

T&E COMMITTEE #2
July 19, 2011

Discussion

MEMORANDUM

July 15, 2011

TO: Transportation, Infrastructure, Energy and Environment Committee
FROM:  Keith Levchenko, Senior Legislative Analyst
SUBJECT: **Discussion:** Energy Efficiency Initiatives and Building Standards

Background

Over the past several years, the Council has adopted a number of initiatives intended to spur both private sector and County government investment in energy efficiency initiatives.

For existing single family homes and other individually metered properties, there are a number of Federal, State, County and utility based incentive programs (involving tax credits, direct rebates, and low interest loan programs) that help defray the cost of energy efficiency retrofits.¹

On April 22, 2009, the Council approved Bill 06-09 establishing a Home Energy Loan Program (HELP). However, because of concerns raised by the Federal Housing Finance Agency regarding PACE programs such as HELP, the County's program has not been implemented.

On the commercial side, the County enacted Bill 17-06 in November 2006, which requires both private and County-built or funded buildings to meet Leadership in Energy and Environmental Design (LEED) certified and LEED silver levels respectively. A fact sheet describing this legislation is attached on ©1-2.

In December 2007, the County established a property tax credit (Bill 37-06) for buildings that achieve LEED Silver or greater designation. Energy efficiency is a significant component of

¹ Although not the focus of this meeting, Federal, State, and local incentives are also available for clean energy devices such as solar photovoltaic and geothermal systems. The Council also created the Clean Energy Rewards program via Bill 39-04 (Energy Policy - Clean Energy Rewards Program) in March 2005, which provided a financial incentive for residential and non-residential property owners to purchase clean energy from eligible electricity suppliers. This program ended at the end of FY10 due to fiscal constraints.

the LEED rating system.

More recently, the Department of Environmental Protection (DEP) has coordinated and/or initiated a number of projects and programs funded with Federal Energy Efficiency and Conservation Block Grant (EECBG) dollars. A summary of these efforts was recently provided to the Council in a memorandum (attached on ©3-7) to the Council from DEP Director Robert Hoyt. A total of \$7.6 million was awarded to the County.

The Department of General Services is finalizing a multi-agency energy services contract to implement energy retrofit projects.

At the State level, the EmPower Maryland Initiative Act of 2008 established a goal of reducing energy consumption in the State of Maryland 15% by 2015. As part of the initiative, the five electric utilities in the State of Maryland offer residents a number of rebates on items such as home energy audits, lighting and appliances. The program also includes initiatives to help State government reduce its power consumption as well. In addition, the Maryland Energy Administration currently has a limited time home performance rebate program that, combined with utility rebates, can save residential customers up to 50% on home insulation and sealing work.

Also, as part of the 2011 legislative session, the State approved House Bill 972 (effective March 2012) which enables (but does not require) the State and local jurisdictions to adopt regulations implementing the International Green Construction Code (IGCC). Additional information regarding the IGCC is attached on ©8-12.

Discussion

Committee Chairman Berliner has identified several discussion topics, as noted below. A number of County and State of Maryland officials and staff, as well as experts from outside government, are scheduled to participate:

1. Existing Buildings – Residential

- **The Status of Residential Property Accessed Clean Energy (PACE) Programs**
 - Chairman Berliner will update the Committee on the latest efforts nationwide to allow PACE programs (such as HELP) to be implemented.

- **Utility Programs/EmPower Maryland**
 - Dan Berset of the Maryland Energy Administration (MEA)
 - Dan Hurley, Assistant Director of Energy Planning and Analysis Division, Maryland Public Service Commission (PSC)
 - Stacy Sherwood, Maryland PSC Staff
 - Lisa Brennan of the Montgomery County Office of Consumer Protection

2. Commercial/Multi-Family/Governmental Energy Efficiency Incentives

- **DEP Programs**
 - DEP including: Director Robert Hoyt, Stan Edwards (Chief of Policy and Compliance), and Eric Coffman (Senior Energy Planner)
- **PACE programs in the context of commercial/multi family projects**
 - Tom Simchak, Senior Research Associate with the Alliance to Save Energy
- **County Government Buildings/Performance**
 - Department of General Services (DGS) including: Director David Dise, Ernie Lunsford (Chief of Building Design and Construction), and Richard Jackson (Director of Facilities Management)

3. New Construction

- **Implementation of Bill 17-06 (Buildings – Energy Efficiency and Environmental Design). Potential utilization of the International Green Construction Code (IGCC) and/or other mechanisms in Montgomery County**
 - Hadi Mansouri of the Department of Permitting Services
 - Cliff Majersik, Executive Director, Institute for Market Transformation
- **Zoning and Master Plan Strategies for achieving energy efficiency above code compliance.**
 - Planning Board staff have been invited to attend this discussion.

Attachments

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MONTGOMERY COUNTY BILL 17-06

BUILDINGS – ENERGY EFFICIENCY AND ENVIRONMENTAL DESIGN

WHAT BUILDINGS DOES THE LAW APPLY TO?

The following non-residential buildings and multi-family residential buildings more than 4 stories high, if they receive a building permit in Montgomery County (except certain independent municipalities) after the law takes effect (see below), are subject to the “green buildings” requirements in Bill 17-06:

- (1) a new building with at least 10,000 square feet gross floor area (GFA);
- (2) a renovation or reconstruction of an existing building with at least 10,000 square feet gross floor area that alters more than 50% of the building’s GFA; and
- (3) an addition that doubles the building’s footprint and adds at least 10,000 square feet of GFA.

WHAT DOES THE LAW REQUIRE?

- County-built or -funded buildings must achieve a LEED silver rating (33-38 points on the LEED rating scale), or the equivalent as defined by County regulations. A building is County-funded if the County finances at least 30% of the cost of its construction or modification.
- Private buildings must achieve a LEED certified rating (26-32 points on the LEED rating scale), or the equivalent as defined by County regulations.
- The County Department of Permitting Services (DPS) can employ equivalent standards to LEED and accept verification of compliance by itself or other qualified persons and organizations. DPS must propose regulations for County Council approval that specify which version of the LEED ratings, or the equivalent, apply to a particular building type.
- The “green buildings” requirement triggers only at the building permit stage. An applicant for a building permit must submit design plans for a building that are likely to achieve the appropriate standard. DPS cannot issue a final use and occupancy permit until it finds that the building satisfies the appropriate standard.
- DPS by regulation may propose standards for waivers of the “green buildings” requirements when compliance would be impractical or unduly burdensome and a waiver would serve the public interest. DPS must submit an annual report to the County Executive and Council that identifies each approved waiver.
- DPS may propose enforcement mechanisms, such as a performance bond, to enforce the law.

WHEN DOES THE LAW TAKE EFFECT? Its effective date depends on whether the building is a private or County building.

- A private (non-County-funded) building must achieve a LEED-certified rating if its building permit application is filed on or after either (1) one year after the Council approves the implementing regulations; or (2) September 1, 2008, whichever occurs first.
- A County-built or -funded building must achieve at least a LEED-certified rating, or the equivalent, if its design is initially funded in the capital budget in Fiscal Year 2008. If its design is initially funded in Fiscal Year 2009 or later, a County-built or -funded building must achieve a LEED-silver or equivalent rating.

- If a County-built or -funded building is not included in the capital budget, the building must achieve a LEED-silver rating or the equivalent if its building permit application is filed on or after either (1) one year after the Council approves the implementing regulations; or (2) September 1, 2008, whichever occurs first.

F:\LAW\BILLS\0617 Green Buildings\Fact Sheet.Doc



DEPARTMENT OF ENVIRONMENTAL PROTECTION

Isiah Leggett
County Executive

Robert G. Hoyt
Director

MEMORANDUM

March 4, 2011

TO: Roger Berliner, Chair
Transportation, Infrastructure, Energy & Environment Committee
Montgomery County Council

FROM: Robert G. Hoyt, Director *Robert G. Hoyt*
Department of Environmental Protection

SUBJECT: Status of Programs Funded by Montgomery County's Energy Efficiency and Conservation Block Grant

Montgomery County received \$7.6 million in stimulus funding as part of the Energy Efficiency and Conservation Block Grant (EECBG) Program funded by the American Recovery and Reinvestment Act of 2009 (ARRA). Under the management of the Department of Environmental Protection (DEP), the County is using EECBG funds for seven programs to accelerate the adoption of energy efficiency and renewable energy in County, commercial, and residential buildings. The overall objectives of these programs are to reduce energy consumption, drive job creation, and expand the market for energy-related services and products. This memorandum provides a brief status report on the development of each program.

Through competitive procurements, DEP has retained the services of several program management contractors to assist with the implementation of EECBG programs. DEP's support contractors include MCFA (www.mcfaplanning.com) and ICF International (www.icfi.com) for Activities 1, 2, 3 and 4; Eco-Coach (www.eco-coach.com) for the Energy Leaders Program under Activity 6; and Nana Design (www.nana-design.com) for the Green Guide under Activity 6. Other County government departments and County agencies have or will retain additional support contractors as they implement programs funded through the EECBG program.

1. Residential Rebate Program

The Residential Rebate Program will provide incentives for comprehensive home improvement projects using the Home Performance with ENERGY STAR model. This program has been developed in the wake of the suspension of the County's Home Energy Loan Program (HELP) due to concerns raised by the Federal Housing Finance Agency about Property Assessed

Clean Energy programs like HELP. Rebate amounts and eligibility requirements are being finalized, but it is expected that each rebate will require an energy audit, and funds will be available for measures identified in the audit. In addition, participants will be able to take advantage of utility rebates, where available, to further subsidize the costs of audits and retrofits.

Funding: \$1,372,046, with \$1,145,000 available for rebates

Status: DEP is working with MCFA and ICF to finalize the program requirements and develop the rebate application process.

2. Energy Conservation and Renewable Energy in County Buildings

This program will provide funds to make energy efficient and renewable energy upgrades to County government buildings, as well as buildings owned by the Montgomery County Public Schools, the Park & Planning Commission, and Montgomery College.

Funding: \$2,671,381, with \$2,500,000 provided to departments/agencies as follows:

Montgomery County Public Schools	\$1,624,000
Department of General Services	\$554,000
Montgomery College	\$211,000
M-NCPPC	\$111,000

Status: Memoranda of Understanding have been finalized with each of the recipient agencies, and each has submitted a work plan identifying a preliminary list of projects. These proposed project sites are currently undergoing review by the Maryland Historical Trust (MHT) to determine if any historic properties would be affected by the planned activities. MHT review is a requirement of the EECBG funds: MCFA has developed a website to allow agencies to submit required monthly reports regarding the progress of their activities.

3. Commercial & Multi-Family Building Energy Efficiency Rebate Program

The commercial energy efficiency rebate program will assist businesses, non-profits and congregations with overcoming the initial financial barrier of implementing energy improvements. The rebate program is intended to "jumpstart" projects by providing a cost shared grant that is complimentary to utility incentives.

The program will cover a percentage of the cost of qualified energy efficiency improvements with a maximum rebate amount of 50 percent of project costs or \$75,000, whichever is less. Eligible improvements may include cost-effective energy conservation measures such as lighting upgrades, heating and cooling upgrades, cool roofing materials, energy

management systems and ENERGY STAR qualified equipment. It is anticipated that this program will serve 30 to 50 businesses. Project summaries will be prepared for each project.

Funding: \$1,924,147, with \$1,741,578 available for rebates

Status: Program parameters have been developed. MCFA has developed a website to provide information about the program, enable interested organizations to apply for a rebate on-line, and provide reporting tools for successful rebate recipients. The program is scheduled to launch in March, with the first applications due in mid-April. This first phase will award approximately one half of the rebate funding. The remaining funding will be allocated in a second phase to commence after the due date of the first phase submissions.

4. Commercial and Multi-Family Building Study

Energy consumption in the commercial sector is on the rise. Without significant energy improvements, these buildings' greenhouse gas emissions will soon exceed those of the residential sector. Recommendation EEC-3 of the 2009 Climate Protection Plan called for the development of specific energy performance requirements and time lines to benchmark, commission and improve new and existing commercial buildings and reduce energy consumption in this sector by 25 percent by 2020. The results of this study will be used to develop targeted policies and programs that can be adopted by Montgomery County in order to reach the energy reduction target as specified in the Climate Protection Plan.

Funding: \$400,000

Status: A study scope of work has been prepared by ICF, and a preliminary baseline of the commercial and multi-family building sector is being prepared. A process to identify appropriate stakeholders to engage in the study process is underway.

5. Workforce Development

Through a partnership between the Department of Economic Development and Montgomery Works, the County is launching two workforce development programs to train and certify individuals in the energy efficiency arena.

- *The Energy and Green Technology Skills Enhancement Program* will increase the skills of new entrants as well as incumbent workers in growing County businesses related to energy efficiency and renewable energy. Workers and businesses can choose from a list of approved, eligible trainings such as certified solar installer through the North American Board of Certified Energy Practitioners or building analyst training through the Building

Performance Institute. Businesses will receive a grant for employees that successfully complete the trainings. The program is expected to serve up to 50 professionals.

- *The Building Energy Managers* program will provide commercial businesses and property management firms an opportunity to train a dedicated energy manager for their existing facilities. This program will update the skills of new and incumbent facility managers to manage building energy use in day-to-day operations. Attendees will receive a transferable credential such as a nationally recognized certification, or a recognized Community College certificate. It is anticipated the trainings can serve up to 100 professionals.

Funding: \$306,823

Status: The Energy and Green Technology Skills Enhancement Program is underway and funds are being disbursed to eligible businesses through counselors at Montgomery County's Montgomery Works program in concert with other federal funds received through a separate Maryland Energy Sector Partnership grant. A scope has been developed for the Building Energy Manager training and Montgomery Works, DED, and DEP are organizing a stakeholder meeting with key property owners, management firms and others to finalize the program design before selecting a training partner.

6. Energy Education

There is substantial evidence that suggests programs and policies are far more effective when they are coupled with education and outreach programs. Montgomery County will use a portion of the EECBG funds for energy education, and all programs will be designed to leverage other educational resources, including utility-based programs and activities.

- The Energy Leaders Program will identify individuals willing to educate County residents about energy efficient techniques and practices. These leaders will promote resources, energy programs and incentives that will help residents make energy efficiency improvements. Leaders, who will be sought from diverse communities, will receive training by DEP on basic energy efficiency strategies, as well as communication and outreach tactics, and will be provided an array of educational materials to support their efforts.
- The "Green Guide" web site will serve as a one-stop-shop for environmental information on programs and resources available to Montgomery County residents. This site will be action-oriented allowing users to create their own plan to reduce energy consumption, water use and household waste. The site will include social media features, such as Facebook, blogs and user provided tips and testimonials, which will improve the content of the site and open another communication channel between the community and DEP.

Roger Berliner
March 4, 2011
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- The Montgomery County Green Business Certification Program certifies and recognizes businesses in the County for their environmental achievements. EECBG funds will be used for on-site verification of businesses seeking certification.

Funding: \$25,000

Status: Stakeholder meetings were held for the Energy Leaders Program and the Green Guide. The program management contractors supporting these programs have utilized stakeholder input to begin program development.

7. Opportunity Housing Energy Efficiency

The Montgomery County Housing Opportunities Commission (HOC) develops affordable housing for low and middle income residents. Under a previous Maryland Energy Administration grant, HOC developed a program of comprehensive energy efficiency upgrades to town homes and garden apartments. The Maryland Home Performance with ENERGY STAR process is applied to each unit. This funding will expand this program to an additional 45-50 units.

Funding: \$515,000

Status: Energy audits are currently being conducted by Montgomery County based auditor. As planned, the retrofits should be complete by July 2011.

Please contact Stan Edwards at 240-777-7748 if you have any questions or need additional information regarding the County's EECBG activities.

cc: Kathleen Boucher, ACAO
Stan Edwards, DEP
Eric Coffman, DEP
Susan Marinelli, DEP

INTERNATIONAL GREEN CONSTRUCTION CODE® (IGCC®)

SYNOPSIS

(Based on Public Version 1.0 of the IGCC)

OVERVIEW/BACKGROUND

The International Green Construction Code (IGCC) provides a comprehensive set of requirements intended to reduce the negative impact of buildings on the natural environment. It is a document which can be readily used by manufacturers, design professionals and contractors; but what sets it apart in the world of green building is that it was created with the intent to be administered by code officials and adopted by governmental units at any level as a tool to drive green building beyond the market segment that has been transformed by *voluntary* rating systems. It has been developed by the International Code Council (ICC) in association with cooperating sponsors ASTM International (ASTM) and the American Institute of Architects (AIA). Other organizations indicating their support include the U.S. Green Building Council (USGBC), producers of the LEED green building rating systems, and The Green Building Initiative (The GBI), producers of the Green Globes green building rating system.

The IGCC was developed with the intent to be consistent and coordinated with the ICC family of Codes & Standards: the I-Codes. It is applicable to the construction of high performance commercial buildings, structures, and systems, including existing buildings subject to alterations and additions, utilizing both traditional and innovative construction practices. Residential occupancies are covered by reference to the ICC 700 National Green Building Standard (NGBS). High-rise residential buildings, however, may conform to either the IGCC or ICC 700. The IGCC also allows jurisdictions to choose ANSI/ASHRAE/USGBC IES Standard 189.1 as jurisdictional compliance option . ASHRAE Standard 189.1, Standard for High-Performance Green Buildings Except Low-Rise Residential Buildings, is an American National Standards Institute (ANSI) standard developed by the American Society of Heating, Refrigeration and Air-Conditioning Engineers (ASHRAE) in association with the Illuminating Engineering Society (IES) and the U.S. Green Building Council (USGBC).

Because it was written in *mandatory* language, the IGCC is poised to produce environmental benefits on a massive scale: a scale impossible to attain with purely *voluntary* green building programs and rating systems. *Voluntary* programs have pioneered the Green movement, and with the foundation they have laid, the IGCC is positioned to achieve significant market transformation in those segments that are not likely to react to voluntary programs.

The IGCC is not a rating system; however, it incorporates an innovative new concept, that of *project electives*, which is designed to encourage and drive the construction of buildings which exceed the already stringent minimum requirements of the code, much like rating systems do. In addition, it contains other innovative features which allow jurisdictions to customize and tailor the code to address environmental concerns of a local nature and to respond to environmentally related political agendas.

Often, even at their higher performance thresholds, most green and sustainable building rating systems offer many choices to the owner and designer, but do not *require* increased performance in those specific areas which the jurisdiction may feel are critical. The IGCC, however, provides jurisdictions with a document which allows them to specify enhanced building performance in many specific critical areas of concern, including energy, water, natural resource and material conservation, etc. Rather than relying on an overall score attained by allowing owners and

design professionals to choose from a wide array of choices in all environmental categories with few mandatory requirements, as is typical of most green building rating systems, the IGCC takes the opposite approach: the IGCC is composed primarily of mandatory requirements, a number of which the jurisdiction selects for local enforcement, including specific requirements in each environmental category, and a relatively small number of owner/designer choices. The IGCC regulates owner/designer choices as *project electives*. A minimum number of *project electives*, as determined by the jurisdiction for all projects, must be chosen by the owner or design professional for implementation on each specific project. As a result of these features, the IGCC is able to produce more predictable results which are closely aligned with each jurisdiction's specific environmental goals. And even if a jurisdiction chooses to enforce only the minimum criteria in the IGCC, because the IGCC is intended to be adopted as a mandatory document, it is still poised to significantly reduce the impact of the built environment on the natural environment.

The IGCC:

- Is applicable to new construction, as well as alterations and additions to existing buildings
- Is written in mandatory language which is coordinated with the family of codes produced by the International Code Council
- Is intended to be adopted by jurisdictions on a *mandatory* basis
- Is intended to be administered primarily by building officials
- Sets stringent minimum mandatory requirements and performance thresholds in many specific areas, some of which are determined by the jurisdiction
- Is intended to be useable by manufacturers, design professionals and contractors
- Is intended to be adopted by governmental units and administered by building departments
- Is applicable to all commercial occupancies
- References ICC 700 for residential occupancies, except that high-rise residential occupancies may be regulated by either ICC 700 or the IGCC
- Incorporates features which allow jurisdictions to customize requirements to suit local geographical conditions and environmental priorities and agendas
- Incorporates a relatively small number of "project electives", a minimum number of which must be selected by the owner or design professional and implemented on each project, as a means to:
 - Encourage practices which are difficult to mandate; and
 - Encourage higher performance buildings (buildings with lower environmental impact which exceed the minimum requirements of the IGCC)
- Is *not* a rating system and is *not* intended to provide a single metric indicative of overall building performance
- In a single code or volume, is applicable to new construction, existing construction, building shells, multiple occupancy classifications, building shells and community development, etc.

CONTEXT

The IGCC is founded on principles consistent with other codes produced by ICC (I-Codes): to adequately protect public health, safety and welfare; to provide requirements that do not unnecessarily increase construction costs; and to provide requirements that do not restrict the use of new materials, products or methods of construction and do not give preferential treatment to particular types or classes of materials, products or methods of construction, except where environmental impact or sustainability considerations require so.

The IGCC is an overlay code which relies on the foundation provided by other International Codes to provide communities with buildings that are safe and sustainable. Rather than the past approach of creating buildings which are capable of resisting environmental forces, consideration is given to the impacts on the natural environment from forces imposed by the built environment. The IGCC, much like the International Energy Conservation Code (IECC), is a code which regulates buildings primarily from a public welfare perspective. The IGCC is uniquely formatted not only to require the implementation of environmentally related best practices, but to encourage practices which are difficult to mandate, as well as to offer customization to jurisdictions, all in the name of reducing the negative impact of the built environment on the natural environment.

The benefits of the IGCC are not only environmental. Because the IGCC approaches conservation from many perspectives, and conservation inherently means *less* materials, water and energy, etc., in most scenarios, over the useful life of buildings and structures which conform to the IGCC, owners are likely to realize cost savings. There will also be less strain placed on infrastructure (such as roadways, public sewer and water, electric and gas utilities, etc.) and, therefore, jurisdictions and public service companies will benefit financially, which means additional savings are likely to be passed on to consumers. In certain cases, even higher initial costs will be more than offset: where projects are financed, reduced monthly utility charges may more than offset the increased monthly finance charges attributed to green and sustainable practices.

IGCC DEVELOPMENT AND AVAILABILITY

Subsequent development of the IGCC is tentatively scheduled as follows:

- Public Version 1.0 of the IGCC posted for public comment between March 15 and May 14, 2010. IGCC public comments will be posted July 2, 2010.
- Public hearings to review the public comments will be conducted between August 14 and 22, 2010. Public Version 1.0 will then be updated to the Public Version 2.0 based on approved comments.
- Public Version 2.0 will be posted for code change submittals November 2, 2010, with comments due by January 3, 2011.
- An IGCC Code Development Hearing will be held May 16 through 22 in Dallas, Texas.
- The Final Action Hearing will be held November 3 through 6 in Phoenix, Arizona, in conjunction with the 2011 ICC Annual Conference. The Final Action Hearing vote is restricted to ICC governmental members as they will be charged with enforcing the code.

- The 2012 Edition of the IGCC will be available in early 2012.

This process is the same as used to track the development of other I-Codes. Once a final code is created, it will be updated every three years along with the other I-Codes, through ICC's Code Development Process.

IGCC FORMAT/CONTENT

Building codes and standards are often thought of as establishing minimum requirements for construction practice. In reality, however, they are more accurately characterized as providing thresholds and limitations which are designed to trigger various requirements. The IGCC uses a new twist on that concept, utilizing *project electives*, to achieve the intent of various provisions while preserving flexibility and choice. Without flexibility and choice, mandatory enforcement of some of the code's provisions would become unreasonable or infeasible, effectively diminishing the applicability of the code, as well as its potential adoption, use and enforcement. For example, given current technologies, *mandating* that all buildings be *net-zero energy* designs (designed and constructed so that they generate all of the energy they use on-site by renewable means) might be quite onerous in many scenarios. However, *encouraging* the *voluntary* implementation of practices which move toward *net-zero energy* buildings is a reasonable approach, and is the one incorporated in the IGCC. The IGCC uses the concept of *project electives* to encourage the consideration and implementation of various environmentally effective practices which may not be suitable for every building and, therefore, may not be suitable as strictly mandatory requirements. The IGCC does not require that all *project electives* be complied with, it requires that a minimum number of *project electives* be complied with on each project, and allows the owner or design professional to select which ones are to be implemented on each project. *Project electives* enable the IGCC to drive the construction of buildings which may far exceed its minimum requirements. Such buildings will come much closer to fulfilling the ideal goals of sustainability. The IGCC uses the concept of *Total Annual Net Energy Use (TANEU)*, in combination with *project electives*, to encourage the construction of *net-zero energy* buildings. (See the Chapter 6 overview for more on TANEU.)

The IGCC contains:

- Requirements which are chosen by the jurisdiction and become applicable to all buildings constructed in the jurisdiction (Chapter 3 - Table 302.1)
- Project specific electives (*project electives*) which are chosen by the owner/designer (Chapter 3 - Table 303.1)
- Many other unique and powerful tools in Chapter 3 which sets the roadmap for the entire code
- Requirements for Existing Buildings (Chapter 10)
- Chapters which address the fundamental aspects of green and sustainable building, including:
 - Site development and land use(Chapter 4)
 - Material resource conservation and efficiency (Chapter 5)
 - Energy conservation, efficiency and earth atmospheric quality (Chapter 6)

- Water resource conservation and efficiency (Chapter 7)
- Indoor environmental quality (Chapter 8)
- Building operation, maintenance and owner education (Chapter 9)

IGCC CHAPTER 1 OVERVIEW: ADMINISTRATION

Section 101.2 - Scope:

The IGCC is applicable to the following aspects of buildings and building sites:

- Design and construction
- Additions , alterations and demolition
- Change of use or occupancy
- Equipment
- Location
- Maintenance

The IGCC is applicable to all occupancies, with the following twist for residential occupancies:

- Group R (Residential) occupancies, including the residential portions of mixed occupancies, must comply with ICC 700 at the performance level chosen by the jurisdiction, except that high rise residential buildings are permitted to comply with the ICC 700 or the IGCC. (See additional details in the discussion of Section 102.4.12 later in this document.)

The IGCC is *not* applicable to equipment or systems used primarily for industrial or manufacturing processes, except as provided (some energy provisions address limited aspects of process energy).

Section 101.3 – Intent:

- To safeguard the environment, public health, safety and general welfare through the establishment of requirements related to sustainability
- To reduce the negative potential impacts and increase the positive potential impacts of the built environment on the natural environment and building occupants, by means of minimum requirements related to:
 - Conservation of natural resources, materials and energy;
 - The employment of renewable energy technologies;
 - Improved indoor environmental quality;
 - Improved air quality; and
 - Building operations, building maintenance and owner responsibility”.