SRP’s Building Energy Codes Initiative

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SWEEP Conference
November 13, 2015
2004 – Salt River Project’s publicly elected Board of Directors established SRP’s Sustainable Portfolio Principles

2011 – SRP revised the Sustainable Portfolio Principles
- Meet 20% of retail requirements with sustainable resources by 2020
- Included the ability to count up to 50% of savings from Building Codes and Standards
Various reports suggested DOE intended to push IECC and ASHRAE 90.1 to achieve 100% reduction by the late 2020s.

Architecture 2030 Challenge (2030 NZE targets) gaining traction

 Threat to existing New Construction programs

Significant potential for code-related savings
State of the State (2010)

- **Arizona**: More than 110 Code Enforcement Jurisdictions, less than 40% with any form of Building Energy Code in place

- **SRP Service Territory**: 19 Jurisdictions, roughly 2/3 had adopted the 2006 IECC
  
  - Enforcement of the IECC varied by municipality
  
  - Some of those that had not adopted, had also stricken the energy-related chapters of the IRC and IBC

- **Wide-spread attitudes:**
  
  - “Energy Efficiency is not a Life/Safety issue.”
  
  - “I don’t have the resources, staff or time to enforce another code.”
Home Rule in Arizona

From BCAP’s “Home Rule and Energy Codes: An Introductory Outline” (2009)...

“Arizona

- Strong political and legal tradition of local government and home rule authority
- Founded during the heart of the Progressive Movement
  - Local autonomy is an established, deeply engrained and cherished practice
- More so than in other home rule states, Arizona home rule is a real barrier to statewide code adoption
  - The local authorities want to adopt codes on the local level
  - The state is content to continue this arrangement
  - However, a small minority of building officials are frustrated with the patchwork nature of code adoption and implementation statewide”
Developing the Early Model

Objectives:
- Drive adoption of progressive Building Energy Codes
- Work with individual municipalities to address needs

Tasks:
- Educate & Train
  - Building Officials, Mayors, City Council Members & subcommittees, Architects, Engineers, Builders, etc.
  - Partner with complementary organizations – SWEEP, AZBO, MAG, APS, State Energy Office, etc.
- Advocate?
- Track/Report
Capturing Savings

A model was developed for tracking and reporting savings, using these primary components...

- **Accounts**: All new residential and commercial accounts that have not participated in an above-code program, and can be aligned with existing PNNL models

- **Deemed Savings**: Initially derived from PNNL models for SF and MF residential building types and 14 Commercial building types – adjusted for weather, size, etc. Now based on billing analysis

- **Lag Factor**: Discount factor to approximate time from the effective date of the new code and the completion of projects under that code

- **Attribution Factor**: Jurisdiction-specific discount factor based on SRP’s influence over the adoption and enforcement of the new code in a given jurisdiction. Max achievable is 50%.
Justifying Attribution

Developed guidelines...

- **General Market Activities**
  - Open training sessions
  - Participation in related organizations
  - Develop stakeholder relationships
  - Participate in Code Development
  - Sponsor seminars
  - Promote codes through other programs and channels

- **Custom Jurisdictional Activities**
  - Attend & Support City Council & Development Board meetings
  - Provide formal letters of Support to the City Council
  - Commit to pre and post-adoption training and support
  - Provide code books and materials
  - Promote codes through other programs and channels
  - Provide potential savings and economic benefits
Early Successes

“Co-sponsored The Energy Code Workshop in 2011 with DOE and AZ Department of Commerce

- Trained more than 1,000 Building Officials, Municipal Decision Makers, Architects & Engineers, and Builders

- 4 municipalities adopted the 2009 IECC within a year of the Workshop sessions

- 3 of the adoptions were led by Building Officials that had been selected as Trainers for the Workshop effort

“I met Dave Richins from the Mesa City Council last night. He could not say enough kind words about how the letter from SRP...was the deciding factor in Mesa adopting the 2009 building codes. He said it would not have been done without it.”

- SRP Policy Analyst

“I just wanted to send a quick note of thanks for the letter from SRP supporting the 2009 IECC in Mesa. I think it really helped a lot.”

- Sandy Bahr, Sierra Club
Key to Success

- SRP recognized the benefits, and committed to the advancement of Building Energy Codes

- Hired Sharon Bonesteel in 2012
  - Architect and Certified Building Official
  - Driven and Dedicated to advancing building codes
  - 100% of her time is dedicated to this Initiative
Fully Engaged

- Daily meetings with Stakeholders
- Actively involved with AZBO and MAG
  - Leads development of semi-annual training institutes
  - Coordinates consistent adoption and enforcement practices
  - Coordinates feedback for national code development
  - Serves as a Statewide resource
- Actively engaged with national ICC code development hearings
  - SRP, as a municipal entity, has ICC voting rights
- Coordinates training sessions for various stakeholders
- Delivers Realtor / Assessor seminars
- Develops countless new tools
GOAL: Develop a Testing Protocol that can be utilized throughout Arizona, providing consistency for the home builders, ease of management for the jurisdictions, and IECC 2012 compliance.
Jurisdictional & Legislative Support

Jurisdictional Challenges

- Served on committees or as committee advisors to provide technical assistance, market information, and advice
- Leveraged SRP’s resources, brand, and technical expertise in City Council meetings

Legislative Challenges

- Leveraged SRP’s resources and political capital with local Legislators, Stakeholders, and citizens to thwart attempts to water down or place a moratorium on energy code adoption and enforcement
"You will be pleased to learn that following our lunch meeting here in DC, we engaged with Dominic to explain the potential of the RE-188 IECC code change that was adopted in Atlantic City. ... So Dominic and I have set up a meeting with RESNET’s CEO for the end of January and we look forward to concluding a very positive agreement. ... I did want you to know that your advice and counsel was, and is much appreciated, and we do think there is a great potential to work with the folks at RESNET, and their many certified raters."

- David Karmol, International Code Council
State of the State (2015)

- **Arizona**: 110 Jurisdictions – 20 have adopted the 2009 or 2012 IECC, and another 25 have adopted the 2006 IECC (per BECP)

- **SRP Service Territory**: 19 Jurisdictions – 11 jurisdictions have adopted an advanced energy code
  - 2 - 2009 IECC / ASHRAE 90.1 - 2007
  - 9 - 2012 IECC / ASHRAE 90.1 – 2010

- Majority of new construction in the Phoenix-metro area is now being constructed under the advanced energy codes

- 5 of the larger jurisdictions are currently coordinating amendments for adoption of the 2015 IECC / ASHRAE 90.1 – 2013 codes in the coming year
State of the State (2015)

<table>
<thead>
<tr>
<th>Jurisdiction with energy code?</th>
<th>Certified Efficient Home?</th>
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<tbody>
<tr>
<td></td>
<td>Yes (ESH + PWH)</td>
<td>No (Noncertified)</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>49%</td>
<td>12%</td>
<td>3,285 homes 62%</td>
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<td>2,630 homes</td>
<td>655 homes</td>
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</tr>
<tr>
<td>No</td>
<td>25%</td>
<td>14%</td>
<td>2,048 homes 38%</td>
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<td></td>
<td>1,305 homes</td>
<td>743 homes</td>
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<tr>
<td></td>
<td>3,935 homes</td>
<td>1,398 homes</td>
<td>5,333 homes 100%</td>
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<td></td>
<td>74%</td>
<td>26%</td>
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Formal third-party evaluations by Cadmus have confirmed SRP’s influence on building energy codes in the market. Attribution assessed through interviews with Jurisdictions and Stakeholders regarding SRP’s influence on the process. Residential savings measured by a billing analysis between participant and non-participant homes. Commercial savings developed through engineering models. Billing analysis is planned as the sample size increases.

The Initiative has certainly impacted SRP’s ENERGY STAR Homes program, but the savings captured in other market segments significantly outweighs the savings reduction in the ESH program.

Initiative is EXTREMELY cost-effective.

Care must be taken to avoid double-counting.
Feedback

A big thanks for all of your hard work in support of the 2012 adoptions in AZ and elsewhere. The Gilbert and Queen Creek adoptions were especially a huge success and your contributions were invaluable.

- Dave Nichols, International Code Council

I would like to say thank you for a well presented class on a confusing subject. Greg and Aaron were able to explain a subject in a manner that anyone could grasp. I am now confident in my plan reviews that I am analyzing the correct data. Terms were clearly defined and easily understood.

Thank you so much and thanks to SRP for sponsoring this class. Without their support many cities, like mine, would not be able to attend these vital training sessions.

- Mary Dickson, El Mirage Building Official
“During the full (City of Phoenix) DAB meeting I was privileged to watch Sharon Bonesteel speak passionately to the reasons why a lower HER score should be used. She shared information on the utility network, growth of the system, and how new homes built today will impact the network, the city, and lost economic benefits over the life of the homes. … It was a very thought provoking speech.

The full DAB voted again for the use of a HERS score of 70. It passed overwhelmingly by my estimate of 80% to 20% in favor of using the score of 70. I believe the DAB approved the use of a HERS 70 because of Sharon's speech/presentation.”

- Jim Meyers, SWEEP
Questions

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