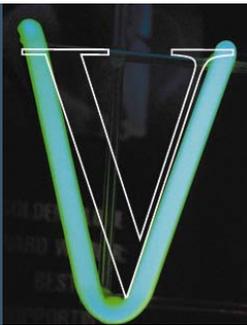


# The International Green Construction Code<sup>™</sup> Could Transform the Development, Operation and Sale of Real Estate

Stakeholders should consider educating local officials as to the appropriate choices for their communities from among the extensive number of options the IGCC offers

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## INTRODUCTION

Scheduled for release by the International Code Council in March 2012, the International Green Construction Code™ (IGCC) will provide state and local governments, for the first time, with a “model code” to require new and existing buildings to reduce their energy usage and to minimize the adverse impacts that building construction and operations have on the environment. In April, 2011, Maryland became the first state to authorize adoption of the IGCC by local governments. More state and local governments can be expected to follow Maryland’s lead given the IGCC’s integration with the other ICC codes that state and local governments already trust and have in place and the ability of local officials to “customize” its provisions to a jurisdiction’s particular climate—both environmental and political.

Real estate owners, developers and managers, and the design and construction communities should keep close watch on the final form the IGCC takes and to what extent the particular jurisdictions in which they operate are pursuing its adoption. Stakeholders also should consider developing a strategy for educating the local officials that will be charged with tailoring the IGCC to their particular community’s environmental needs and objectives *before final decisions at the local level are made*. Unless the most appropriate choices are made from among the many the IGCC requires local governments to make, stakeholders risk the adoption of code provisions that increase a project’s cost and complexity without necessarily improving its sustainability.

## SUMMARY OF IGCC'S CONTENT

The current draft of the IGCC [available at <http://www.iccsafe.org/cs/IGCC/Pages/IGCCDownloadV2.aspx>], is organized into twelve chapters and four appendices and includes criteria for site development and land use, material resource conservation, energy efficiency and air quality, water resource conservation and efficiency, indoor environmental quality, and building operation and maintenance. The IGCC applies to commercial, mixed-use and residential occupancy classifications. It does not apply to single family homes, low-rise residential building or systems used primarily for industrial or manufacturing processes.

The IGCC is to be adopted by local governments on a mandatory basis and to be administered by local building departments. Local administration avoids the oft-criticized approach taken by many

jurisdictions which have required certain projects to obtain certification from third parties, such as the USGBC's LEED® rating system, over which the local government exercises no control.

Chapter 3 is the core of the IGCC where jurisdictions indicate whether certain provisions are to be enforced and the minimum level of environmental performance that will be required. For example, whether to require 50%, 65% or 75% of waste material to be diverted from landfills or a 30% or 40% reduction in potable water consumption in relation to referenced fixture flow rates. Other choices include whether to establish annual carbon dioxide (CO<sub>2</sub>) emissions limits, post-certificate of occupancy energy performance, energy demand and CO<sub>2</sub> reporting requirements, as well as greenhouse gas reduction targets for existing buildings.

Chapter 3 also requires local jurisdictions to indicate the minimum number of project electives (up to a maximum of 14) that an applicant must satisfy. In many respects, electives represent increased levels of efficiency, performance and resource conservation over the minimum requirements established in the mandatory sections of IGCC., These electives become mandatory requirements once selected.

Chapter 6 regulates the design, construction and operation of buildings for the efficient use of energy. It establishes a minimum Zero Energy Performance Index (zEPI) for all building types. The zEPI is based upon the average energy performance of similarly situated buildings in the benchmark year of 2000 with 100 representing a building that uses the same amount of energy as the 2000 average. The zEPI calculation gives credit for, and thereby encourages, waste energy recovery and the on-site generation of renewable energy. A jurisdiction can choose the zEPI default value of 46 or can require greater energy efficiency by specifying a lower value for any of the occupancies listed.

The IGCC provides four methods to demonstrate energy use compliance: prescriptive-based; performance-based; outcome-based; and energy use intensity. Buildings with an aggregate area of over 25,000 square feet, however, are required to use either the performance-based or outcome-based compliance paths each of which include requirements for carbon dioxide emissions in addition to energy performance and peak energy demand.

Section 903 of IGCC includes extensive commissioning requirements to verify and document that each building and system is performing as designed. IGCC commissioning requirements extend beyond energy systems and include requirements related to site, materials and water and the building's thermal envelope.

The IGCC commissioning requirements do not end with a certificate of occupancy. Rather, the IGCC mandates re-commissioning of HVAC, lighting and electrical systems 18-24 months after a certificate of occupancy is issued. The IGCC also contains elective provisions for the annual reporting of zEPI, energy demand and CO<sub>2</sub> emissions. These commissioning, reporting requirements and electives are intended to distinguish the IGCC from other green building rating systems that are criticized for relying too heavily upon specifications and models and not upon actual performance.

A jurisdiction also can elect to require periodic reports confirming that a building is being operated at the level of performance required by the approved documents. Even more significantly, the IGCC provides municipalities with the option of adopting Appendix D to inspect and enforce the IGCC after occupancy. Adoption of Appendix D means that a violation notice could be issued no matter how far into the future a deviation from the IGCC may occur. A violation could occur if, for example, a building's energy use increases as a result of an increase in the building's hours of operation due to a change in tenants. Accordingly, stakeholders should take long term compliance costs into when making plans to develop, own, purchase or sell property.

Chapter 10 of the IGCC regulates the alteration and operation of existing buildings. Loosely based on the International Building Code (IBC), the IGCC dictates that whatever is altered must be brought into conformance with the requirements of the current code while whatever is added is treated like new construction and must meet the applicable requirements of the IGCC.

The IGCC, however, goes further than the IBC: unless excused by the code official, any existing building that undergoes an addition or alteration, a change in occupancy or a sale must meet the basic minimum energy and HVAC requirements listed in Section 1003.2. Furthermore, in connection with alterations (but not additions), at least 10 percent of the cost of alterations must be allocated toward the preparation of an energy audit report and completion of any combination of mechanical system improvements that are listed in Section 1003.3.

## CONCLUSION

The IGCC has the potential to fundamentally change how buildings are constructed, operated, and conveyed. However, to adopt a code that makes sense for their community, local officials will need to carefully consider the many choices that the IGCC requires them to make. Real estate owners, developers and managers, and the design and construction communities, should closely monitor the IGCC and consider implementing a proactive strategy for educating those local officials who will be charged with tailoring the IGCC to their particular community's environmental needs and objectives.

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