



COMMENTS IN SUPPORT OF DC ADOPTION OF THE 2012 IECC

12/13/2011

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DC Construction Code Coordinating Board
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DC Green Building Advisory Council
District Department of the Environment
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RE: NEEP's Comments in Support of DC Adoption of the 2012 IECC

Dear Mr. Waters and Mr. Tulou,

Northeast Energy Efficiency Partnerships (NEEP) strongly supports the District of Columbia's efforts to create a better energy future for its citizens by adopting the 2012 International Energy Conservation Code (IECC). This action will maintain the District's standing as a national leader in sensible and efficient building practices and the effective use of energy.

NEEP is a regional non-profit organization founded in 1996 whose mission is to promote the efficient use of energy in homes, buildings, and industry throughout the Northeast, Mid-Atlantic and the District of Columbia (DC) through regionally coordinated programs and policies that increase the use of energy efficient products, services and practices, and help achieve a cleaner environment and a more reliable and affordable energy system.

NEEP's Northeast Building Energy Codes Project, one of NEEP's oldest endeavors, aims to achieve significant energy savings and greenhouse gas reductions in new construction, remodeling and renovations by advocating for advancing building energy codes, such as the 2012 IECC. NEEP has long used a system of advisory committees to help guide its work, including a diverse set of expert stakeholders that we work with on our Building Energy Codes Project, which often includes directly partnering with the utilities in our region and other efficiency program administrators to coordinate collective efforts and ongoing initiatives.

Support for Adoption of the 2012 IECC

The District of Columbia will help ensure that every buyer of a new home gets a reasonably energy efficient home, and that every owner or operator of a new commercial building receives the benefits of a modern, energy efficient building by implementing and enforcing the 2012 IECC. The District of Columbia and its citizens stand to benefit from the adoption of the 2012 IECC in many ways:

- The U.S. Department of Energy (DOE) recognizes that the 2012 IECC represents a 30% improvement in energy efficiency as compared to the 2006 IECC, and "represents the largest, one-step efficiency increase in the history of the national model energy code."¹

¹ See "2012 IECC Final Action Hearings Deliver DOE's 30% Energy Savings Goals," at http://www.energycodes.gov/status/2012_Final.stm



- DOE has made its final determination that ASHRAE Standard 90.1 2010 saves energy and meets the requirements of federal law. The standard is referenced by IECC 2012. Federal law calls for DC (and all US states) to "update their building codes to meet or exceed the energy efficiency of the new standard within two years. Certification statements by the states [and DC] are due October 18, 2013." In fact, Maryland was recently the first state in the nation to adopt the 2012 IECC, effective January 1, 2012.²
- The 2012 IECC is the final product of a well-developed, long-standing model code development process that involves the nation's leading experts in energy efficiency, building design and product performance professionals, state and local governmental officials, product manufacturers, architects and builders, including representatives from DC.
- By adopting the 2012 IECC, the District of Columbia will stay on track of energy efficiency goals, and will provide benefits to its building and home owners and individual tenants for many years. New construction is the most cost-effective time to install better insulation, quality windows and doors, and efficient heating and cooling equipment that is properly sized. Construction costs should be reduced through economies of scale, as suppliers and retailers reduce inventories and streamline production to meet these new energy targets.
- The adoption of the 2012 IECC will facilitate compliance and enforcement of the code, as many of the provisions are simpler and easier to apply than previous versions. Builders and code officials can take advantage of free trainings, COMcheck and REScheck compliance software, and other programs through the Department of Energy.

Specific improvements incorporated into the 2012 IECC for residential buildings in the District of Columbia include the following:

- **Improvements to the permanent thermal building envelope, including better window requirements and stronger insulation requirements.** The 2012 IECC improves requirements for better-insulated attics, walls, and crawl spaces. These measures are most cost-effective at initial construction, and will yield energy savings for the useful lifetime of the home. The 2012 IECC also includes a moderate limitation on solar heat gain (SHGC) in fenestration, typically at no extra cost for the window. This requirement can contribute to reduced HVAC equipment cost where equipment is sized properly. This will allow cooling systems to be sized smaller, and will keep homes more comfortable during the summer months. Curbing peak demand in homes will also help control the District of Columbia's growing summer peak electric demand, avoiding the need to build and site additional generation.
- **Tighter thermal envelope from improved air leakage testing.** Under the 2012 IECC, District of Columbia homes will be tightly sealed, with tested air leakage meeting a reasonable performance standard. The testing is objective and much more reliable than visual inspection, and will reduce the burden on code officials to inspect for air leakage. Energy savings will be substantial in most cases.
- **Less duct leakage in HVAC distribution systems.** As in the 2009 IECC, duct testing is required unless ducts and air handler are located inside conditioned space. The improved duct tightness standard in the 2012 IECC will result in more efficient delivery of heated or cooled air to the entire house,

² See <http://bcap-ocean.org/news/2011/november/29/maryland-becomes-first-state-adopt-2012-iecc-effective-jan-1>



reducing the amount of energy used to heat and cool and helping to avoid the need for occupants to adjust the thermostat to address discomfort.

- **More efficient hot water systems.** The 2012 IECC implements modest requirements for hot water distribution systems for the first time. Hot water pipes must be insulated or the hot water distribution must be more efficient.
- **More efficient lighting.** The 2012 IECC increases the percentage of lighting required to have high-efficacy bulbs from 50 to 75%. This relatively simple measure saves substantial energy.
- **Consistency among IRC, IBC, and IECC energy requirements.** For the first time in several cycles, the residential energy efficiency requirements are consistent among all the International Codes. This means that users of the IRC, IBC, or IECC will be applying the same energy efficiency requirements to buildings.

Specific improvements incorporated into the 2012 IECC for non-residential buildings in the District of Columbia include the following:

- **Improved thermal envelope.** The 2012 IECC includes improvements to nearly every major component in the building, particularly the permanent thermal building envelope. A simplified fenestration table, improved insulation requirements, and improved air barrier requirements will ensure that buildings remain efficient for many years.
- **Updated and improved equipment efficiency.** The 2012 IECC tracks the latest technology for heating, cooling, and water heating equipment.
- **New technical upgrades.** For the first time, the IECC commercial chapter includes provisions for HVAC commissioning and new requirements related to skylights and daylighting.
- **Innovative options.** Users of the 2012 IECC will select and implement one of three new innovative options to bring additional energy savings: high performance lighting, high performance HVAC equipment, or the implementation of on-site renewable energy.

The benefits of these code changes will be immediate and continuing savings for both businesses and residences throughout the District. They also will hold down the increasing costs of energy from higher demand that would occur if not adopted, and reduce continued reliance on older and more expensive power generators, a leading contributor to high energy bills in our mid-Atlantic and Northeast states.

Support for Two Amendments Related to the 2012 IECC

NEEP urges the CCCB to support two amendments related to IECC proposed by the DC CCCB's Green Technical Assistance Group (TAG) - attached. Amendment G-22 applies only in situations where the permit applicant has elected to comply with the energy code through energy modeling. G22 requires that such energy models follow ASHRAE 90.1 2010 and the COMNET Modeling Guidelines and Procedures. G22 would standardize, streamline and harmonize both compliance and enforcement for such energy models. G22 does not apply to low-rise residential buildings. Amendment G23 modifies a



local DC-amendment by striking the following exception (which is redundant and confusing since the Existing Building Code references the IECC): ~~“Exception: Energy conservation systems and components in existing buildings undergoing repair, alteration, or addition, and change of occupancy, shall comply with the Existing Building Code.”~~

Opposition to Weakening Amendments to the 2012 IECC

NEEP also urges the CCCB to oppose any amendments to the 2012 IECC that make the 2012 code less stringent. Such amendments only serve to reduce the energy savings achieved by the model code and are inconsistent with DC energy policy goals.

Conclusion

Comprehensive, unified code adoptions reduce the expenses associated with constructing buildings and homes, and assure that the adopted health, safety and welfare requirements work in concert to bring safe, healthy and efficient buildings and building renovations to the District of Columbia now and into the future.

The 2012 ICC compendium of building and energy codes proposed for adoption by CCCB is an important step in the District of Columbia's leadership in providing the best regulatory protection for their residents and businesses. NEEP commends the CCCB for bringing this code change forward, and supports the entire effort.

The District of Columbia has typically been supportive of the adoption of the latest iterations of the IECC and ASHRAE codes and standards, which is reflected in DC's high ranking (11th) for building code efforts in ACEEE's annual State Energy Efficiency Scorecard for 2011. While DC's overall rank for energy efficiency efforts places it in the middle tier of states in ACEEE's 2011 Scorecard (ranked 22nd), the adoption of the 2012 codes would improve DC's building code and overall score considerably, strengthening its position as a national leader in energy efficiency.

NEEP wholeheartedly endorses adoption of the 2012 IECC as an essential component of the District of Columbia's overall energy efficiency goals, and is available to assist in answering inquiries about any aspect of IECC adoption and implementation. Please do not hesitate to contact NEEP for technical support and assistance in this effort.

Sincerely,

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Below is a list of organizations that support the comments made above and endorse the District of Columbia's adoption of 2012 IECC:

Air Barrier Association of America
American Council for an Energy-Efficient Economy
Building Codes Assistance Project
CertainTeed Insulation Group
DC Environmental Network
Energy Efficient Codes Coalition
Environment America
Institute for Market Transformation
Landis Construction Corporation
Midwest Energy Efficiency Alliance
National Fenestration Rating Council
Natural Resources Defense Council
North American Insulation Manufacturers Association
Polyisocyanurate Insulation Manufacturers Association
Responsible Energy Codes Alliance
Sierra Club
Southeast Energy Efficiency Alliance
U.S. Green Building Council - National Capital Region