



## SOUTHWEST ENERGY EFFICIENCY PROJECT

*Saving Money and Protecting the Environment Through More Efficient Energy Use*

### **SWEEP Comments on proposed regulation to update statewide energy code to 2012 IECC from 2009 IECC.**

January 9, 2014  
Emily Nunez  
Nevada Governor's Office of Energy  
755 North Roop Street, Suite 202  
Carson City, NV 89701

**RE: Comments supporting adoption of 2012 IECC and comments on file**

Dear Ms Nunez:

The Southwest Energy Efficiency Project (SWEEP) urges your support of updating Nevada Revised Statutes to incorporate the 2012 International Energy Conservation Code (IECC).

As an active participant in many energy efficiency initiatives, stakeholder groups, and an organization that has extensive experience with the IECC we ask that the Governor's Office of Energy (GOE) ponder and consider our comments when amending state regulation.

The U.S. Department of Energy (DOE) performed a study addressing the residential construction costs for new buildings constructed to both the 2009 IECC and 2012 IECC. Within this report it was shown that energy savings for new homes will reduce Nevada consumer's energy consumption on average 25.9 % ( <http://www.energycodes.gov/sites/default/files/documents/NevadaResidentialCostEffectiveness.pdf> or <http://1.usa.gov/1kqwrEB> ). Energy savings translates to reduced utility bills helping families and the state economy.

The report further shows that homes built to the 2012 IECC from the current state energy code, the 2009 IECC, is cost effective over a typical 30 year mortgage. The savings for Nevada homeowners is on average \$4,736 over the mortgage term. This savings is over and above additional costs financed into the mortgage. When homes are built to the 2012 IECC they will save Nevada homeowners \$360 annually.

The homebuilder industry has also been further investigating more efficient housing. Since the state last adopted the energy code the National Association of Home Builders (NAHB) Economics and Housing Policy Group released a study from a homebuyer survey performed in 2012. Of interest was the first and foremost item homebuyers want, energy efficiency. The report shows how nine out of ten buyers would rather buy a home with energy efficient features and permanently lower utility bills than one without those features.

SWEEP supports the language of the proposed regulation with one addition. We propose that the GOE amend Sec 5 of the regulation to include the web-link to the free online version of the 2012 IECC which is accessible to anyone with Internet access. Add the following sentence to Sec. 2., Sec. 5.; "A free online version of the 2012 IECC may be viewed on the International Code Council's website at <http://www.iccsafe.org/content/pages/freeresources.aspx>."

*We would also like to make comments for some responses your office has already received for this regulation.*

As of this week the ICC website has only posted 11 errata for both residential and commercial energy code chapters. These errata are really clean-up items that were created when the code separated the commercial and residential administrative requirements. There are 122 errata for ALL of the 2012 I-Codes.



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Many municipalities in the southwestern U.S. have adopted the 2012 IECC. Most municipalities in southern Nevada have already adopted the 2012 IECC with minor southern Nevada amendments. In the neighboring state of Arizona municipalities of Phoenix and Tucson, to name a few, have adopted the 2012 IECC with minimal amendments. In colder climates communities of Colorado have adopted the 2012 IECC, again with minimal amendments.

The IECC is a model code developed by the collaboration of building officials, builders, industry, and designers and many more. All have provided their input into the development of the code. As a whole the 2012 IECC is a cost effective code (see information above about DOE Nevada report) and will save Nevadans money throughout the life of the building.

The 2012 IECC does not mandate the use of solar electric panels nor does it take into consideration energy produced by renewable energy onsite. The IECC is a conservation code for the building and addresses typical components installed on the building such as doors, windows, ceilings, floors, and so-forth. The code does not address refrigerators, dishwashers, televisions, and other products that are brought into the home.

During the development of the 2015 IECC a proposal was discussed for solar energy requirements that would be required in the code. This proposal was strongly opposed by the national home building association, building officials and other opponents who did not want to include solar energy within the energy code.

For a number of years NV Energy operated a new home program called Energy Plus New Homes where the requirements were at least 30% more efficient than the 2006 IECC. This is approximately equivalent to the 2012 IECC. Many homes have already been constructed in the state to efficiency levels equivalent to the 2012 IECC. The building industry in Nevada is aware of best building practices for the new energy code because of their years of participating in the NV Energy new home programs.

The HVAC equipment efficiency “trade-off” was removed from the 2009 IECC’s performance path requirements. The removal of the trade-off was sustained during the development of the 2012 IECC and the 2015 IECC. Governmental members of the ICC have voted during three codes hearings, (2009 IECC, 2012 IECC, and 2015 IECC) to not tradeoff lifetime envelope requirements, such as walls, for shorter term equipment requirements.

The southern Nevada amendments to the 2012 IECC did not propose incorporating an equipment efficiency tradeoff. And going further beyond Nevada’s border in neighboring Arizona no municipality who adopted the 2012 IECC brought back the equipment trade-off.

Stopping air leakage is one of the most important roles of the building enclosure, saves energy, and improves durability of the building. The air infiltration rates included in the 2012 IECC were not modified in the upcoming 2015 IECC. During two energy code developments, the building industry has said yes to these values included in the 2012 IECC.

SWEEP suggests retaining the envelope leakage rates in the 2012 IECC, but suggests an additional approach to support building new homes with reduced building air leakage rates. When new building code requirements are implemented successful jurisdictions have found by phasing in some requirements over a longer period of time this would allow industry to learn best building practices and manufacturer practices. This may be the case for the lower air leakage rates in the 2012 IECC by allowing building trades a longer time period to learn specific best building practices that meet the requirements of the 2012 IECC.

The IECC is a very flexible code and provides many pathways for the builder to show compliance from a simple prescriptive table to the flexible performance path. Builders can use the more flexible performance



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path that allows them the ability to deviate from the base values in the prescriptive table. SWEEP suggests that the ceiling and wall values do not change from what's in the 2012 IECC code.

One comment suggests alignment of the u Factor values with the R Values so that they "match." It is critical that this not be approved. The prescriptive R-value table is the simplest approach for a builder to understand, but does not allow flexibility as other paths within the IECC allow. The R Value table represents values of products that are installed within the building enclosure, between framing (walls, floors, ceiling, etc). The u Factor table provides values of building *assemblies* which includes the framing and the insulation. The u Factor and the R Value figures should not match, because the efficiency is already equivalent.

One commenter raised concerns about construction costs for ceilings and walls due to new requirements in the 2012 IECC. Since the majority of southern Nevada has adopted the 2012 IECC and the remainder of the state is located in climate zone 5 we propose that costs should only discuss climate zone 5. When comparing the attic values in the 2012 IECC with the 2009 IECC we see that the value increased by R9 of insulation. The wall R Values did not change between the 2009 and 2012 IECC in climate zone 5; therefore there should be no potential cost increase for walls between these two codes.

And lastly SWEEP suggests retaining the provisions in section R405 of the IECC without amendment. Any amendment to this section of the code would reduce the efficiency of the code potentially lower than the 2009 IECC. Also private industry software vendors have no incentive to modify their software to support these changes which would mean no ability for the homebuilder to use the simulated performance alternative approach in the IECC.

We urge the Governor's Office of Energy to adopt the 2012 IECC based upon the information contained within out comment and to not amend the code with weakening amendments.

Sincerely,  
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