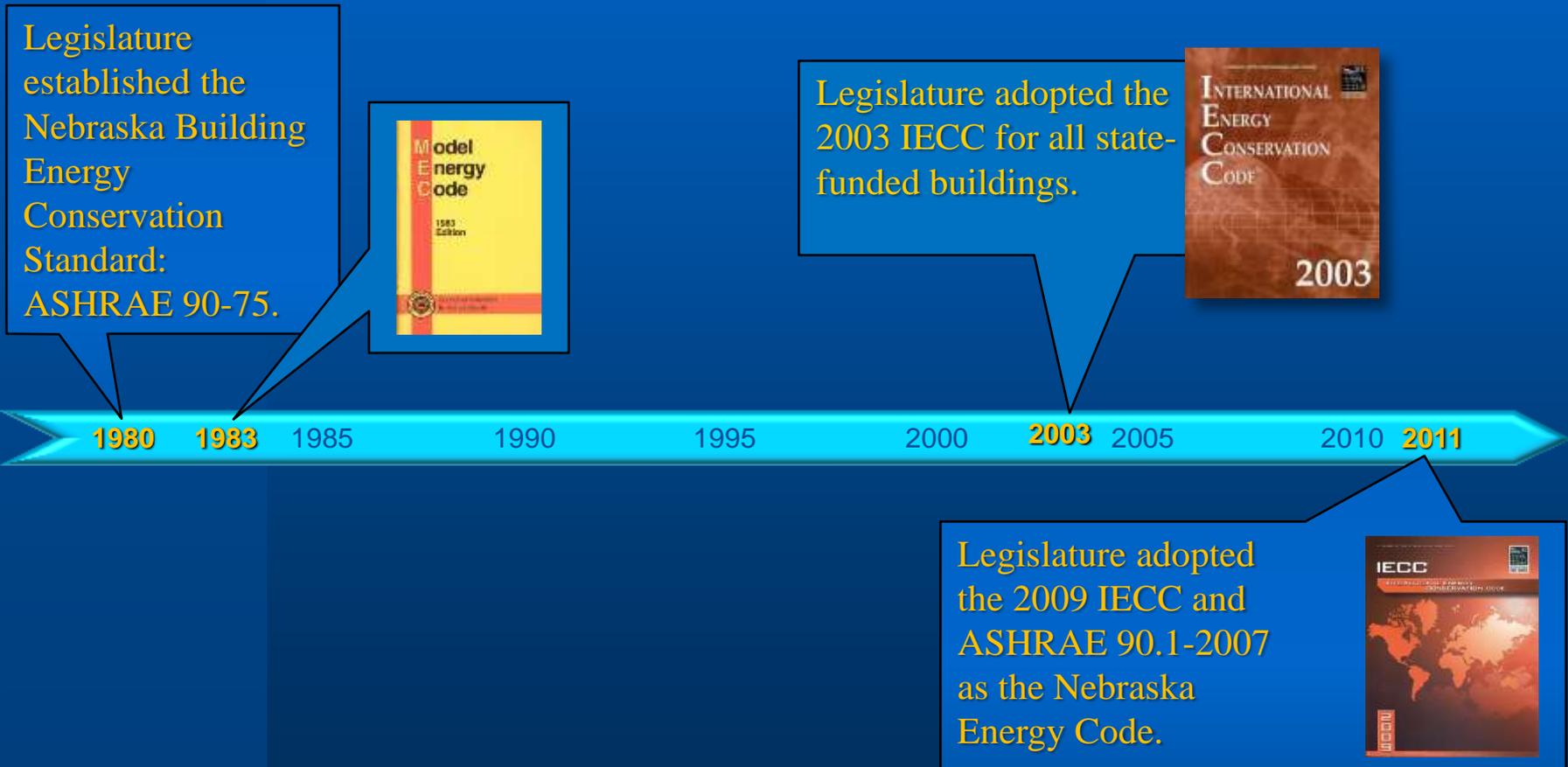
*The Nebraska Experience*



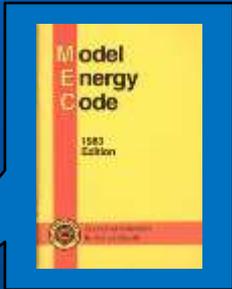


# Building Energy Codes Partnerships with Utilities and Others

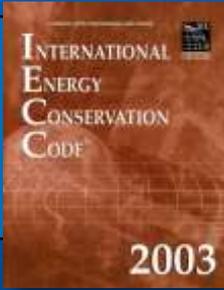
Here's a brief overview of how the state and its partners moved from the 1983 MEC to the 2009 IECC.



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



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.

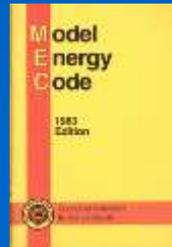




# Partnerships with Utilities and Others

## *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.

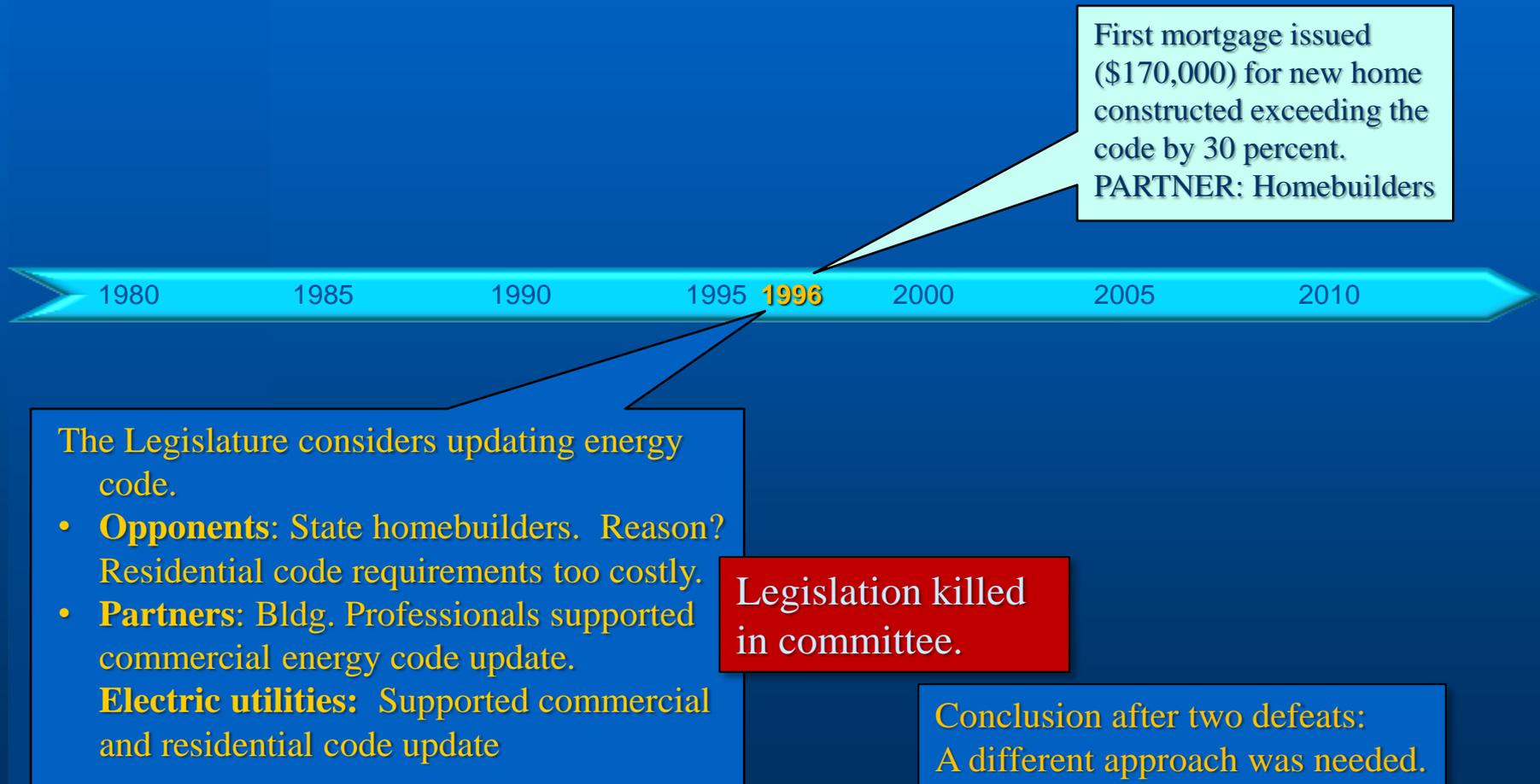
- **Opponents:** State homebuilders. Reason? Residential code requirements too costly.
- **Partners:** Bldg. Professionals supported commercial energy code update.  
**Electric utilities:** Supported commercial and residential code update.

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.

1980

1985

1990

1995 **1996**

2000 **2002**

2005

2010





# Partnerships with Utilities and Others

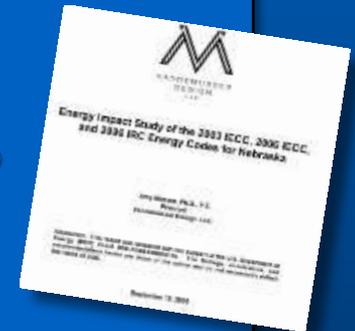
## *A New Approach*

### 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.



1980

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1990

1995

2000

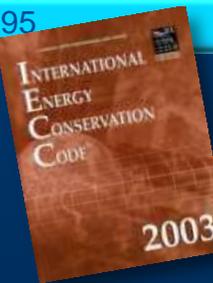
**2003**

2005

**2006**

**2007**

2010



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](#)

[International Energy Conservation Code for New Homes in Nebraska](#)

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.

1980

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1995

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2005

**2010**

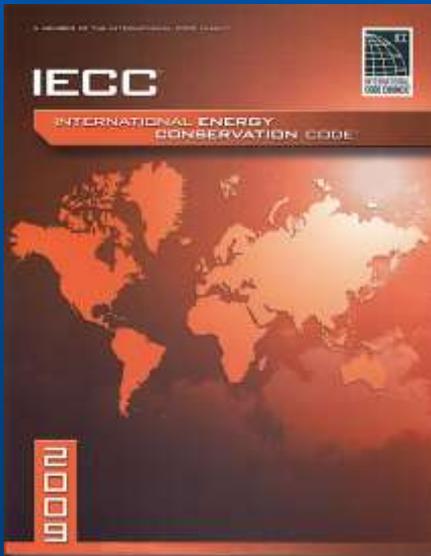


- The Legislature adopted the 2009 IECC replacing the 2003 IECC. Homebuilders remained neutral .



# 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

1985

1990

1995

2000

2005

2010

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

1985

1990

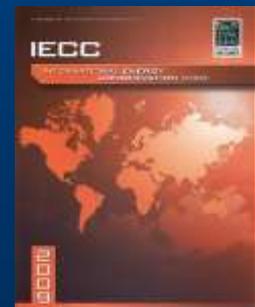
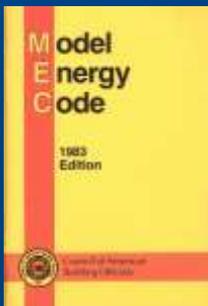
1995

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

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

**[www.neo.ne.gov](http://www.neo.ne.gov)**