

# DR and the IgCC

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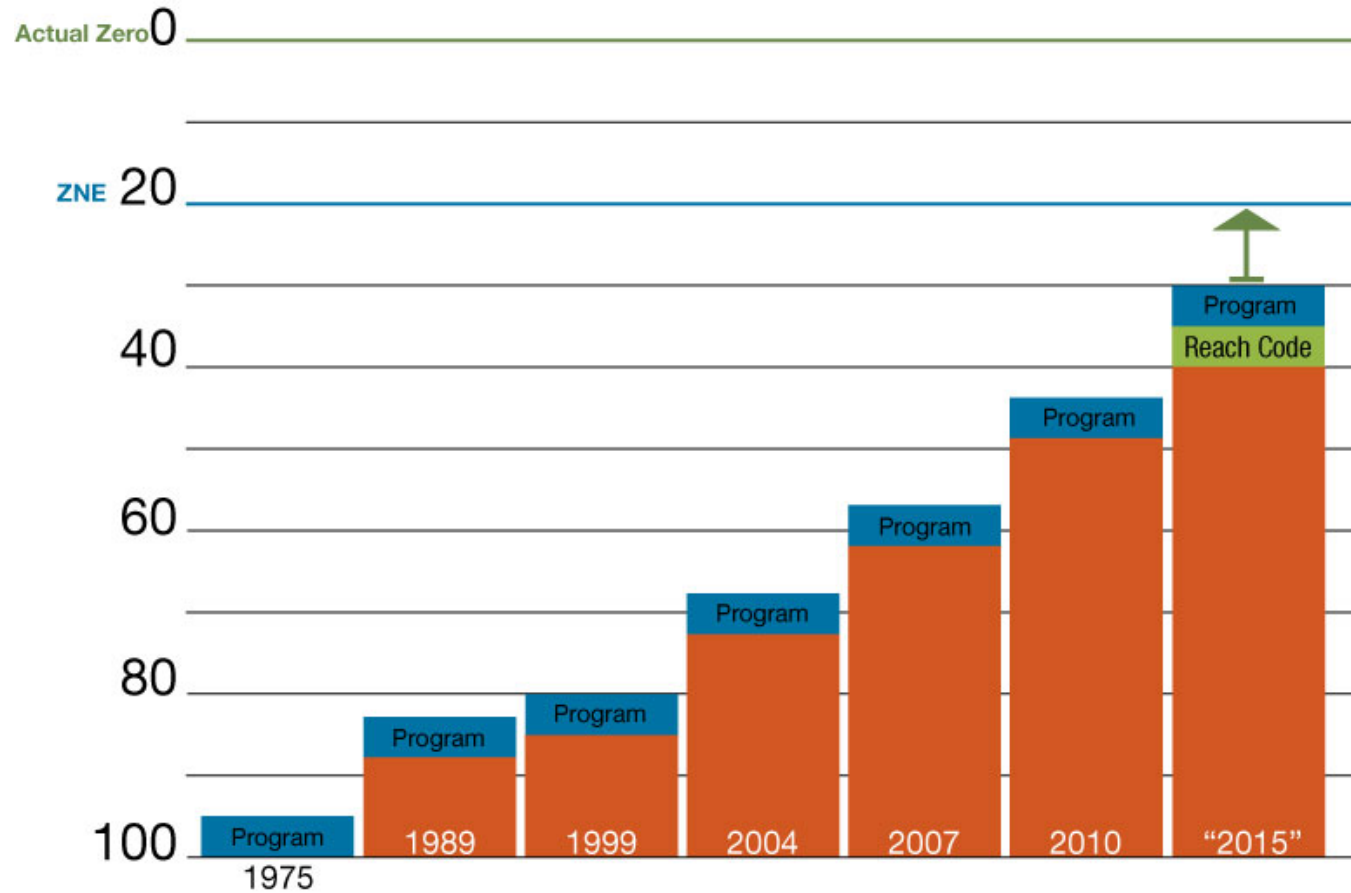
OpenADR Alliance Meeting  
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# What is the IgCC?

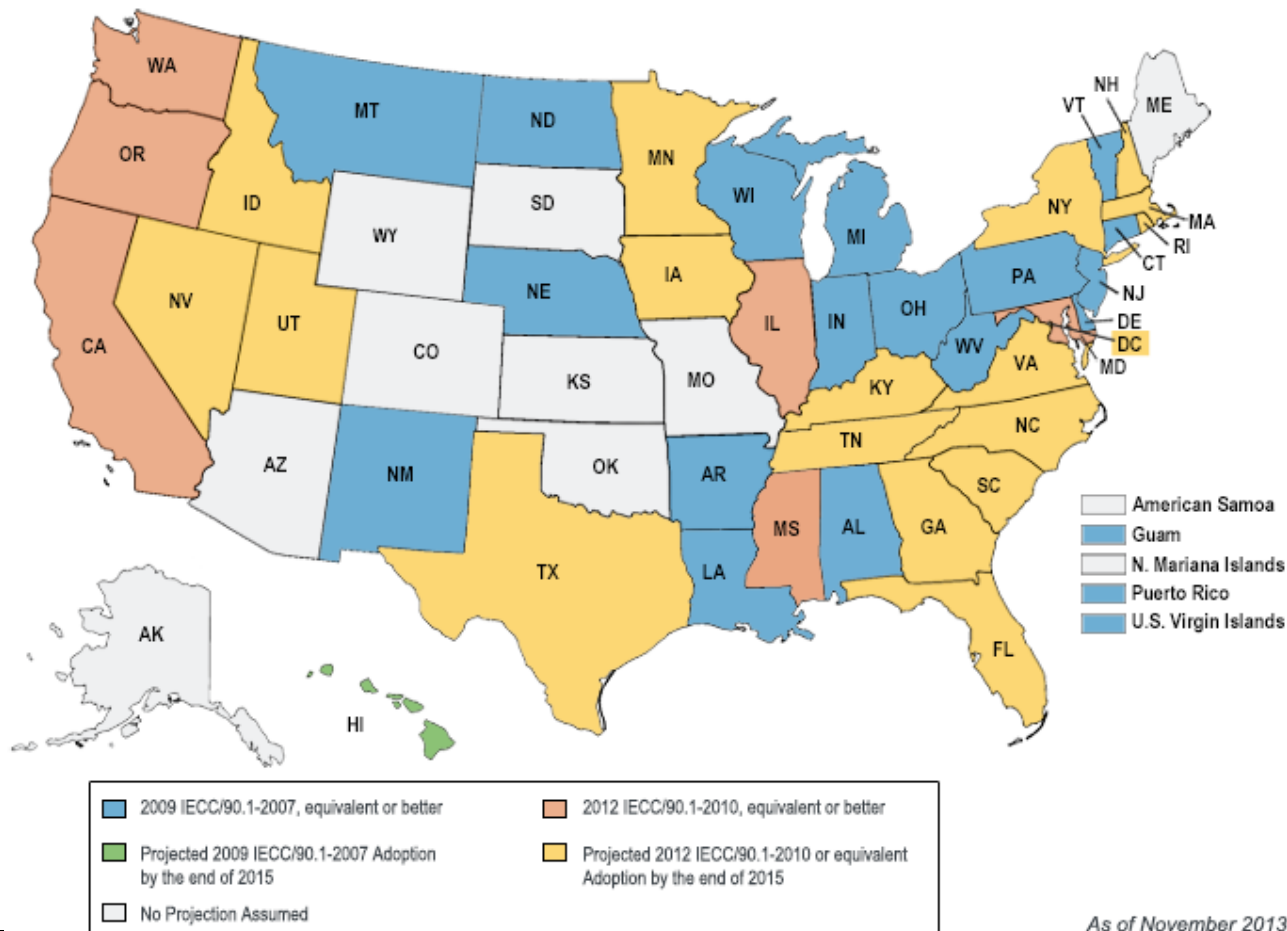
- **International Green Construction Code** – National model code developed by the International Code Council designed to work in conjunction with other I-codes. Code is adopted by localities interested in increasing green construction. Does not apply to single-family or low-rise residential.

# CODES AND POLICY

## Utilities and Codes



# Geographic -2012 IECC equivalent by 2015



As of November 2013

WASHINGTON



VERMONT



CALIFORNIA



OREGON



POLICY DRIVER (STABLE) + UTILITY ROLE +  
(STRETCH) CODE ROLE

# Current 2012 IgCC Requirements

- Section 604 requires certain buildings to be capable of reducing their energy use upon the receipt of a DR signal from utility or ISO by
  - Reducing their HVAC load by 10 percent
  - Reducing their non-emergency lighting load by 15 percent
- Section 604 only applies if jurisdiction selects it during adoption and only applies when there is an existing utility or ISO DR program.

# Proposed Changes: GEW - 54

- **GEW-54:** This proposal revises the demand response provisions in Section 604.
- Provides specific approaches to demand response based on Title 24 - 2013
- HVAC: Direct digital zone control (DDC) or Occupant Controlled Smart Thermostat (OCST) to move the setpoint +/- 4 degrees F
- Lighting: Buildings larger than 10k square feet capable of 15% power reduction – uses Section 405 IECC for calculation

# GEW – 54: Continued

- Maintains Rebound Avoidance section
- Minimum standards on communication
- OpenADR not cited (not ANSI) but fully compatible with the specification
- Functional testing requirements clarified
- New significant exceptions (alternate approach) added for passive design load reduction



# Passive Exemption

- Modeled peak load reduction of at least 15%
  - Actively controlled daylighting systems
  - Thermal mass used to manage a buildings internal temps as part of a night-ventilation strategy
  - Preventing direct solar penetration in cooling dominated climates
  - Other systems approved by the Authority Housing Jurisdiction

## The 2015 IgCC—an Opportunity for Incorporating Demand Response into Commercial Buildings

Three proposed modifications to the International Green Construction Code (IgCC) – proposals numbered GEW 54-14, GEW 55-14 and GEW 58-14 – would increase the effectiveness of the IgCC's existing demand response provisions and lead to more buildings with demand-response capabilities, benefiting both building owners and the grid. GEW 54-14 proposes to comprehensively revise the demand response provisions in the IgCC to reflect language in other codes and standards, and GEW 55-14 and GEW 58-14 would expand the scope of demand response applicability to more code jurisdictions. Each of these proposals will be considered separately in the current cycle of ICC proceedings. Information about participating in the IgCC is found at the end of this factsheet.

### Benefits of Demand Response

Demand response (DR) refers to the ability to adjust energy use in response to a price or information signal from a grid operator or other automated source. Demand response enables energy efficiency to be dynamically dispatched, thus lowering costs and increasing reliability, particularly during peak demand periods. Demand response in buildings is becoming an increasingly important tool for grid operators to manage the flow of electricity and integrate variable energy resources. It also offers owners and customers a new option for managing their energy use. Most recently, demand response played a critical role in preventing power outages during the extreme cold temperatures in January 2014. Demand response capabilities are easiest and cheapest to integrate into a building when it is first constructed and building systems and their controls are first installed. Building systems that can be enabled for automated demand response (Auto-DR) include lighting, HVAC, and Water Cooling and Heating.



*Image courtesy Wikimedia Commons*

### Demand Response Requirements in the 2012 IgCC

Section 406 of the current IgCC requires buildings located in jurisdictions where the utility or independent system operator (ISO) has a demand response program to include certain demand response capabilities. To comply with Section 604, a building must be capable of reducing its HVAC demand by at least 10 percent automatically on the receipt of a DR signal from the utility or ISO. Group B office spaces must also be able to reduce their lighting load by 15

# Thanks!

## Next steps and questions?

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