



## Catalog of State Actions Energy Supply & Demand Technical Working Group

A catalog of state-level, GHG-reducing actions and policy options based on actions undertaken or considered by state, local and private actors.

### Key to Future Rankings of Options in the Tables that Follow:

Potential GHG Emission Reductions <u>1/</u>	Potential Cost or Cost Savings <u>1/ 2/</u>
<b>High (H):</b> At least 1.0 million metric tons (MMt) carbon dioxide equivalent (CO <sub>2</sub> e) per year by 2020	<b>High (H):</b> \$50 per metric ton CO <sub>2</sub> e (tCO <sub>2</sub> e) or above
<b>Medium (M):</b> From 0.1 to 1.0 MMtCO <sub>2</sub> e per year by 2020	<b>Medium (M):</b> \$5-50/tCO <sub>2</sub> e
<b>Low (L):</b> Less than 0.1 MMtCO <sub>2</sub> e per year by 2020, or 1 MMtCO <sub>2</sub> e by 2050	<b>Low (L):</b> Less than \$5/tCO <sub>2</sub> e
<b>Uncertain (U):</b> Not able to estimate at this time	<b>Negative (Neg):</b> Net cost savings
	<b>Uncertain (U):</b> Not able to estimate at this time
<p><u>1/</u> Several measures may overlap in terms of emissions reductions and/or cost impacts. Estimates assume measures would be implemented independently from other measures.</p> <p><u>2/</u> Costs are denoted by a positive number. Cost savings (i.e., “negative costs”) are denoted by a negative number.</p>	

#### Definition of “Priorities for Analysis”:

- **High:** High priority options will be analyzed first.
- **Medium:** Medium priority options will be analyzed next, time and resources permitting.
- **Low:** Low priority options will be analyzed last, time and resources permitting.

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Option No.	GHG Reduction Policy Option	Potential GHG Emissions Reduction	Cost per Ton	Externalities, Feasibility Considerations	Priority for Analysis	Notes / Related Actions in FL
<b>ESD-1 EMISSIONS POLICIES AND OVERARCHING ITEMS</b>						
1.1	Generation performance standards and/or mitigation requirements for electricity					Department of Environmental Protection is currently engaged in rule-making to implement the Governor’s Executive Order that calls for an economy wide reduction of GHG in Florida
1.2	Integrated resource planning (IRP)					IRP is currently conducted within the context of the PSC PPSA process, but does not include GHG emissions. In addition, the PSC also reviews future plans of Investor Owned Utilities (IOUs) via a Ten Year Site Plan.
1.3	Voluntary GHG commitments					
1.4	Technology Research & Development					The Florida Energy Office (FEO) administers a renewable energy grant program that includes R&D. Also, the FEO assists the Department of Revenue with corporate tax incentives that includes R&D
<b>ESD-2 RENEWABLE ENERGY AND ENERGY EFFICIENCY</b>						
2.1	Renewable and/or Environmental Portfolio Standard (RPS/EPS)					The PSC is currently working on the development of a RPS as a result of EO 07-127 in which Governor Crist requested a 20% RPS with a strong emphasis on solar and wind.

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2.2	Grid-based renewable energy incentives and/or barrier removal					<p>The Florida Energy Office (FEO) administers:                      (1) renewable energy grant program that includes incentives for renewable energy;                      (2) Solar rebate program available to all residents in Florida; and                      (3) tax incentives for investing in renewable energy.                      Department of Agriculture has a Farm-to-Fuel grant program.</p> <p>The Florida PSC approved standard offer contracts to streamline the process of signing Power Purchase Agreements (PPA), and the PSC recently issued a proposed rule regarding net metering as a result of request from Governor Crist under EO 07-127.</p>
2.3	Distributed renewable energy incentives and/or barrier removal					<p>The Florida Public Service Commission recently issued a proposed rule regarding net metering. The PSC is addressing comments filed by IOUS on March 4<sup>th</sup>, and the rule is expected to be in place no later than May</p>
2.4	Green power purchases and marketing					<p>All IOUs and several muni's in Florida have a voluntary green pricing program for their customers</p>
2.5	Combined Heat and Power (CHP) standards, incentives and/or barrier removal					<p>Florida has a Renewable Energy Production Tax Credit that provides a corporate income tax credit equal to one cent (\$0.01) for each additional kilowatt</p>

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						<p>hour of electricity produced from renewable energy sources at a new or expanded Florida facility. This incentive program is capped at \$10 million.</p> <p>Also, the PSC approved standard offer contracts to facilitate and streamline the PPA between renewable generators and IOUs.</p>
2.6	Pricing strategies to promote renewable energy and/or CHP (e.g. net metering)					See above: 2.3; 2.4; and 2.5
2.7	Renewable energy development issues (zoning, siting, etc.)					<a href="http://www.dep.state.fl.us/energy/Permitting_Info/Permitting_Overview.htm">http://www.dep.state.fl.us/energy/Permitting_Info/Permitting_Overview.htm</a>
2.8	Technology-focused initiatives (biomass co-firing, energy storage, fuel cells, etc.)					Florida has two tax incentive programs, a renewable energy grant program, a renewable energy production tax credit, and a Farm-to-Fuel grant program
2.9	Public Benefits Charge					None in Florida, note that the Florida Energy Commission is exploring this issue in 2008
<b>ESD-3</b>	<b>FOSSIL FUEL AND NUCLEAR ELECTRICITY</b>					
3.1	Advanced fossil fuel technology (e.g. IGCC, CCSR) incentives, support, or requirements					<p>There is advanced cost recovery for IGCC technology whereby the PSC determines prudence on an annual basis.</p> <p>There is a Public/Private CCS working group underway. This partnership involves consortium of utilities, DEP</p>

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						and the Southern States Energy Board
3.2	New Nuclear Power					Advanced cost recovery for nuclear facilities whereby the PSC determines prudence on an annual basis. All existing commercial facilities are undergoing uprates. In addition, Progress Energy proposed a new nuclear unit in green field; FPL proposed two units in a “brown field,” and Gulf is looking at one unit in a green field but has not selected the location.
3.3	Relicensing/Up-rating Existing Nuclear Power					See 3.2; This is already occurring in Florida.
3.4	Efficiency improvements and repowering existing plants					
3.5	Technology-focused initiatives					Florida has advanced cost recovery for nuclear and IGCC power plants. These two technologies undergo annual prudence reviews for cost recovery, opposed to, cost recovery upon completion of the project
<b>ESD-4</b>	<b>FUEL PRODUCTION, PROCESSING AND DELIVERY</b>					
4.1	Oil and gas production: GHG emission reduction incentives, support, or requirements					
4.2	Natural gas transmission and distribution					FGT is proposing a \$2.1 billion pipeline from Alabama to South Florida
4.3	Oil Refining: GHG emission					Florida has no oil refineries.

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	reduction incentives, support, or requirements					
4.4	Coal Production: GHG emission reduction incentives, support, or requirements					Florida has no coal production.
4.5	Coal-to-liquids Production: GHG emission reduction incentives, support, or requirements					Florida has no coal to liquids production.
4.6	Low-GHG Hydrogen production incentives and support					Florida has a Hydrogen project manager in its Energy Office and he is managing several projects. Florida has grants and tax incentives for fixed installation hydrogen projects.
<b>ESD-5</b>	<b>CARBON CAPTURE AND STORAGE OR REUSE</b>					
5.1	CCSR incentives, requirements and/or enabling policies (administration, regulation, liability, incentives)					
5.2	R&D for CCSR					See above 3.1: Florida has a Public/Private consortium looking into CCS. DEP and various utilities are involved in digitizing Florida geological structures
<b>ESD-6</b>	<b>OTHER ENERGY SUPPLY OPTIONS</b>					
6.1	Transmission system upgrading					
6.2	Reduction of transmission and distribution line losses					

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6.3	General distributed generation support (interconnection rules, net metering, etc.)					See 2.3: The PSC issued a rule on this where comments were filed. It will go final no later than May.
6.4	Environmental (GHG emissions) disclosure					Phase I Action Team report recommended mandatory reporting for all emitting utilities to The Climate Registry
6.5	Landfill Gas Recovery (see also Waste)					
6.6	Waste to Energy					Florida has a lot of waste-to-energy facilities in state. Currently, half of the state's renewable energy is waste derived from waste to energy
6.7	N2O Reduction Co-benefit					
6.8	Smart Grid					
<b>ESD-7 ENERGY EFFICIENCY PROGRAMS, FUNDS, AND GOALS</b>						
7.1	Demand-Side Management (DSM)/Energy Efficiency Programs, Funds, or Goals for Electricity (including expansion of same)					The Florida PSC has had active DSM programs for over 20 years. Currently use the RIM Test.
7.2	Demand-Side Management (DSM) Energy Efficiency Programs, Funds, or Goals for					See 7.1

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	Natural Gas, Propane, and Fuel Oil					
7.3	Regional Market Transformation Alliance					Governor Crist is the co-chair of the Southern Energy Efficiency Alliance which encompasses all 11 southern states.
7.4	Energy Efficiency Financing (Loans)					Some utilities offer low interest loans for energy efficiency. An energy audit is a prerequisite for such loan.
7.5	DSM for MUNIs and Coops					
<b>ESD-8</b>	<b>BUILDINGS</b>					
8.1	Improved Building Codes for Energy Efficiency					
8.2	Promotion and Incentives for Improved Design and Construction (e.g. LEED, green buildings) in the Private Sector					Report of Green Building Public Awareness Campaign, Florida Solar Energy Center.
8.3	Improved Design and Construction in new and existing state and local government buildings, "Government Lead-by-example"					Governor's Executive Order 07-126 required new building constructed by state government to conform with LEED standards – direction to "strive for platinum."
8.4	Support for Energy Efficient Communities Planning, "Smart Growth"					

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8.5	Increased Use of Blended Cement (substituting fly ash or other pozzolans for clinker reduces CO <sub>2</sub> emissions)					
8.6	Reduction of Emissions from Diesel Engines Used in New Construction Developments					
8.7	Training and Education for Builders and Contractors (e.g. HVAC <sup>1</sup> sizing, duct sealing)					
8.8	Energy Management Training/Training of Building Operators					
<b>ESD-9</b>	<b>APPLIANCE STANDARDS</b>					
9.1	More Stringent Appliance/Equipment Efficiency Standards					Governor Crist directed the Department of Community Affairs to increase efficiency standards of products regulated under 9B-44, FAC, by 15% by 2009
9.2	Support for Federal-level Appliance Efficiency Standards					Report of Green Building Public Awareness Campaign, Florida Solar Energy Center.
<b>ESD-10</b>	<b>EDUCATION AND OUTREACH</b>					
10.1	Consumer Education Programs					Legislature approved \$250,000 for education and outreach during 2007 session.

<sup>1</sup> HVAC = Heating, Ventilation, and Air Conditioning

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10.2	Energy Efficiency and Environmental Impacts Awareness in School Curricula					See 10.1. In addition, the FEO works with the FSEC under a “Sunsmart School Program.”
10.3	Post-secondary Specialist Education and Certification for Building Energy Efficiency Experts and Related Trades					
10.4	Post-secondary College and University Programs					
<b>ESD-11</b>	<b>PRICING AND PURCHASING</b>					
11.1	Green Power Purchasing for Consumers					All Florida IOUs have a voluntary green pricing for consumers.
11.2	Net-metering for Distributed Generation and Combined Heat and Power					See 2.3: The PSC issued a rule on this where comments were filed. The rule will become final no later than May.
11.3	Rate structures and Technologies to Promote Reduced GHG Emissions					New Policy Options descriptions made by combining two others.
11.4	Bulk Purchasing Programs for Energy Efficiency or Other Equipment					
<b>ESD-12</b>	<b>CUSTOMER-SITED DISTRIBUTED ENERGY AND COMBINED HEAT AND POWER</b>					
12.1	Incentives to Promote Implementation of Renewable Energy Systems					Solar Rebate Program for PV, Solar thermal and solar pool. Also, FL has the Renewable Energy Grant Program.

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12.2	Incentives and Resources to Promote Combined Heat and Power (CHP, or “cogeneration”)					FL’s Renewable Energy Grant Program.
<b>ESD-13</b>	<b>GHG EMISSIONS-SPECIFIC GOALS AND POLICIES, INCLUDING PROCESS EMISSIONS</b>					
13.1	Switching to Lower GHG Fuels					Gulf Power has a rebate program for geothermal pumps (residential).
13.2	Policies and/or Programs Specifically Targeting Non-energy GHG Emissions					
13.3	Negotiated/Voluntary Emissions or Energy Savings Agreements					Florida law allows for Energy Saving Contracts for use by state and local governments. Phase I Action Team report recommended that these provisions be revised to increase the use of these vehicles by state agencies.
<b>ESD-14</b>	<b>TECHNOLOGY-SPECIFIC POLICIES</b>					
14.1	White Roofs, Rooftop Gardens, and Landscaping (including Shade Tree Programs)					Progress Energy has a financial incentive for “cool roofs.”
14.2	Focus on specific end-uses/technologies					
<b>ESD-15</b>	<b>NON-ENERGY EMISSIONS (HFCS, PFCS, SF<sub>6</sub>, CO<sub>2</sub> PROCESS EMISSIONS)</b>					
15.1	Participation in Voluntary Industry-Government					

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	Partnerships					
15.2	Process Changes/ Optimization					
15.3	Leak Reduction /Capture, Recovery and Recycling of Process Gases					
15.4	Appliance Recycling/Pick-Up Programs					
<b>ESD-16</b>	<b>OTHER</b>					
16.1	Focus on specific market segments: existing homes (weatherization), new construction, apartments, low income, etc.					
16.2	Municipal Energy Management					
16.3	Industrial ecology/ by-product synergy					
16.4	Industrial Audits					