FLORIDA ENERGY CODE WORKGROUP

REPORT TO THE FLORIDA BUILDING COMMISSION

February 3, 2009

Melbourne, Florida

Facilitation, Meeting and Process Design By

CONSENSUS SOLUTIONS

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FLORIDA BUILDING COMMISSION
FLORIDA ACCESSIBILITY CODE WORKGROUP REPORT

OVERVIEW

Governor Crist directed the Commission to increase building energy efficiency requirements by 15% in his July 2007 Executive Order 127. In addition, the 2008 Legislature through passage of The Energy Act of 2008 created a suite of energy related assignments for the Building Commission. The Energy Code provisions were a major focus of the Commission during 2008, and the Commission increased the thermal efficiency requirements for the Florida Energy Code by 15% and integrated the enhanced requirements into the 2007 Florida Building Code. The Commission reviewed energy related code amendments adopted in the 2007 Florida Building Code Update to determine their cumulative level of increased efficiency, and adopted additional amendments required to achieve Governor Crist's directive of 15% increased efficiency. During 2008 the Energy Code was amended by administrative rule and then the revised Energy Code was adopted into the 2007 Florida Building Code during the 2008 "glitch" cycle concurrently with the March 1, 2009 effective date for the 2007 Florida Building Code. Working with stakeholders using consensus-building workgroups, the Commission was able to achieve the 15% increase in efficiency in buildings and implement code amendments that are efficient, consistent, understandable and enforceable for the full spectrum of Energy Code users.

The Commission's Energy Code Workgroup will develop recommendations regarding energy conservation measures for increasing efficiency requirements in the 2010 FBC by 20% as required by law.

MEMBERS AND REPRESENTATION

Raul L. Rodriguez, AIA, Chair of the Florida Building Commission, has made the following appointments to the Florida Energy Code Workgroup. Members are charged with representing their stakeholder group's interests, and working with other interest groups to develop consensus package(s) of recommendations for submittal to the Commission.

2010 Florida Energy Code Workgroup

Steve Bassett, Rusty Carrol, Bob Cochell, Phillip Fairey, Dale Greiner, Jeff Gross, Jeff Householder, Larry Maxwell, Donny Pittman, Paul Savage, Drew Smith, Jeff Stone, and Rob Vickers.

Meeting Schedule

March 5, 2009; March 27, 2009; April 30, 2009; May 28, 2009

REPORT OF THE FEBRUARY 3, 2009 MEETING

Opening and Meeting Attendance
The meeting started at 1:00 PM, and the following Workgroup members were present:
Steve Bassett, Rusty Carrol, Bob Cochell, Phillip Fairey, Dale Greiner, Jeff Gross, Jeff Householder, Donny Pittman, Paul Savage, Drew Smith, and Jeff Stone.

DCA Staff Present
Rick Dixon, Mo Madani, and Ann Stanton.

Meeting Facilitation
The meeting was facilitated by Jeff Blair from the Florida Conflict Resolution Consortium at Florida State University. Information at: http://consensus.fsu.edu/

CONSENSUS SOLUTIONS

Project Webpage
Information on the project, including agenda packets, meeting reports, and related documents may be found in downloadable formats at the project webpage below:
http://consensus.fsu.edu/FBC/2010-Florida-Energy-Code.html

Agenda Review and Approval
The Workgroup voted unanimously, 11 - 0 in favor, to approve the agenda as presented including the following objectives:

- ✓ To Approve Regular Procedural Topics (Agenda)
- ✓ To Review Workgroup Procedures, Guidelines, and Decision-Making Requirements
- ✓ To Hear an Overview of the Workgroup's Scope, Charge, and Task Development Strategy
- ✓ To Discuss Project Subtasks and Identify Information Development Needs
- ✓ To Consider Public Comment
- ✓ To Identify Needed Next Steps and Agenda Items for Next Meeting

Review of Commission's Workgroup Meeting Guidelines, Consensus-Building and Decision-Making Process, and Sunshine Requirements
Jeff Blair, Commission Facilitator, reviewed the Workgroup's process, decision-making procedures, and applicability of the Sunshine Law and answered member's questions. The relevant documents were provided on pages 4 – 7 of the meeting agenda packet.

Review of Workgroup's Scope and Charge
Rick Dixon, FBC Executive Director, explained that the scope of the Workgroup is to respond to Governor Crist direction that the Commission increase building energy efficiency requirements by 15% per his July 2007 Executive Order 127. In addition, the 2008 Legislature through passage of The Energy Act of 2008 created a suite of energy related assignments for the Building Commission. The Energy Code provisions were a major focus of the Commission during 2008, and the Commission increased the thermal efficiency requirements for the Florida Energy Code by 15% and integrated the enhanced requirements into the 2007 Florida Building Code. The Commission reviewed energy related code amendments adopted in the 2007 Florida Building Code Update to determine their cumulative level of increased efficiency, and adopted additional amendments required to achieve Governor Crist's directive of 15% increased efficiency. During 2008 the Energy Code was amended by administrative rule and then the revised Energy Code was adopted into the 2007 Florida Building Code during the 2008 "glitch" cycle concurrently with the March 1, 2009 effective date for the 2007 Florida Building Code. Working with stakeholders using consensus-building workgroups, the Commission was able to achieve the 15% increase in efficiency in buildings and implement code amendments that are efficient, consistent, understandable and enforceable for the full spectrum of Energy Code users. The Commission's Energy Code Workgroup will develop recommendations regarding energy conservation measures for increasing efficiency requirements in the 2010 FBC by 20% as required by law. See overview for project tasks. An opportunity was provided for questions and answers.
(Attachment 3—Project Scope and Tasks)

Review of Workgroup's Task Development Strategy
Rick Dixon, FBC Executive Director, reviewed the Workgroup's key tasks and answered member's questions. The Tasks and Subtasks are as follows:

Primary Task
Study Energy Conservation Measures and Develop a Plan for 20% Increased Efficiency Requirement for 2010 FBC
Section 109, HB 7153 establishes a schedule for increases in building energy efficiency requirements. This task expands the study of energy conservation measures for residential buildings to investigation of efficiency options for commercial buildings and the development of a plan to implement the requirements of the new law. Section 553.9061 "Scheduled increases in thermal efficiency standards." was created to establish percent increases in efficiency to be implemented in the 2010, 2013, 2016 and 2019 Code.

With the adoption of the Glitch Amendments to the 2007 Edition of the Florida Building Code and the revisions to Rule 9B-13 Thermal Efficiency Standards, the Commission implemented a strategy for increasing the energy efficiency provisions of the Code by 15%. The Commission's Energy Code Workgroup and Energy TAC are working with stakeholder to evaluate options for achieving an additional 5% increase for the 2010 Edition of the Code, and for achieving the progressive increases in efficiency required for subsequent editions of the code.

Legislated Subtasks

Develop Rule for Energy Code Cost Effectiveness Test

Section 109, HB 7153 directs the Commission develop a rule for determining cost effectiveness of energy conservation measures to be considered for inclusion in the Florida Energy Code. The rule must be completed and applied to the update of the energy provisions of the for the 2010 Florida Building Code.

"(3) The Florida Building Commission shall, prior to implementing the goals established in subsection (1), adopt by rule and implement a cost-effectiveness test for proposed increases in energy efficiency. The cost-effectiveness test shall measure cost-effectiveness and shall ensure that energy efficiency increases result in a positive net financial impact."

The Commission will be working with stakeholders during 2009 to develop cost effectiveness test criteria to be applied to justification for increased residential building energy efficiency requirements. The Commission will conclude rule making in time for the adopted rule to be effective prior to the 2010 Code adoption process.

Identify Specific Building Options to Achieve the Energy Efficiency Improvements

The Energy Act of 2008 (HB 7135) directs the Commission to include, as a minimum, certain technologies for achieving enhanced building efficiency targets established by the Act in the Florida Energy Code. The Building Code Act of 2008 (HB 697) directs the Commission to facilitate and promote the use of certain renewable energy technologies.

The Commission's Energy Code Workgroup will work with stakeholders beginning in early 2009 on a comprehensive evaluation of options for achieving energy efficiency initiatives for the Florida Building Code including: mandated increases in energy efficiencies for subsequent editions of the Code, criteria for cost effectiveness test for increases in energy efficiency, studying energy conservation measures for replacement of air conditioning equipment, investigating humidity and moisture control problems for hot and humid climates, and evaluating rainwater collection and reuse and waste water recycling techniques.

Develop Design Criteria for Energy Efficient Pool and Spa Systems

The Energy act of 2008 (HB 7135) directs adoption of pool pump efficiencies in the 2010 Code. During discussions with the Florida Spa and Pool Association regarding energy efficiency requirements for pool pumps members suggested improved efficiency could be achieved through criteria for pool hydronic system design. This initiative would be conducted in coordination with the national industry and other state's initiatives currently underway.

Investigate Humidity Control Problems for Hot and Humid Climates

At the recommendation of the Energy TAC, the Commission convened a Regional AC Efficiency Workgroup since the USDOE now has authority to develop and adopt regional AC efficiency standards. The Workgroup was charged with developing recommendations on whether the Commission and DCA should recommend to the United States Department of Energy (USDOE) regional AC efficiency standards for the hot and humid climate, and if determined a regional standard is a good strategy, then to develop recommendations for the technical requirements. The Workgroup investigated the feasibility of a hot-and-humid climate regional efficiency rating for air-conditioner and heat-pump systems, and recommended that the Commission should develop recommendations regarding AC equipments' role in controlling humidity and moisture in buildings.

Following the first meeting, the scope of the Workgroup was changed to develop recommendations

regarding AC equipments' role in controlling humidity and moisture in buildings in a hot and humid climate. The Workgroup is tasked with considering a range of issues and options regarding the manufacturing, design and installation of AC equipment in controlling moisture and preventing mold and mildew in the hot and humid Florida climate.

In addition, air conditioning contractors raised the concern that building energy efficiency optimization, commodity grade air conditioning systems and mechanical systems construction practices are combining to cause indoor humidity control problems.

Study Energy Conservation Measures for Replacement of Air Conditioning Equipment
This task is a recommendation of the Commission's Energy TAC resulting from consideration of Energy Code amendment proposals regarding replacement air-conditioning systems at the October 2008 meeting.

Discussion of Project Subtasks and Identification of Information Development Needs
Members were asked to have a preliminary discussion on the key tasks and subtasks and to identify any needed documents/information. In addition, members of the public were invited to provide comments on same.

Overview and Summary of Discussion and Participant's Questions and Comments:

Cost Effectiveness Test:
PS: statute text states Commission shall increase efficiency by 20% first so this task takes precedence, and complying with the cost effectiveness test is a secondary requirement.
JG: what is the relationship of green building ratings to the improved efficiency targets?
PF: Energy Star targets 15% better than current IECC provisions or whichever is better;
USCGC Leeds Home Program also requires a minimum 15% better than the national code;
USOE Builders Challenge Program requires 30% better than the national code.
SB: Energy Star for commercial buildings requires 15% better than all the buildings that have applied for Energy Star before; Ratings can go down as sample set improves.
PF: Commercial buildings are benchmarking to measured energy use, must be in top 75% or better (for existing buildings); LEEDS uses energy use simulation based on ASHRAE (for new buildings).
CA: Is the requirement of law for 20% from 2007 code or 5% from Mar 2009 code?
RD: the law says 20% relative to 10-31-09 Code.
AS: will same measures/approach be used for residential and commercial? What is the approach?
MM: ASHRAE should have figured cost effectiveness into its requirements already and this should be evaluated/considered.
SB: first cost, pay back and life cycle cost will need to be considered.
PF: in the analysis for the previous code cycle 3 methods were considered: IRR, First Cost, and Levelized Cost of Conserved Energy.
JH: how far into societal benefit do we anticipate going?
RD: use it as a guidepost/reference point for balancing benefit to the individual with the performance improvement targets (%).
KF: is the purpose to develop in the Code a way to measure whether we saved x%?
PF: codes have historically looked only at energy use after construction.
SB: if we are going from the assumption that the law directs a 20% improvement in the Energy Code relative to the 2007 Code, shouldn't we just move the point for passing to 80.
JG: all types of costs need to be considered to determine benefit to owners: impacts on affordability of

housing is a consideration that needs to be integrated into consideration, and need to be able to demonstrate there is a savings for the requirements.
DW: the 2009 IECC provides some increase in efficiency relative to the current Florida Energy Code.
PF: a DOE study indicates that the 2009 IECC is 15% more efficient that than the 2006 IECC. The 2007 Florida Energy Code will still be more efficient than the 2009 IECC.
SB: need to pay attention to existing buildings in this project as well.
JS: we are going to see smaller houses on average than previously due to economy and increased awareness.
AS: when will the discussion on the other subtasks be conducted (other than cost effectiveness test)?
RD: starting with the third meeting.
RC: where is the list of subtasks/subgroups?
JB: in the agenda packet starting on page 2.
JG: FECC is taking up the Governor's Action Team's recommendations and has a task on new and existing Buildings; there should be some effort to coordinate.
PS: we need to look into existing building and HVAC issues in the project's scope.
JG: operation and maintenance of buildings can defeat construction conservation measures.
CA: need to account for life span of ECM as part of the evaluation; Should ECM's be accounted for in house value increase and then again in the economic evaluation? The appraisal industry lags in recognizing the value of ECM's in appraisals.
PF: Fannie Mae allows consideration of energy cost savings via desk top underwriting.
KF: the Code accounts for the measurement of energy savings in achieving targets.
PS: will the FSEC report be available before the next meeting?
PF: yes.
RP: what ASHRAE standard 62 version is adopted in the Code.
M: the 2004 edition.
SB: didn't we allow use the of "latest editions" in the Mechanical Code?
Tom Larson: Southern Alliance for Clean Energy
There may be something that can be of help in reviewing what other states have done with cost effectiveness tests; existing buildings: the commissioning of existing buildings provides a big opportunity for savings and incentives; this is an industry on to itself.
SB: Architecture 20/30 did a review of states' Energy Codes, and that may be a good source of information to evaluate.

General Public Comment
Members of the public were invited to provide the Workgroup with comments.
There were no general public comments provided. Members of the public spoke on each of the substantive discussion issues before the Workgroup.

Review of Workgroup Delivery and Meeting Schedule
The Workgroup will be meeting as follows during 2009:
February 3, March 5, March 27, April 30, and May 28, 2009.

The delivery schedule is as follows:

Schedule for Sub-Task 27—Cost Effectiveness Test

Appoint Workgroup	12/9/08
Work Group/TAC meetings to develop recommendation	2/09

	3/09
Rule Development Workshop	4/09
Rule Adoption Hearing	6/09
Rule Effective	7/09

Schedule for Other Sub-Tasks (26, 29, 39, and 42)

Workgroup/TAC considers options and develops consensus plan	3/09
	5/09
	6/09
	8/09
Recommendations to Commission	10/09
Proposals submitted for 2010 FBC Update	12/09

Next Steps and Needed Information

The Workgroup requested a copy of FSEC'S report from the previous Code cycle. FSEC is preparing a report on cost effectiveness options and recommendations for the current process.

Adjournment

The Workgroup voted unanimously, 11 – 0 in favor, to adjourn at 4:30 PM.

ATTACHMENT 1

MEETING EVALUATION RESULTS

February 2, 2009—Melbourne, Florida

Average rank using a 0 to *10* scale, where *0* means totally disagree and *10* means totally agree.

1. Please assess the overall meeting.

8.86 The background information was very useful.
8.71 The agenda packet was very useful.
9.29 The objectives for the meeting were stated at the outset.
9.29 Overall, the objectives of the meeting were fully achieved.

2. Do you agree that each of the following meeting objectives was achieved?

9.00 Review of Workgroup Procedures, Guidelines, and Decision-Making Requirements.
9.43 Overview of the Workgroup's Scope, Charge, and Task Development Strategy.
9.00 Discussion of Project Subtasks and Identification of Information Development Needs.
9.33 Identification of Next Steps.

3. Please tell us how well the Facilitator helped the participants engage in the meeting.

9.86 The members followed the direction of the Facilitator.
10.00 The Facilitator made sure the concerns of all members were heard.
8.57 The Facilitator helped us arrange our time well.
9.00 Participant input was documented accurately.

4. Please tell us your level of satisfaction with the meeting?

8.00 Overall, I am very satisfied with the meeting.
9.29 I was very satisfied with the services provided by the Facilitator.
9.86 I am satisfied with the outcome of the meeting.

5. Please tell us how well the next steps were communicated?

8.00 I know what the next steps following this meeting will be.
7.43 I know who is responsible for the next steps.

6. What did you like best about the meeting?

- Good meeting.
- Adjournment.

7. How could the meeting have been improved?

- Today we ate cereal, let us move swiftly to eating meat.

8. Member Evaluation Comments.

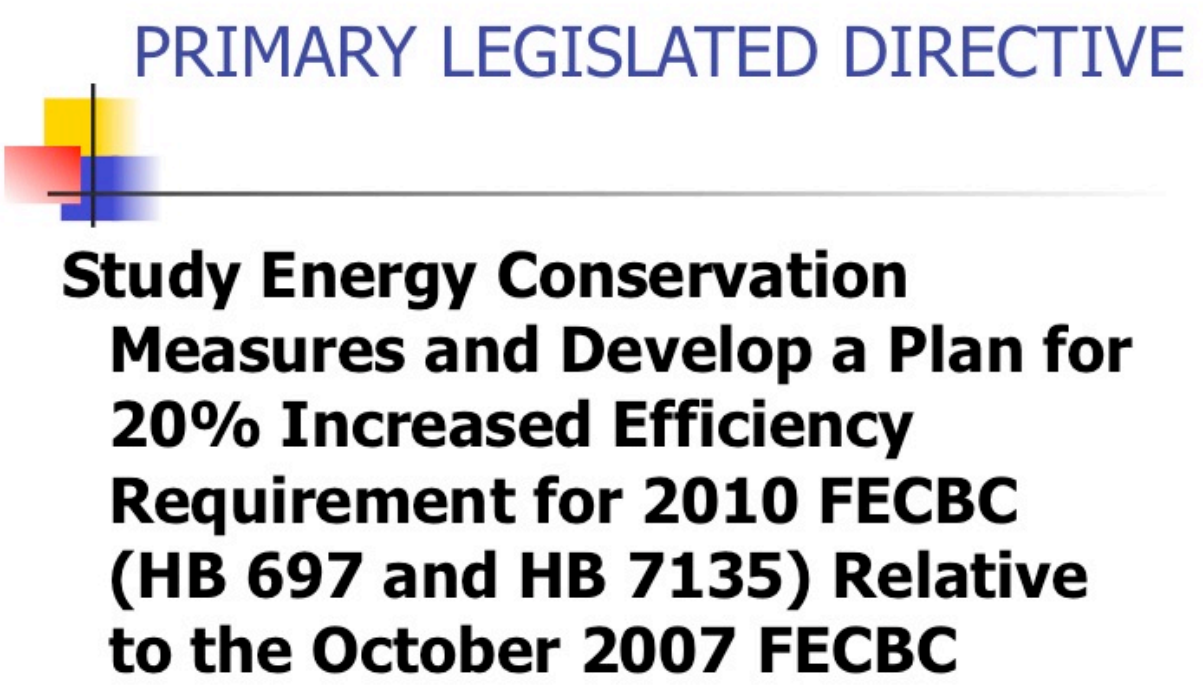
None provided.

ATTACHMENT 2
MEETING ATTENDANCE

Public Meeting Attendance
Name
Rafael R. Palacios
Phil McMahan
Joe Belcher
Tom Larson
Jennifer Hatfield
Bob Boyer
Joe Hazel
Jamie Gascon
Roger Sanders
Dwight Wilkes
Steve Strawn
Chuck Anderson
John O'Conner
Jack Glenn

ATTACHMENT 3

PROJECT SCOPE AND TASKS



LEGISLATED SUBTASKS

- **Develop Rule for Energy Code Cost Effectiveness Test.**
- **Identify Specific Building Options to Achieve the Energy Efficiency Improvements.**
- **Develop Criteria for Energy Efficient Pool and Spa Systems**
- **Evaluate Requirements for Cool Roofs Recognition in Florida Building Code**

Study Energy Conservation Measures and Develop a Plan for 20% Increased Efficiency Requirement for 2010 FBC

HB 7135, Section 109 Section 553.9061, Florida Statutes, is created to read:

553.9061 Scheduled increases in thermal efficiency standards.--

(1) The purpose of this section is to establish a schedule of increases in the energy performance of buildings subject to the Florida Energy Efficiency Code for Building Construction. The Florida Building Commission shall:

(a) Include the necessary provisions **by the 2010 edition** of the Florida Energy Efficiency Code for Building Construction to **increase the energy performance of new buildings by at least 20 percent** as compared to the energy efficiency provisions of the 2007 Florida Building Code adopted October 31, 2007.

DEVELOP RULE FOR ENERGY CODE COST EFFECTIVENESS TEST

HB 7135, Section 109 Section 553.9061, Florida Statutes, is created to read:

553.9061 Scheduled increases in thermal efficiency standards.--

(3) The Florida Building Commission shall, prior to implementing the goals established in subsection (1), adopt by rule and implement a cost effectiveness test for proposed increases in energy efficiency. The cost-effectiveness test shall measure cost-effectiveness and shall ensure that energy efficiency increases result in a positive net financial impact."

IDENTIFY OPTIONS FOR ENERGY EFFICIENCY IMPROVEMENTS

HB 7135, Section 109 Section 553.9061, Florida Statutes, is created to read:

553.9061 Scheduled increases in thermal efficiency standards.--

(2) The Florida Building Commission shall identify within code support and compliance documentation the specific building options and elements available to meet the energy performance goals established in subsection (1). Energy-efficiency performance options and elements include, but are not limited to:

(a) Solar water heating.

(b) Energy-efficient appliances.

(c) Energy-efficient windows, doors, and skylights.

(d) Low solar-absorption roofs, also known as "cool roofs."

(e) Enhanced ceiling and wall insulation.

(f) Reduced-leak duct systems.

(g) Programmable thermostats.

(h) Energy-efficient lighting systems.

CRITERIA FOR POOL AND SPA SYSTEMS

HB 7135, Section 110 Subsection (1) of section 553.909, Florida Statutes, is amended, subsections (3) and (4) are renumbered as subsections (6) and (7), respectively, and new subsections (3), (4), and (5) are added to that section, to read:

553.909 Setting requirements for appliances; exceptions.--

1) The Florida Energy Efficiency Code for Building Construction shall set the minimum requirements for commercial or residential swimming pool pumps, swimming pool water heaters, **.....**

(3) Commercial or residential swimming pool pumps or water heaters sold after July 1, 2011, shall comply with the requirements of this subsection. **.....**

(4) Pool pump motors shall not be split-phase, shaded pole, or capacitor start-induction run types. **.....**

(5) Portable electric spas standby power shall not be greater than 5(V2/3) watts where V = the total volume, in gallons, when spas are measured in accordance with the spa

CRITERIA FOR COOL ROOFS

The Roofing TAC requested Green Roofs be addressed by a dedicated workgroup

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(a) Solar water heating.

(b) Energy-efficient appliances.

(c) Energy-efficient windows, doors, and skylights.

(d) Low solar-absorption roofs, also known as "cool roofs."

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Study Energy Conservation Measures for Replacement of Air Conditioning Equipment

Recommendation of the Energy TAC resulting from consideration of Energy Code amendment proposals regarding replacement air-conditioning systems at the October 2008 meeting. Approved by the Commission October 15,2008

Schedule for Sub-Task 27, Cost Effectiveness Test

Appoint Work Group	12/9/08
Work Group/TAC meetings	2/3/09 3/27/09
Rule Development Workshop	4/09
Rule Adoption Hearing	6/09
Rule Effective	7/09

Schedule for Sub-Tasks 42, 29, 39 and 26

Work Group Meetings	3/27/09 4/30/09 5/28/09 8/09
Recommendations to Commission	10/09
Proposals submitted for 2010 FBC Update	12/09