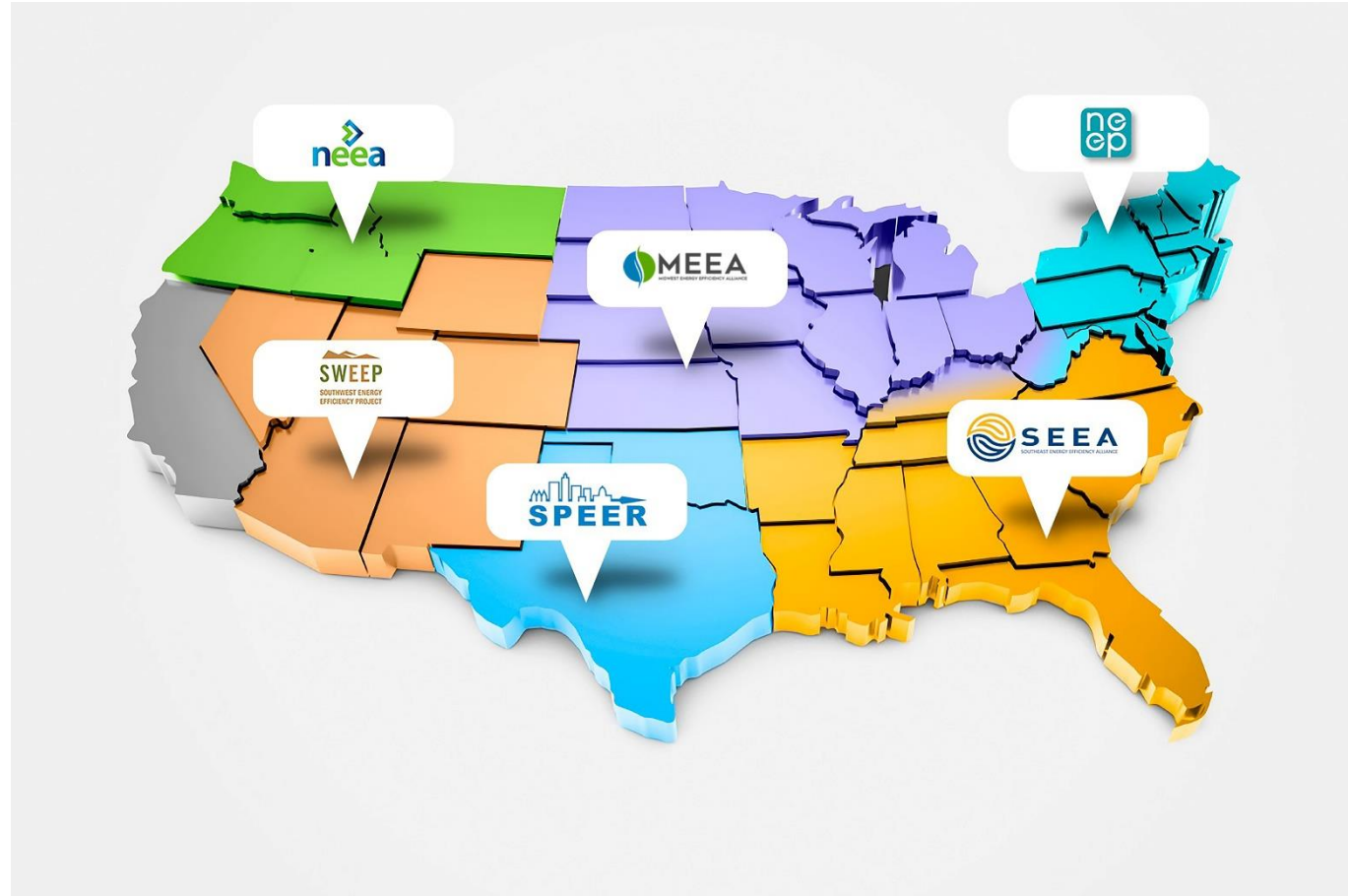


Zero Energy Ready in the Southwest

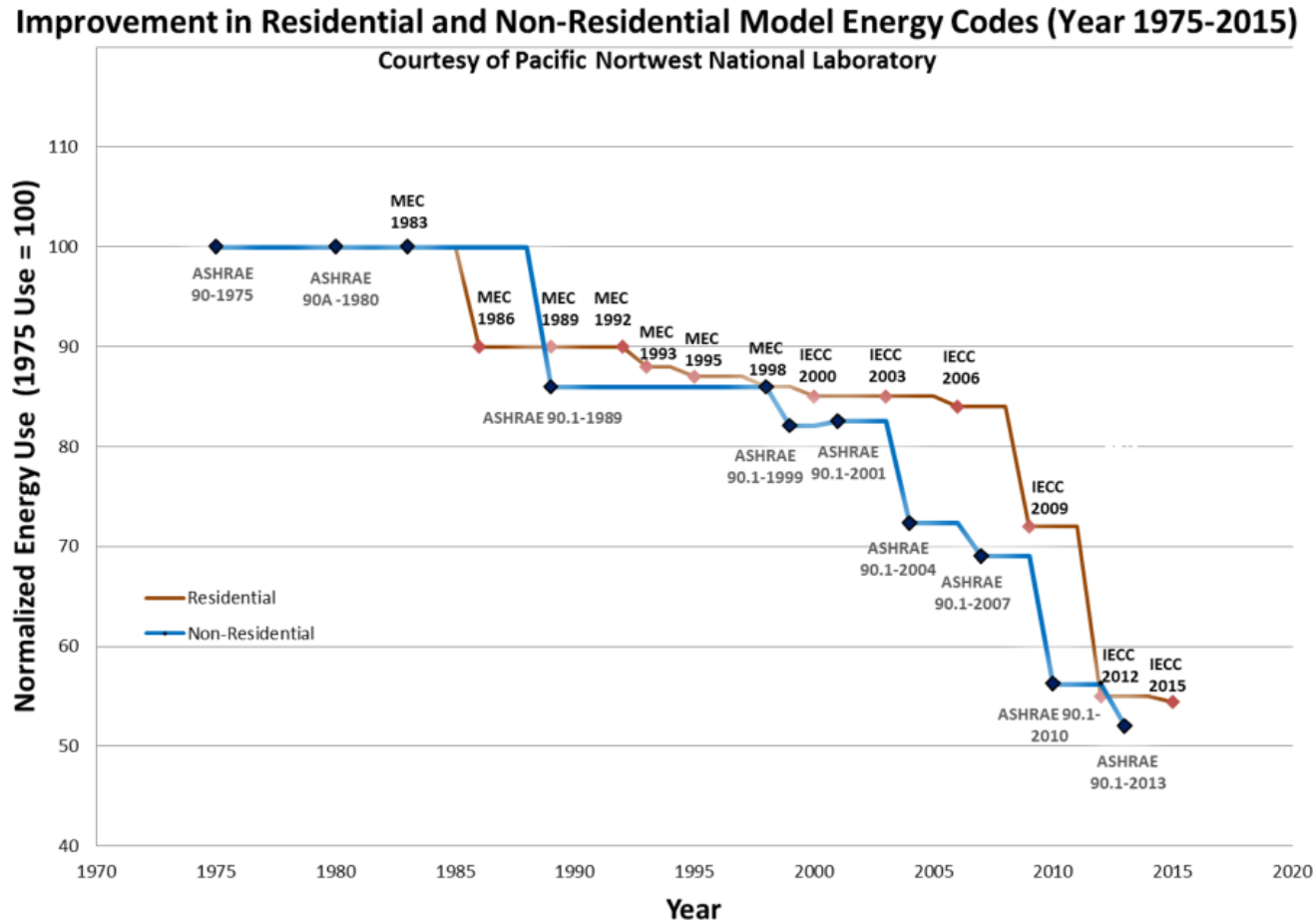
March 15th 2018
Nancy Kellogg
Program Associate
nkellogg@swenergy.org



Regional Energy Efficiency Organizations (REEOs)

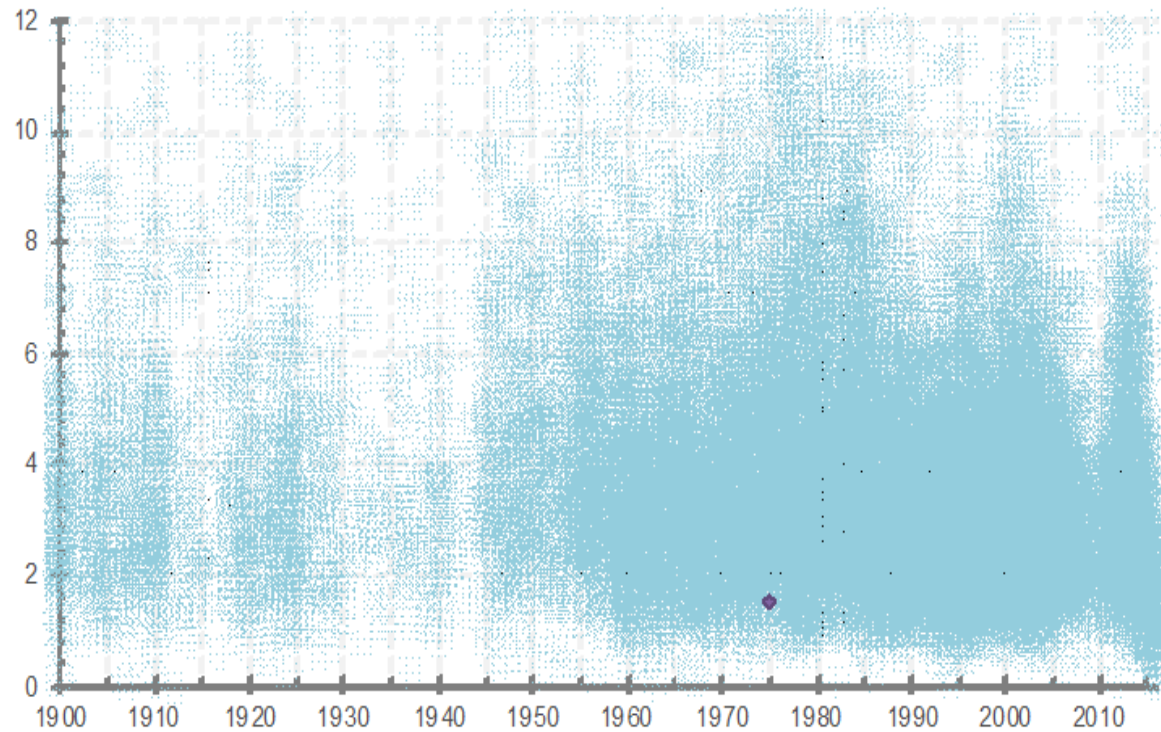


Advanced Energy Codes & Home Efficiency

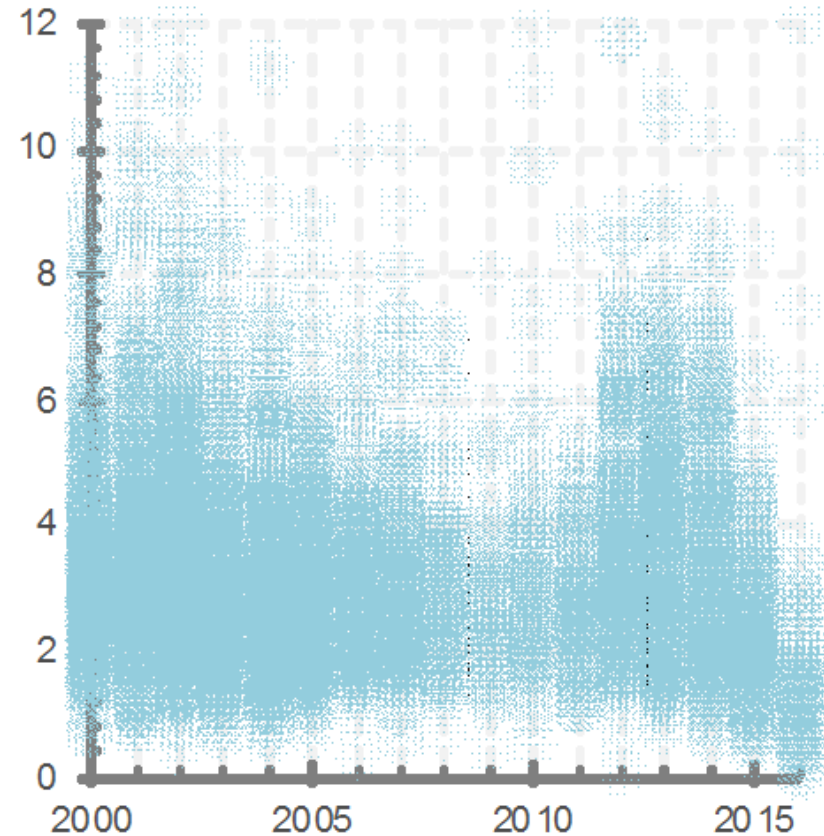


Energy Codes & Electricity Use, Fort Collins, CO

EUI by Date Built for 2016



EUI by Date Built for 2016



The Evolution of Energy Efficiency Arizona



- 2001 AZ encourages local governments to voluntarily adopt energy efficiency codes.
- 2003 AZ requires state agencies and universities reduce energy use 10% by 2008 & 15% by 2008.
- 2005, all new state-funded buildings ordered to achieve at least a Silver LEED & ASHRAE 90.1-2004.

Over 65% of AZ construction is built to 2012 IECC



International Code
Council www.iccsafe.org for local
jurisdiction code information

A Short Step from 2012 IECC to ZERH

To Create a Zero Energy Building...

STEP 1 Increase energy efficiency

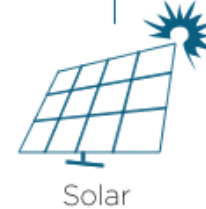
- Efficient building construction
- Efficient systems and appliances
- Operations and maintenance
- Change in user behavior



STEP 2 Address remaining needs with on-site renewable energy generation



Wind



Solar



Hydro Energy

Over 60 % of all Zero Energy Ready Homes have been built in the SWEEP States



- Mandalay Homes is an 8-time recipient of the U.S. Department of Energy's Housing Innovation Award.
- Mandalay Homes has built the most ZERH in the country
- Thrive Home Builders of Colorado the 2nd
- And Palo Duro Homes of New Mexico the 3rd.

Net-Zero Energy in Tucson and Pima counties



Arizona Electric Utility Energy Efficiency Programs: A Success Story



- 2005 AZ electric utilities ramp up energy efficiency programs
- 2008, APS, TEP & SRP significantly expands energy efficiency programs and increase energy savings
- Customers saved approximately 8.2 billion kWh in 2016 from programs implemented during 2008-16.
- Nearly 12% of total customer electricity use in 2016.

ZERH Informational Websites & Articles

- 28 AZ projects on SWEEPS Zero Energy Buildings list
<http://www.swenergy.org/Data/Sites/1/media/documents/buildings/zne-files/zne-list-final-2018-01-02.pdf>
- Department of Energy (DOE) Zero Energy Ready Home (ZERH)
<https://www.energy.gov/eere/buildings/zero-energy-ready-home>
- Over 60 % of all Zero Energy Ready Homes have been built in the SWEEP States
<http://www.swenergy.org/home-builders-in-sweep-states-win-prestigious-national-innovation-awards>
- International Code Council at www.iccsafe.org
- The Database of State Incentives for Renewable and Efficiency (DSIRE) program website list 88 energy efficiency programs in the state of AZ
<http://programs.dsireusa.org/system/program?fromSir=0&state=AZ>
- <https://codewatcher.us/federal/builder-tax-credit-for-energy-efficient-homes-extended/>

The Future is Energy Positive!

