Appendix X
Government Policy (GP)

Summary List of Pending Priority Policy Options for Analysis

Policy No.	Policy Option	GHG Reductions ($MMtCO_2e$)			Net Present Value 2009–2025 (Million $)	Cost-Effective-ness ($/$tCO_2e$)	Level of Support
		2015	2025	Total 2009–2025			
GP-1	Targets, Reporting, Funding, and Accountability Measures	*Not to be Quantified*					~~Pending~~ Approved
GP-2	Public Awareness and Education	*Not to be Quantified*					~~Pending~~ Approved
GP-3	Inter-Government and Inter-Sector Planning Coordination and Assistance	*Not to be Quantified*					Pending
GP-4	"Green" Business Development Policies	*Not to be Quantified*					Pending
GP-5	Introduce Core Competencies Into Professional Licensing Programs	*Not to be Quantified*					~~Pending~~ Approved

GHG = greenhouse gas; $MMtCO_2e$ = million metric tons of carbon dioxide equivalent; $/$tCO_2e$ = dollars per metric ton of carbon dioxide equivalent.

Note: The numbering used to denote the above pending priority policy options is for reference purposes only; it does not reflect prioritization among these important draft policy options.

GP-1. Targets, Reporting, Funding, and Accountability Measures

Policy Description

The State of Florida is committed to significant reductions in greenhouse gas (GHG) emissions and has established emissions inventory, forecasting, reporting, and registry functions in state agencies, specifically in the Florida Department of Environmental Protection (DEP). ~~The state is also in the process of establishing a Renewable Portfolio Standard (RPS) and an Energy Efficiency Portfolio Standard (EEPS). (See Related Policies/Programs in Place below for specifics.)~~ HB 7135 (House Bill 7135) established the Florida Energy and Climate Commission (FECC) demonstrating the state's long-term commitment to reduce its carbon footprint. It is strongly recommended that the state develop a steady funding source, such as a systems benefit charge (SBC) to provide funding to assist in achieving targets for renewable energy and energy efficiency. This will be key to achieving significant GHG emissions reductions.

The following are further descriptions of above-mentioned functions:

Florida set GHG emissions reductions targets, as established under Executive Order 07-~~126~~127. Specifically, the targets are ~~10% below current levels by 2012~~, ~~25% below current~~2000 levels by 2017, ~~and 40% below current~~1990 levels by 2025, and 80% of 1990 levels by 2050. [JW1]The following policy recommendations support these targets but recognize that, in the future, revisions may be needed because of scientific and technological advances. A review process will be necessary to review and revise targets.

GHG emissions inventories and forecasts are essential for understanding the magnitude of all emission sources and sinks (natural and those created by human activities), the relative contribution of various types of emission sources and sinks to total emissions, and the factors affecting trends over time. Inventories and forecasts help to inform policy makers and the public on statewide trends, opportunities for mitigating emissions or enhancing sinks, and verifying GHG reductions associated with implementation of GHG-reduction action plans and other initiatives.

GHG reporting supports the tracking and management of emissions over time. GHG reporting can help sources identify emission reduction opportunities and reduce risks associated with possible future GHG mandates. Tracking and reporting of GHG emissions can also help in the construction or revision of periodic state-GHG inventories. GHG reporting is a prerequisite for sources to participate in GHG-reduction programs, opportunities for recognition, and a GHG-emission registry, as well as to secure "baseline protection" (i.e., credit for early reductions).

An RPS is a requirement that utilities must supply a certain, generally fixed percentage of electricity from an eligible renewable energy source(s). More than two-dozen states have an RPS in place. About 25 states currently have some sort of SBC in place. Funds are typically generated as a charge on the electric bill and are used to ensure that the RPS and EEPS are met. The

Energy Supply and Demand (ESD) Technical Work Group (TWG) is proposing ESD-2, an environmental portfolio standard (EPS) that expands the notion to include energy efficiency, or other GHG emissions-reducing technologies, as an eligible resource. Since the 2008 legislation has separated an EEPS from the RPS, this discussion treats these two items separately. A clearly defined value for a renewable energy target (for example, 20% by 2020, as the Governor has suggested) and a clearly defined value for the energy efficiency target must be specified. The funding for each of these two important, yet distinct, ways to meet GHG-reduction targets must also be separated. Once renewable and efficiency targets have been set, they must be measured and verified constantly along with their impact on GHG reductions. Developing a mechanism for cataloging the GHG reductions in a registry is imperative to securing the veracity of the reductions and the value of those reductions as a tradable financial instrument. The Government Policy (GP) TWG suggests that consideration also be given to a broader environmental attributes registry that may be linked to water pollution trading credits, as well as GHG reductions.

A GHG registry enables the recording of GHG emission reductions in a central repository with "transaction ledger" capacity to support tracking, management, and "ownership" of emission reductions; establish baseline protection; enable recognition of environmental leadership; and provide a mechanism for regional, multistate, and cross-border cooperation. Properly designed registry structures also provide a foundation for possible future trading programs. Florida is a member of The Climate Registry (TCR) and as such can take advantage of the programs and protocols offered by TCR to member jurisdictions.

Policy Design

To support these initiatives, mechanisms must be created to

- Periodically review and revise established goals or targets for statewide GHG-emission reductions, RPS, and energy efficiency targets and review the effectiveness of use of the SBC to meet goals or targets.
- Establish renewable and energy efficiency targets and mandatory GHG emissions reporting, inventory, and forecasting functions at state agencies. In addition, develop an inventory and forecast system that is aligned with national protocols and tailored to specific emissions/sinks found in Florida.
- Provide technical assistance to emissions reporters and encourage participation.
- Institute an accountability program to measure and report progress in reducing GHG emissions. This program would allow the state to keep track of emission reductions and help determine what is and what is not working.
- Measure and report on research and development (R&D), job creation, and new business investment resulting from related "green" economy programs, and review the effectiveness of state funds used to promote those programs.

The Action Team recommends that Florida establish GHG-reduction targets for local, state, and regional government operations and school districts, with an emphasis on energy efficiency for transportation and non-transportation uses to meet the targets. The establishment of these targets will be helpful in setting an example for nongovernmental entities, and will help agencies to focus on performing the necessary analysis. Reductions should be reported at the agency level. Thus, local, state, and regional government agencies or departments would first need to develop GHG emissions inventory data that are agency or department specific, ideally building on existing energy-use reporting data. This would become the baseline data for ongoing emission reduction activities and measurement, which could be included in annual reporting for all entities. Agency or department reports would be aggregated into a summary report reflecting state GHG emissions. A multiagency group should oversee the ongoing climate efforts of the government's agencies or departments; review their performance; and provide guidance, resources, shared approaches, and recognition to agencies or departments and their employees working to reduce the government's GHG emissions.

Goals:

Beginning in 2010, the FECC should review progress toward achieving the Florida Executive Order GHG reduction goals and review and affirm or propose revisions to the goals every 3 years, assuming the necessary resources are available to properly complete this review.

Timing:

- Implementation of a GHG inventory for previous years shall continue.
- Timing of the current GHG inventory and forecasting efforts shall proceed as initiated under the Action Team process. Future efforts shall be based on the timing of the U.S. Environmental Protection Agency (EPA) reporting rule.

Parties Involved:

- DEP, FECC, the Public Service Commission (PSC), state agencies, and local and regional governments, Florida Association of Counties (FAC), Florida League of Cities (FLC), Florida League of Mayors (FLM), regional leagues of cities, and the Regional Planning Councils RPCs).

Forecast assistance will need to be provided by other various state agencies.

Other:

Implementation Mechanisms

The FECC in coordination with the DEP should create a clearinghouse function in the appropriate department to work with, coordinate, and aggregate local and regional goals, programs, and reporting on GHG mitigation progress. This clearinghouse should be developed with the participation of the FAC, FLC, FLM, local governments, regional leagues of cities, and the RPCs.

In conjunction with the programs and policies described in GP-2, Public Awareness and Education, the clearinghouse or the FECC should periodically issue reports for the Legislature and general public consumption regarding recent and longer-term trends of Florida's electricity consumption and liquid fuels consumption and the efficiency of Florida's personal and commercial vehicle fleet. These reports should convey these trends in simple, easy to replicate and grasp graphics, like the United Way "thermometer."

- The ~~FECC~~ DEP should coordinate with EPA and TCR on the development of a mandatory federal GHG reporting rule (see FY2008 [fiscal year 2008] Consolidated Appropriations Amendment).[1]
  - This GHG rule will define sources, thresholds for reporting, and frequency of reporting. The GHG rule can be used to define reporting standards for previous year's emissions.
  - The rule will apply to the following gases: carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).
  - Forecasting of GHG emissions will be included as part of the state responsibilities. In forecasting future GHG emissions, treatment of uncertainties should be transparent, be as consistent as possible across sectors and time and, to the extent possible, reflect multiple scenarios.
- Inventory and other related information shall be gathered for all previous years through 1990.

Progress reports should be made available to the public by every reporting period, at a minimum.

Related Policies/Programs in Place

Governor's Executive Order 07-126 established GHG reduction goals for state agencies of a 10% reduction from current emission levels by 2012, a 25% reduction from current levels by 2017, and a 40% reduction from current levels by 2025.

Governor's Executive Order 07-128 established reduction goals to 2000 levels by 2017, to 1990 levels by 2025, and by 80% of 1990 levels by 2050. The Governor's Order also required adoption of the California motor vehicle emission standards. The standard is a 22% reduction in vehicle emissions by 2012, and a 30% reduction by 2016.

The Executive Office of the Governor is tracking and reporting financial savings and emissions reductions associated with Executive Order 07-126 via the Florida Government Carbon

[1] 110th U.S. Congress, First Session, H.R. 2764: Consolidated Appropriations Act, 2008, http://www.govtrack.us/congress/billtext.xpd?bill=h110-2764, see Title II, Administrative Provisions, US EPA (Including Rescission of Funds), pp. 284–285.

Scorecard. Executive Order 07-128 direction provides for "Policies for emission reporting and registry that measure and document emission reductions."

Recent Actions in Florida

As a result of Executive Order 07-127, the PSC held a series of workshops on RPS in 2007. They took comments on how to define what is renewable, at what level the standard should be set, and what the state wishes to achieve by setting an RPS. A report will be provided to the PSC this year on the findings, and recommendations on rulemaking will follow.

Florida Energy Bill—HB 7135 (see Policy Description above).

Type(s) of GHG Reductions

All six statutory GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6).

Estimated GHG Reductions and Costs or Cost Savings

This policy is not quantified.

Data Sources: Not applicable.

Quantification Methods: Not applicable.

Key Assumptions: Not applicable

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

Pending.

Level of Group Support

TBD

Barriers to Consensus

TBD

GP-2. Public Awareness and Education

Policy Description

Focusing on public awareness and education is predicated on the fact that if Florida wants to be recognized as an eco-literate state, it can do so only if efforts are embraced and actions are taken by everyone—from high-level policy makers at one end of the citizenry, to individuals at the other.

The goal is for every man, woman, and child in Florida—young and old, those in Florida's cities and those on the beaches, those in the research labs and those in the orange groves—to know that Florida, like Oregon, Washington, and California, will be recognized for its commitment to the environment at all levels. Accordingly, there must be an expectation for all Floridians to do their part to protect, to sustain, to restore and, most importantly, to re-engage in a dialogue with the state's most precious resources and our silent partners in life: our land, our water, and the air we breathe.

The efforts Florida undertakes to educate its citizens will be a reflection of the urgency with which it views climate change, the precariousness of the environment, and the need to conserve existing energy sources while creating newer, more viable ones. Education at all levels must begin immediately if Florida is to take the next critical steps to become a national leader.

Policy Design

Floridians doing their part assumes that individual citizens know what can and should be done and are provided the tools and the incentives to do it. This is the core role of public awareness and education, and policy design in this area is a three-step process: (1) identify the relevant audiences and sectors for purposes of optimal communication; (2) determine what to communicate and how to begin what, if designed correctly, will be perceived as a dialogue; and (3) gather feedback via that dialogue to determine the extent to which the information, tools, assistance, and incentives provided are understood, useful, and worthwhile. If these assumptions are correct, then magnitude is increased; if they are not, then corrections need to be made before proceeding further.

Because the second and third steps are more operative than policy-driven, they will need to be addressed in greater detail at a later point in time. They move beyond policy design and into policy implementation. Once entertained, the individual strategies will ultimately populate a toolbox of potential actions—large and small, general and specific—to sub-audiences. However, it is not too early at the policy formation stage to consider the general audience clusters that will need to be considered.

Traditional Education as a Target Audience

The traditional audience of a K–20 education system is entirely relevant and must be in play. Learning the alphabet of eco-literacy must begin in preschool and kindergarten, with successive and increasingly sophisticated lessons, applications, and connections throughout the formative years so that, as a by-product, more middle and high school students are comfortable exploring the possibilities of science, technology, engineering, and mathematics as professions. Progress in this area will entail ensuring that eco-literacy curricula and performance standards are created for science and social studies programs, and that "eco-literacy-across-the-curriculum" is explored and rewarded.

Similarly, the state's colleges and universities need to make the cultural shift away from viewing eco-literacy as synonymous with environmental science programs only. Rather, eco-literacy should be a component that traverses the traditional boundaries of the academy—into programs in architecture and building construction, throughout regional planning and health care administration degrees and, most assuredly, through our business schools—so that graduates can begin to challenge the unspoken financial argument currently being made for *not* addressing the environmental and energy issues of today. In summation, a sustained and comprehensive eco-literacy component for K–20 must be a part of the twenty-first century curriculum.

Also of relevance in postsecondary education is the appreciation and support for the R&D that will help create Florida's green economy. Alternate energy sources, as well as the many forms that energy efficiency may take—from the creation of composite materials to the planning necessary for transportation configurations—must continue to be valued and recognized as central to the larger issue of eco-literacy.

Other Target Audiences

Beyond the audience afforded by traditional education, Florida must devote its time, energy, and resources to increasing awareness and engaging the public-at-large with regard to the good decisions in personal and professional lives that can be made to favorably impact climate change and reduce energy usage. These include the decisions of individuals and groups of community-based organizations, religious leaders, business leaders, institutions, visitors, and, most importantly, average Floridians. Florida must determine how to market the savings associated with reducing the carbon footprint of all of these constituents.

All across the wide range of corporate and economic activities, education and awareness efforts can help incorporate climate change efforts into business plans and best practices. Among these sectors are Florida's growing high-tech industry, its agricultural base, and its historical strength in tourism, all three of which will be enormously impacted by climate change and energy crises.

One concept that is being recommended is a "Florida Climate Challenge" that would encourage citizens to voluntarily sign up for, and accept the challenge of, measuring their "footprint" and

then reducing it by some target level, with measurement tools, information, and advice available through a state Web site.

Target Audience: Local, State, and Regional Government Entities

While at one end of the spectrum attention must be placed on the general public as a critical audience for education and public awareness, at the other end government at all levels will be a key to ramping up and building on individual successes. In the same manner that good governments coordinate, communicate, share, and incent one another in times of emergencies such as hurricanes, Florida needs the same communicative network to focus on and assist with energy and climate issues. One strategy at the state level, for example, might be to form a climate change education and outreach council to coordinate information and efforts regarding climate change action plans, best practices, and associated policies. In turn, local and regional government entities need to consider strategies that will enhance education and public awareness.

To conclude, good policy design regarding education and public awareness will be fleshed out in these areas:

- Audience and sub-audience identification;
- Message, tools, and incentives creation;
- Communication systems developed or adapted and tested; and
- Feedback assessment, corrections made as necessary, and magnitude increased.

Goals: Goals will be associated with the tracking of qualitative deliverables as opposed to more quantitative accountability goals. **[The Action Team would like to see more specific goals here]**

Timing: Education and Outreach Committee appointed by the Governor by October 1, 2009.

Parties Involved: Office of the Governor; FECC; Florida Department of Education; Florida Board of Governors; Florida Chamber; Florida Association of Businesses and Industry; Florida Council of 100; religious organizations; regional government coordinating agencies; Association of Florida Mayors; Department of Agriculture; DEP; the Office of Tourism, Trade, and Economic Development; Florida Department of Transportation (FDOT); and the press.

Other: None.

Implementation Mechanisms

The Governor should form a climate change education and outreach committee (coordinated by FECC) to educate the public and other audiences regarding the climate change action plan and its associated policies and to oversee outreach activities. The committee should be formed of

appointees and supported by outreach coordinators from relevant state agencies (e.g., energy supply, forestry, and agriculture). The committee should

- Create and maintain one or more outreach coordinator positions in relevant executive agencies specifically tasked with climate change issues;
- Assess the level (establish a baseline) of public understanding of the impacts of climate change and of (proposed) state-specific actions to deal with climate change; and
- Establish a recurring awards program to recognize leadership and attainment of goals and objectives of the Florida climate change action plan.

Engage and partner with members of the Florida business community to coordinate with and leverage private sector-sponsored messages and initiatives.

Increase awareness and engage in climate change actions in personal and professional lives.

- Educate broadcasters, reporters, editorial boards, and others about climate change, the risks it imposes, and state subset of solutions. Work with state broadcasters and print media associations to develop and run public service announcements (PSAs) concerning climate change.
- Create the Florida Climate Challenge program, perhaps through the education and outreach committee, using a state climate change Web site for the public. The Web site would include a clearinghouse of climate change information and resources specific to Florida. The Web site would challenge Floridians to sign up and pledge to measure (through a Web-based survey tool) their carbon footprint, make changes to lifestyle and appliances or make other changes to reduce emissions, and then register the reductions on the site.
- Work with existing business outreach efforts to customers to enhance awareness of climate change issues and opportunities.
- Provide and advertise marketplace incentives to adopt and purchase goods with the minimum climate change footprint.

Integrate climate change into educational curricula, post-secondary degree programs, and professional licensing (see policy GP-5) to address the multidisciplinary approach to reduce adverse climate-change effects.

- Ensure performance standards for science and social studies in climate change public education (K–12), identify gaps in climate change education, and specific curricula to fill any gaps.
- Integrate best practices into public school design and construction and use this as a means to educate the public about how to educate students (and parents) firsthand in their communities and colleges.

- Organize groups of educators to identify, assemble, and employ climate change curricula appropriate to specific age groups. Make curricula and associated materials available to educational courses that are not publicly funded.
- Integrate climate change into core college curricula and promote research into climate change and solutions at state universities and develop university Centers of Excellence on climate issues, new approaches, and technologies.
- Develop assessment tools to determine the impact of climate change curricula.
- Include climate change discussions at state-funded venues, such as science centers, zoos, and museums.

Related Policies/Programs in Place

Climate Change Instructional Materials (Lesson Plans and Curricula):

1. WWF (World Wildlife Fund), Climate Curriculum for Teachers—This high school–level curriculum is divided into 15 lessons that include handouts, a glossary of terms, and additional resources for ongoing discussions and research.

2. Union of Concerned Scientists, Confronting Climate Change in the Gulf Coast Region: Prospects for Sustaining Our Ecological Heritage—This science-based program is geared toward college level studies.

3. Union of Concerned Scientists—Florida-specific information to supplement existing document. http://www.ucsusa.org/gulf/gcstateflo.html

4. The University Corporation for Atmospheric Research (UCAR), LEARN: Atmospheric Science Explorers—Originally a series of modules for teacher professional development, these modules have now been modified for the Web. http://www.ucar.edu/learn/

5. The Keystone Center, Climate Status Investigations (CSI)—In partnership with the U.S. Department of Energy and the National Energy Technology Laboratory (NETL), CSI presents interdisciplinary curricula modules for middle school and high school students on the topic of global climate change. http://www.keystonecurriculum.org/

6. GEMS (Great Explorations in Math and Science), Global Warming and the Greenhouse Effect—Activities for students in grades 7–8 (with hands-on activities and experiments) investigate a crucial environmental issue and help students see environmental problems from different points of view. Students can play simulation games and hold a "world conference" on global warming and acid rain. http://www.lawrencehallofscience.org/gems/GEM322.html

7. WWF: Your Climate, Your Future—An interdisciplinary approach to incorporating climate change in the classroom. http://www.worldwildlife.org/climate/curriculum/WWFBinaryitem5977.pdf

8. NOAA (National Oceanic and Atmospheric Administration) Climate Program Office, Climate Literacy Essential Principles and Fundamental Concepts—http://www.climate.noaa.gov/index.jsp?pg=/education/edu_index.jsp&edu=climate_literacy.html

The following is a partial list of faith-based organizations and nongovernmental organizations (NGOs) engaged in climate change awareness and education activities in Florida: **[NOTE: Public comment recommended reorganizing this list alphabetically and the inclusion of several more NGOs]**

Florida Council of Churches
Faiths United for Sustainable Energy (FUSE)
Big Bend Climate Action Team
Center for Urban and Environmental Solutions – Florida Atlantic University
Environment Florida
Environmental Defense
Florida Citizens for Science
Florida International University – The Metropolitan Center
Florida Renewable Energy Association
Florida Wildlife Federation
The Florida Keys Green Living & Energy Education (GLEE)
Greenpeace
Jacksonville Carbon Neutral Initiative (JaxGREEN)
Jacksonville's Sustainable Future
Naples Network for Climate Action
Natural Resources Defense Council
Sarasota Network for Climate Action
Sierra Club
Southern Alliance for Clean Energy
The Climate Group
The Nature Conservancy
University of South Florida (student)
Vote Solar

Type(s) of GHG Reductions

All six statutory GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6).

Estimated GHG Reductions and Costs or Cost Savings

This policy is not quantified

Data Sources: Not applicable.

Quantification Methods: Not applicable.

Key Assumptions: Not applicable.

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

Pending.

Level of Group Support

TBD

Barriers to Consensus

TBD

GP-3. Inter-Government and Inter-Sector Planning Coordination and Assistance

Policy Description

Given the high priority of climate change mitigation in the State of Florida, numerous state, local and regional government agencies are tasked with implementing climate policies or, at a minimum, integrating energy efficiency principles into their operations. Efficient coordination among agencies and between local, state, and regional government will enhance overall effectiveness, reduce overlap, and eliminate barriers to GHG mitigation efforts. Fortunately, many of Florida's cities and counties have embraced the mission; at least 70 mayors have signed the U.S. Conference of Mayors' (USCM's) Climate Protection Agreement and agree with its ambitious reduction goals. Eight or more counties have joined International Council for Local Environmental Initiatives (ICLEI), the Cool Counties program, or similar efforts. Many Florida local jurisdictions, large and small, embarked on GHG reduction efforts more than a decade ago, and therefore have wisdom and best practices worthy of replication.

Local governments will be among the state's most vital partners in addressing climate change. Decisions regarding land use, transportation, land conservation efforts, landscaping requirements, solid waste management, water distribution and, in public power communities, energy supply, are all made at the local level. Planning agencies will need to coordinate, especially those with a role in transportation infrastructure, because transit offers among the most potent reduction opportunities. The built environment and its building efficiency are also significant contributors to GHG emissions; that sector is an immediately accessible and active sector that could benefit from policy support. Development patterns present another key area because denser land-use patterns and smaller homes help reduce trips and save energy.

"Leading-by-Example" is one of the most effective ways for governments to convey the importance of climate response to the broader public. State government can help lead the way and build on the existing work that is well underway at local and regional levels by (1) collecting and facilitating access to information about best practices; (2) providing cost-benefit analyses of the various approaches available to local governments in a fiscally constrained environment; (3) documenting the economic benefits or payoffs for local governments, their constituencies, and businesses that are considering the implementation of green practices; (4) eliminating state subsidies or favorable tax treatment for programs or policies that are contrary to GHG reduction efforts; (5) identifying and eliminating state policies that unduly contribute to the generation of GHG emissions; (6) finding ways to say yes to local and regional partnerships and solutions; (7) funding the Florida Green Governments Grant Program and similar programs that support local and regional government initiatives; and (8) expediting state-level review and decision-making processes, if applicable, to facilitate implementation of local and regional efforts. Creating a statewide infrastructure or action plan to achieve GHG reductions will allow all coordinating agencies to be on the same page. In addition, determining regional GHG averages and encouraging use of a consistent system for

local governments to quantitatively assess their reduction progress would facilitate their engagement in this effort and allow them to gauge their progress and efficacy.

As documented in the "Plans and Planners" document, there are multiple agencies and jurisdictions with overlapping authority to plan and regulate a wide range of activities that directly or indirectly impact emissions. The Action Team proposes to directly improve coordination and consistency between these agencies and jurisdictions relative to GHG issues.

In its "States Guidance Document: Policy Planning to Reduce Greenhouse Gas Emissions" (Second Edition, 1998), EPA addresses the process of planning, implementing, and administering climate change mitigation programs. Specific topics addressed include the actors who affect climate change program design, political considerations related to climate change program development, treatment of time perspectives, interactions between various agencies that are internal and external to state governments, general program administration, and program financing. While primarily focused on implementation efforts by states, the key points highlighted by EPA can be applied to all levels of governments and organizations pursuing climate change program development and implementation. A key point of the document discusses the coordination of climate change programs and interaction between agencies. In its report, EPA identifies coordination among various state agencies, as well as between federal, state, and local governments, as a critical factor for success.

Policy Design

To accomplish the goals set forth above, the following are recommended:

- Coordinate federal, state, regional, and local government roles and policy with regard to climate change impacts and response. Coordinate activities and programs to facilitate rapid and meaningful actions on the part of government decision-makers.
- ~~Coordinate local, state, regional, and federal government roles and policies and coordinate activities and programs related to climate change impacts and responses to facilitate rapid and meaningful actions on the part of government decision makers.~~
- The comprehensive planning process as administered by DCA in conjunction with the RPCs, offers a consistent venue and format for integrating transportation and land-use planning among state, regional, and local government plans to reduce GHG emissions and should be utilized for such a purpose as guided by the new provisions in House Bill 697.
- ~~Work through the RPCs to improve coordination and collaboration of multi-sector, multiagency partners, create consistency in local government comprehensive plans with GHG reduction and climate change adaptation, develop regional implementation goals and benchmarks, and reach agreement on strategies to reduce GHG emissions. The Comprehensive Planning Process offers a consistent venue and format for this effort throughout the state. [NOTE: This language is not agreed to by the TWG. The TWG did not have sufficient time to work out a revision. The next version of this text will reflect the result of discussion now underway.]~~

- Work through the RPCs to improve coordination and collaboration among local governments to develop agreed upon strategies and regional implementation goals and benchmarks addressing GHG emission reduction and climate change adaptation.~~Establish incentives or mandate and fund programs for local governments to undertake inventories and GHG reduction initiatives for local government planning, facilities, and operations~~.
- Establish incentives, provide technical support, and fund mandated programs that enable local governments to access federal and state funding to undertake inventories, develop GHG-reduction initiatives for planning, facilities, and operations, and promote consistent reporting and information sharing.
- ~~Provide technical support to local governments to enable them to access federal funding for inventories and GHG reductions, such as through the federal Energy Efficiency and Conservation Block Grant (EECBG) program and encourage use of consistent reporting and information sharing.~~
- Work with the Florida Association of Counties (FAC), Florida League of Cities (FLC), Florida League of Mayors (FLM), local governments and regional leagues of cities, Metropolitan Planning Organizations (MPOs), Water Management Districts (WMDs), and the RPCs to reach agreement on one or more standardized methodologies for emissions measurement and reporting (e.g., the ICLEI method), and fund software licenses. Encourage regional collaborations.
- ~~Work with the FAC, FLC, FLM, local governments, regional leagues of cities, and the RPCs to reach agreement on one or more standardized methodologies for emissions measurement and reporting (e.g., the ICLEI method), and fund software licenses. Encourage regional collaborations, particularly in more rural areas.~~
- Celebrate successes and publicize demonstrated and documented "best practices" for other local governments. ~~Celebrate successes and publicize and reward best practices for governments.~~
- Provide educational opportunities and information to public, private, and nonprofit policy makers at the state, local, and regional levels.
- ~~Provide educational opportunities and information to public, private, and nonprofit policy makers at the local, state, and regional levels.~~
- Coordinate overlapping planning authorities to promote consistent regard for energy use and emissions reduction efforts.~~Require state and regional agencies and departments to review policies and funding programs to consider and promote emissions reductions.~~
- ~~Coordinate overlapping planning authorities to promote consistent regard for energy use and emissions reduction efforts.~~
- The broad range of state infrastructure investments should be linked to improved and integrated transportation and land uses that encourage a reduction in vehicle miles traveled (VMT) and GHG emissions, improved energy efficiency, affordable housing proximate to urban work centers, and progress toward other sustainability and quality of life measures.

Utilize performance-based methodologies that promote the reduction of GHG emissions, for example, transportation methodologies that support alternatives to automobile travel, including transit.

- ~~Coordinate transportation and land-use planning between local, state, and regional agencies for GHG reduction benefits by consolidating and funding regional land use and transportation planning functions through the RPCs and by addressing funding barriers to reduce access, linkage, and service level problems. The broad range of state infrastructure investments should be linked to improved transportation and to land uses that encourage a reduction in vehicle miles traveled (VMT) and GHG emissions, improved energy efficiency, affordable housing proximate to urban work centers, and progress toward other sustainability and quality-of-life measures. Utilize performance-based methodologies that promote the reduction of GHG emissions, for example, transportation methodologies that support mass transportation and a reduction in VMT. [NOTE: This language is not agreed to by the TWG. The TWG did not have sufficient time to work out a revision. The next version of this text will reflect the result of discussion now underway.]~~

Goals: All local jurisdictions with more than _____ population to have current GHG emissions inventories and mitigation action plans completed by _____.

Timing: See Goals, above.

Parties Involved: FAC, FLC, FLM, local governments, regional leagues of cities, water management districts, RPCs, metropolitan planning organizations (MPOs), Florida Department of Community Affairs (DCA), DEP, the Legislature, and FECC.

Other:

Implementation Mechanisms

Tier 1 – Near-term actions:

Offer incentives or programs for local governments to undertake inventories and GHG reduction initiatives for local government planning, facilities, and operations. The following are specific incentives:

- Solicit input from local governments on what incentives would assist them in implementing GHG reductions efforts.
- Financial and technical assistance for planning.
- Assemble, evaluate, and distribute a database of local government programs and actions that have proven to substantially and cost-effectively reduce emissions.
- Provide technical support to local governments to enable them to access federal funding for inventories and GHG reductions; publicize and reward best practices for governments.

- Sponsor a local government and state agency recognition program for successful mitigation efforts.

Tier 2 – Longer-term actions:

- DCA, in cooperation with the FECC should convene a working group with representatives of DCA, DEP, local governments, MPOs, RPCs, and others as appropriate to study and recommend changes in practice, agreement, rule, or law that are needed to incorporate climate change considerations, facilitate coordination, and minimize inconsistent and overlapping authority between departments and levels of government; these changes would help facilitate and expedite climate change mitigation and adaptation efforts throughout the state.
- Require state and regional agencies and departments to review policies and funding programs. Fund these activities through state appropriations.
- The EOG and DEP need to work closely with the Florida Legislature and the United States Congress to encourage proposals which may promote greater coordination and consistency between levels of government and agencies on matters affecting GHG emissions.

Related Policies/Programs in Place

The State of Florida is unique in that it has an existing comprehensive planning framework, which is the foundation of the state's growth management program. It provides for the coordination of state, regional, and local planning decisions. This Local Government Comprehensive Planning Act is administered by the Florida Department of Community Affairs (DCA). As part of this framework, the regional planning councils (RPCs) are tasked with planning and coordinating intergovernmental solutions to issues of state and regional concern. Therefore, to facilitate and expedite climate change mitigation and adaptation efforts throughout the state, Florida's policy-makers should work through the DCA in conjunction with the RPCs to use the local government comprehensive planning process to improve coordination and ensure that each level of government is working toward the same goals in a mutually supportive and consistent manner.

~~The State of Florida is unique in that it has an existing comprehensive planning framework for coordinating local, state, and regional action on issues of importance. Furthermore, the RPCs, in partnership with DCA, have been tasked with planning and coordinating intergovernmental solutions to issues of state and regional concern. Florida statutes identify the RPCs as Florida's *"only multi-purpose regional entity that is in a position to plan for and coordinate intergovernmental solutions to growth-related problems on greater-than-local issues, provide technical assistance to local governments, and meet other needs of the communities in each region."*~~

It is anticipated that the EECBG, which has been passed by both houses of Congress and is currently in the appropriations process, will establish a program similar to the Community Development Block Grant (CDBG). Local governments will be eligible for federal grants, based on population, to address local opportunities to save energy and reduce emissions. The initial

year's grant requirements will incorporate planning and forecasting efforts. The State of Florida would be well served to assist cities and counties in their efforts to obtain these funds, coordinate efforts with nongovernmental partners, and apply them toward the most fruitful emission reduction opportunities.

(Insert or reference summary of local government actions and initiatives in Florida)

HB 697 provides significant direction in the area of transportation, comprehensive planning, and GHG-emissions reduction.

The Volunteer Florida program provides assistance to Florida municipalities.

The Florida Legislature passed HB 7135, which establishes, in part, a "Florida Green Governments Grants Act" that provides for grants to be awarded "to local governments in the development of programs that achieve green standards." Although it was not funded this year, establishment of the program and the statement of legislative support is an important step forward.

Florida cities and counties that have adopted the USCM's Climate Protection Agreement, the ICLEI, and the Cool Counties program.

Type(s) of GHG Reductions

All six statutory GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6).

Estimated GHG Reductions and Costs or Cost Savings

This policy is not quantified.

Data Sources: Not applicable.

Quantification Methods: Not applicable.

Key Assumptions: Not applicable.

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

Pending.

Level of Group Support

TBD

Barriers to Consensus

TBD

GP-4. "Green" Business Development Policies

Policy Description

Climate change impacts are likely to have significant effects on all sectors of Florida's economy. Some sectors will face acute challenges, while others will enjoy substantial growth opportunities. GHG mitigation and climate adaptation are also likely to create entirely new economic and employment opportunities. Substantial investment is expected in energy efficiency implementation and renewable energy technologies. These investments hold the promise of diversifying and strengthening the Florida economy.

While there are economic opportunities, there will be costs associated with the transition to a low-carbon economy. However, it is widely considered that the costs associated with inaction are far greater than the investments associated with GHG reductions. Major studies indicate that the sooner actions are undertaken, the lower the costs to society. The result is an increasing sense of urgency, as well as an informed understanding that successful responses must be scaled to meet the challenge at hand.

Successful state GHG reduction efforts are highly dependent on active participation of the business community, particularly in the energy, agriculture, transportation, development, construction, and manufacturing sectors. Efforts must also be made to prepare and train the skilled workforce to enable new technologies to rapidly assimilate into the marketplace. All of these investments hold the promise of diversifying and strengthening Florida's economy. The intent of this policy is to encourage and facilitate the involvement of funding and investment sources, business interests, and entrepreneurs in quickly seizing business opportunities related to GHG reductions and climate change solutions.

The state will benefit by early identification of business opportunities associated with climate change by increasing its global competitive advantage and job creation within the state.

The state may also consider providing strategic support to existing critical economic sectors, such as tourism and other natural resource-based industries that may experience stress.

Potential funding sources include philanthropic organizations, high net-worth individuals, or others interested in supporting innovative market solutions that are environmentally effective. Recognizing that fortunes are likely to be made in the "new energy economy," for-profit investors, pension funds, mutual funds, and venture capitalists may be looking to fund similar business opportunities. Although technology entrepreneurs are often cited as offering potential climate change solutions, equally progressive solutions may lie in the fields of law, accounting, marketing, production, and even government relations and lobbying. The objective of this policy option is to leverage the state's specific talents and natural resources for climate change solutions into securing the business opportunities and market advantages that well-supported early bird efforts are likely to reap in a carbon-constrained world. This policy also intends to

ensure that Florida has a qualified workforce with the appropriate skill sets within these existing and emerging sectors to capture these investments as effectively as possible.

Policy Design

Successful state GHG-reduction efforts are highly dependent on active participation of the business community, particularly in the energy, agriculture, transportation, development, construction, and manufacturing sectors. The intent of this policy is to encourage and facilitate the involvement of funding and investment sources, business interests, and entrepreneurs in pursuing business opportunities associated with GHG reductions and climate change solutions as quickly and as significantly as possible.

Florida should foster R&D associated with GHG emission reduction, renewable energy, and energy efficiency technologies. The State of Florida should consider whole life cycle costs of potential energy technologies. The state should also promote business, job development, and workforce training in alternative low-carbon fuels and vehicles, and other alternative low-carbon technologies, such as energy efficiency.

The Office of Tourism and Economic Development (OTTED) and Enterprise Florida—in conjunction with the FECC—should undertake an analysis to look at new opportunities and at economic sectors that may be negatively impacted. Particular attention should be paid to the potential impact on Florida's tourism and other natural resource–based economic sectors.[2]

Florida should commit to a comprehensive process of mapping labor resources (traditional and nontraditional) and assets capable of implementing workforce solutions to provide much needed awareness of the scope and scale of the challenge. An assessment should be made of key skilled trades, manufacturing, and other energy-related educational programs, from secondary to post-secondary, to determine whether sufficient programs are in place to meet the need ahead. Industry-recognized certifications associated with greening Florida's economy should be identified and supported as stipulated in Florida's Career and Professional Education Act. Further, Florida should strengthen, encourage, and guide, when necessary, the integration of workforce and economic development efforts distributed among industry, economic development organizations, educational institutions, and labor organizations that will ensure maximum mutual benefit, align public and private resources, and heighten cooperation toward the common goal of GHG emission reductions.

The state should unify existing resources and entities with those created under the 2008 Florida Energy Bill (FECC and the Florida Energy Systems Consortium [FESC]) to support businesses in greening their operations and promote business development opportunities in climate protection and adaptation, including seeking or stimulating funding investments. This can be accomplished by

[2] See Draft Florida Adaptation Catalog.)

- Undertaking an analysis of potential opportunities in green industry development and targeting those technologies for which Florida has an advantage. Examples include energy efficiency implementation from building retrofits to waste heat recovery and renewable technologies, such as ocean wave and current energy, wind power, solar thermal and photovoltaic (PV), biomass, and biofuels.
- Analyzing targeted incentives to promote private investment in these technologies or industries, such as tax credits, investment in academic programs and research, grant funding, and investment in workforce development.
- Promoting the use of commercially ready technologies through a targeted RPS, an EEPS, building codes, appliance standards, rebates, and tax incentives (sales, property, or investment).

Other measures to accomplish this might include encouraging "business incubator" programs at Florida universities and colleges to attract and support new business development related to the new energy economy.

Florida should offer incentive points for competitive grant programs for state-to-business economic development for businesses that have undertaken GHG reduction and energy efficiency programs.

The designation or creation of a clearinghouse entity would enable matching technology developers and other climate solution entrepreneurs with necessary financing more effectively and expeditiously. As a result, the state's ability to identify and secure early business opportunities associated with climate change may be enhanced, increasing its global competitive advantage and increasing job creation within the state. This clearinghouse function might be performed by Florida's network of Small Business Development Centers, or perhaps coordinated through them.

The state should promote low-carbon fuels and vehicles through government actions with public education campaigns, tax/service and other incentives, and encouragement.

Recognizing the nexus between water treatment and use and energy production and consumption, the state should promote the use and development of effective water conservation plans, as well as water-conserving products and technologies, such as those certified through EPA's WaterSense program or the Florida Water Star public education program initiated by the St. Johns River Water Management District and being adopted around the state.

Having a government focal point for promoting the development of climate protection businesses would enhance the efficiencies of such an effort.

Goals:

- Meet the GHG reduction goals set out in the 2007 executive orders (80% below 1990 levels by 2050, with interim goals of ~~1990~~ 2000 levels by 2017 and 1990 levels by 2025).
- Determine funding resources to best manage and accomplish target goals.
- Review and determine green investment opportunities suitable for the state.
- Review and determine workforce needs for greening Florida's economy.

Timing: TBD

Parties Involved: FECC (Office of the Governor), DEP, FDOT, PSC, Florida Fish and Wildlife Conservation Commission (FWC), Florida Building Commission (FBC), the OTTED (Office of the Governor), Enterprise Florida, and Workforce Florida.

Implementation Mechanisms

[NOTE: The Action Team sent this policy back to the TWG with instructions to broaden the scope of implementation mechanisms. Specific suggestions include the use of a percentage of Florida State Employees Pension Fund assets to invest in Florida enterprises engaged in GHG mitigation and renewable energy technologies (see attached article and California CALPERS example, link given below); enhance the role or resources offered by OTTED to attract and promote related business development; encourage private investment through long-term state policies guaranteeing a market for renewable, energy efficiency and GHG mitigation investments (RPS, EEPS, etc.). The Action Team is seeking more specific measures to promote business investment in these areas. The TWG might also want to consider the measures used by Oregon and discussed in your fifth call on May 14th. An excerpt from the summary of that call is attached.

CALPERS link: **http://www.calpers.ca.gov/index.jsp?bc=/investments/environ-invest/aim-environ-tech-prog/home.xml**

Some implementation mechanisms are described in Policy Design, above. Many of these will require state agency rulemaking by FBC, DEP, and PSC. In addition to these proposals, the state should require the use of applicable "green buildings" standards for the award of state contracts for state-owned and state-funded projects.

Florida Management Services is required by HB 7135 to develop guidelines for determining what represents a green product and to produce a list of approved products for use by state departments. Beyond this, state agencies should favor contracting with firms that undertake green standards in business operations and in proposed contract work.

Florida should also define "green jobs." Enterprise Florida should conduct or commission a study of job opportunities and develop a targeted strategy for Florida, perhaps modeled after the "Green Pathways" report from Wisconsin. That report offered the following policy implementation principles:

- Target specific sectors within the green jobs universe.
- Use good data on labor market opportunities and skill gaps to drive green jobs initiatives.
- Measure and evaluate green jobs programs and make them better.
- Employ energy standards as green job creation tools.
- Promote green industry clusters.
- Design green jobs initiatives to save existing jobs and to create new ones.
- Link green economic and workforce development.
- Construct green industry partnerships.
- Integrate green jobs initiatives into existing workforce systems.
- Maximize community benefits by requiring them.
- Build greener career pathways.
- Extend green ladders to build real pathways out of poverty.

Related Policies/Programs in Place

The Action Team, in their Phase I deliberations, recommended further examination of ways the state can support public and private efforts to develop alternative fuels and technologies in Florida. The Action Team also recommended that policies be developed that promote the use of low-carbon vehicles. There are several state and federal grant programs, some administered through the Florida Energy Office (FEO), that attempt to incentivize the use of these fuels and vehicles.

- 10% target for renewable fuels;
- PSC—RPS;
- Florida Energy Efficiency and Conservation Act (FEECA);
- 2008 Florida Energy Bill (HB 7135);
- Grants and incentives—DEP, Florida Department of Agriculture and Consumer Services (FDACS);
- Workforce development;
- Florida Water Star and related water conservation programs;
- Best practices from other states and regions; and

- The Florida Institute for Sustainable Energy (FISE) housed at the University of Florida.

GP-5, Introduce Core Competencies Into Professional Licensing Programs, contains the recommendation to "encourage professional organizations associated with building trades and design professions to develop continuing education programs that include training directly addressing new technologies and materials, and design, development, and construction standards that can be used to reduce GHG emissions, improve energy efficiency, and reduce dependence on fossil fuels."

The following describes in general terms the classes of policies that are in place or proposed and the opportunities and obstacles they face.

- **Improving energy efficiency in buildings and appliances:** This type of reduction represents a large grouping of negative-cost options and includes lighting retrofits; improved heating, ventilation, and air conditioning (HVAC) systems; building envelope and building control systems; and higher performance standards for consumer and office electronics and appliances, among other options. While this category of abatement options would cost the least from a societal point of view, persistent barriers to market efficiency need to be overcome.
- **Increasing fuel efficiency in vehicles and reducing carbon intensity of transportation fuels:** Much of this form of GHG reduction would come from fuel economy packages (e.g., lightweight, aerodynamic, turbo-charging, drive-train efficiency, reductions in rolling resistance) and increased use of diesel for light-duty vehicles (LDVs). Though the savings from fuel efficiency may offset incremental costs of the abatement option over a vehicle's 12- to 15-year life cycle, these options require up-front investment by automakers, and thus, higher vehicle costs for consumers. Low-carbon fuels, such as cellulosic biofuels, could abate significant levels of GHG emissions (100–370 megatons if undertaken nationally), though this potential is highly dependent on innovation rates and near-term commercialization of these technologies. Plug-in hybrid vehicles offer longer-term potential if vehicle cost and performance improves and the nation moves to a lower-carbon electricity supply.
- **Pursuing various options across energy-intensive portions of the industrial sector:** Involves a multitude of fragmented opportunities within specific industries (e.g., equipment upgrades, process changes) and across the sector (e.g., motor efficiency, combined heat and power [CHP] applications). Despite offering direct bottom-line benefit, these options must complete for capital and, without clear incentives to control GHG emissions, may not receive funding.
- **Expanding and enhancing carbon sinks:** Increasing forest stocks and improving soil management practices are relatively low-cost options. Capturing them would require linkages to carbon-offset mechanisms to access needed capital plus improved monitoring and verification.

- **Reducing the carbon intensity of electric power production:** This potential derives from a shift toward renewable energy sources (primarily wind and solar), additional nuclear capacity, improved efficiency of power plants, and eventual use of carbon capture and storage technologies on coal-fired electricity generation. Options in the power sector are among the most capital-intensive. These options also tend to have the longest lead times, given bottlenecks to permitting and materials and equipment manufacturing, as well as design, engineering, and construction.

Type(s) of GHG Reductions

All six statutory GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6).

Estimated GHG Reductions and Costs or Cost Savings

This policy is not quantified.

Data Sources: Not applicable.

Quantification Methods: Not applicable.

Key Assumptions: Not applicable.

Key Uncertainties

Cost of carbon

Federal in international policy

Workforce development—The ability to produce the necessary talent.

Additional Benefits and Costs

Additional Benefits:

Tax dollars.

Costs:

Public health.

Feasibility Issues

- Wind
- Carbon capture and storage
- Potential for biomass
- Costs

Status of Group Approval

Pending

Level of Group Support

TBD

Barriers to Consensus

TBD

GP-5. Introduce Core Competencies Into Professional Licensing Programs

Policy Description

Florida has more than 200,000 licensed built-environment professionals, including building contractors, architects, landscape architects, engineers, interior designers, and others involved in the design and construction of Florida's residential and commercial sites and buildings. All of these professionals must earn continuing education units (CEUs) to maintain their licenses. In addition to required CEUs, built-environment professionals have access to rater and certification training associated with certification programs such as the Home Energy Rating System (HERS), U.S. Green Building Council (USGBC), Leadership in Energy and Environmental Design-Accredited Professional (LEED-AP), and the Florida Green Building Council (FGBC). Additional training opportunities are available through Florida's universities and community colleges.

Many professional associations are already providing continuing education or educational opportunities to their constituencies on climate change, GHG emissions, and energy efficiencies. It is critical that Florida's licensed professionals, who are responsible for the design, development, and construction of Florida's built environment, incorporate climate change and energy efficient technologies, materials, and design into their projects to facilitate the reduction of GHG emissions. Therefore, the state needs to establish and administer core competency requirements for licensed professionals who provide site and architectural design, site engineering, site construction, building construction, and building operations efficiencies services. The state also needs to require professional organizations, in support of their respective professional membership, to develop and administer continuing education programs that specifically address new technologies, standards, and materials designed to reduce GHG emissions and promote energy efficiency.

Additionally, within Florida's university system, design and engineering programs should establish required courses of study that specifically focus on the issues and importance of climate change mitigation and energy efficiency toward establishing a sustainable Florida.

Policy Design

Introduce core competencies on climate change into professional licensing programs (e.g., energy efficiency in site and architectural design, engineering design, building construction, maintenance and operation, use of recycled materials, use of local materials, and environmental design practices).

Targeted professions should include

- Architecture,
- Interior design,

- Civil engineering,
- Environmental engineering,
- Building inspectors,
- Code compliance officers,
- Building trades (e.g., plumbing, HVAC),
- General contractors (site and building),
- Real estate,
- Building operators,
- Landscape architecture, and
- State-certified teachers.

Specific climate change-related questions will be added to the respective state licensure examinations. To maintain professional licenses within the designated design professions, the state will require the respective professional organizations to develop and administer continuing education programs that reinforce the importance of reducing GHG emissions and promoting energy efficiency.

In addition, the state will work with energy-related certification and rater programs to promote greater access to training and education for built-environment professionals to enhance their ability to effectively apply building science principles to reduce energy consumption and GHG emissions.

To ensure that the state's universities educate and prepare our future design and engineering professionals in the urgency and importance of designing and developing for a sustainable Florida, the state's university design and engineering programs will develop and administer required courses of study within the respective disciplines that specifically focus on the issues and importance of GHG emission reduction, climate change mitigation, and energy efficiency. The State of Florida will expand its relationship with professional associations, universities, and other educational institutions to encourage and enable the development of curricula to carry out this mandate.

Goals: To enhance the ability of licensed, built-environment and design professionals to effectively apply building science principles to reduce energy consumption, dependence upon the use of fossil fuels, and GHG emissions.

To reduce energy consumption, dependence on the use of fossil fuels, and GHG emissions by applying best practices of climate change mitigation and by ensuring that Florida's licensed professionals (who are largely responsible for the design, development, and construction of the Florida built environment) are knowledgeable and current on GHG emission reduction and climate change technologies, building materials and design, and development and construction

standards. Through ongoing education of licensed professionals, current and new technologies, materials, design, and development and construction standards will be applied to new and redeveloped projects in Florida's communities.

Timing: By 2010, all professional licence testing and exams for the professionals described above shall be modified to address policies and best practices for reduction of GHG emisions and energy efficiencies.

Parties Involved: Florida Department of Business and Professional Regulation (DBPR), Workforce Florida, DEP, FECC, statewide professional organizations, local code enforcement agencies, and state universities and community colleges. Involve the Conserve Florida Clearinghouse, which was developed for improving water use efficiency in public water supply, in the evaluation of building program measures to save energy.

Other:

Implementation Mechanisms

Mandate that State Boards of Licensing for building and design professionals include core competencies on climate change in licensing exams. The exams should cover knowledge of the improved building codes; energy performance requirements; energy efficient site and architectural design; engineering design; building construction, maintenance, and operation; use of recycled materials; use of local materials; and environmental design practices.

Encourage professional organizations associated with building trades and design professions to develop continuing education programs that include training directly addressing new technologies and materials, along with design, development, and construction standards that can be used to reduce GHG emissions, improve energy efficiency, and reduce dependence on fossil fuels.

Develop education and certification training programs for builders and contractors on efficient heating and air conditioning sizing and installation.

Develop a Florida Green Building certification program for licensed professionals involved in the design and construction of residential and commercial buildings and development sites. (An example could be the Certified Green Building Professionals (CGBP) program administered by Build It Green for California building professionals.)

Include required courses of study at the state universities and community colleges within the respective disciplines that specifically focus on the issues surrounding and importance of GHG emission reduction, climate change mitigation, energy efficiency improvements, and reduced dependence on fossil fuels.

Related Policies/Programs in Place

Certification programs such as HERS, USGBC, LEED-AP, and FGBC.

Training courses through Florida's universities, community colleges, and technical schools.

Continuing education programs offered through professional associations.

Some of the education programs proposed under GP-4, "Green Business Development Policies."

Type(s) of GHG Reductions

All six statutory GHGs (CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6).

Estimated GHG Reductions and Costs or Cost Savings

This policy is not quantified.

Data Sources: Not applicable.

Quantification Methods: Not applicable.

Key Assumptions: Not applicable.

Key Uncertainties

TBD

Additional Benefits and Costs

TBD

Feasibility Issues

TBD

Status of Group Approval

Pending.

Level of Group Support

TBD

Barriers to Consensus

TBD

Acronyms and Abbreviations

CDBG	Community Development Block Grant
CEU	continuing education unit
CGBP	Certified Green Building Professionals
CH_4	methane
CHP	combine heat and power
CO_2	carbon dioxide
CSI	Climate Status Investigations
DBPR	[Florida] Department of Business and Professional Regulation
DCA	[Florida] Department of Community Affairs
DEP	[Florida] Department of Environmental Protection
EECBG	Energy Efficiency and Conservation Block Grant [Program]
EEPS	Energy Efficiency Portfolio Standard
EPA	U.S. Environmental Protection Agency
EPS	environmental portfolio standard
ESD	Energy Supply and Demand
FAC	Florida Association of Counties
FBC	Florida Building Commission
FDACS	Florida Department of Agriculture and Consumer Services
FDOT	Florida Department of Transportation
FECC	Florida Energy and Climate Commission
FEECA	Florida Energy Efficiency and Conservation Act
FEO	Florida Energy Office
FESC	Florida Energy Systems Consortium
FGBC	Florida Green Building Council
FISE	Florida Institute for Sustainable Energy
FLC	Florida League of Cities
FLM	Florida League of Mayors
FUSE	Faiths United for Sustainable Energy
FWC	[Florida] Fish and Wildlife Conservation Commission
GEMS	Great Explorations in Math and Science
GHG	greenhouse gas
GLEE	[The Florida Keys] Green Living & Energy Education
GP	Government Policy
HB 7135	House Bill 7135
HERS	Home Energy Rating System
HFC	hydrofluorocarbon
HVAC	heating, ventilation, and air conditioning
ICLEI	International Council for Local Environmental Initiatives

LDV	light-duty vehicle
LEED-AP	Leadership in Energy and Environmental Design-Accredited Professional
MPO	metropolitan planning organization
N_2O	nitrous oxide
NETL	National Energy Technology Laboratory
NGO	nongovernmental organization
NOAA	National Oceanic and Atmospheric Administration
OTTED	Office of Tourism and Economic Development
PFC	perfluorocarbon
PSA	Public Service Announcement
PSC	Public Service Commission
PV	photovoltaic
R&D	research and development
RPC	Regional Planning Council
RPS	Renewable Portfolio Standard
SBC	systems benefit charge
SF_6	sulfur hexafluoride
TCR	The Climate Registry
TWG	Technical Work Group
UCAR	University Corporation for Atmospheric Research
UF	University of Florida
USCM	U.S. Conference of Mayors
USGBC	U.S. Green Building Council
VMT	vehicle miles traveled
WWF	World Wildlife Fund

Units of Measure

$/t$CO_2$e	dollars per metric ton of carbon dioxide equivalent
MMtCO_2e	million metric tons of carbon dioxide equivalent