Public Energy Policy for Florida: Opportunities for Legislative Action

Recommendations of the FSEC Policy Advisory Board To the Florida Energy Commission

May 11, 2007

1. Rigorously Pursue Effective Public Energy Policy

- Charge the Florida Energy Commission with the development and implementation of aggressive state energy policy that levelizes statewide per capita energy use and enhances our economy, environment and security. Provide the Commission with sufficient authority and resources to accomplish its mission and hold it accountable for achieving specific, measurable energy goals.
    - Require annual progress reporting to the Legislature and the Governor
    - Maintain statewide energy research and energy implementation plans
    - Administer and maintain a peer-reviewed competitive solicitation system for state-supported energy research and energy program implementation.
    - Require that all savings goals be measurable and monitorable, and that independent parties verify the results of all program implementations.
- Collect data and conduct analyses to evaluate the effectiveness and comparative success of federal, state and local energy policy.
    - Select metrics that show the real results (e.g., reduction in per capita energy use, increased economic activity, reduction in pollutants, etc.)
    - Pay special attention to "unintended consequences."
- Identify means by which public policy can create and enhance more cost-effective market innovations in renewable energy and energy efficiency.
- Support and lobby for (at the federal level) the enhancement and continuation of successful public energy policies and seek the elimination of unsuccessful, ineffective or counterproductive public energy policies.
- Create a Florida Renewable Portfolio Standard (RPS) and a Florida Public Benefits Fund (PBF) to support its goals through financial incentives. A February 2007 Mason-Dixon poll showed that 90% of Floridians support such legislative action, and that 79% of those polled would be willing to pay $1.00 per month on their electric bill to support implementation of such measures.
- Allow utilities to rate base expenditures on energy efficiency rather than expensing them. This changes the utility paradigm to that of providing the most cost-effective solutions to customers' energy needs.
- Create an energy efficiency and renewable energy loan pool by allowing utilities to collect a small percentage (0.5% - 1%) on each bill to fund the loan pool. This same fund can be used for rebates, as is being done in Colorado.

- Initiate a scrap and replace program to provide energy-efficient vehicles for low-income automobile owners, as described in "Winning the Oil End Game" by the Rocky Mountain Institute (www.rmi.org).

2. Leverage federal tax incentives provided by the Energy Policy Act of 2005

- Business Investment Tax Credit for Solar Energy Systems – Federal tax credits for businesses that invest in solar thermal or photovoltaic systems have been raised from 10% to 30% of expenditures, with no upper limit [Subtitle C, SEC. 48(a)(2)(A); page 1389].
    - Authorize additional state rebates, over and above these federal tax credits, to encourage Florida businesses to invest in solar systems, and
    - Explicitly allow public and private utilities to qualify for state rebates for solar systems that they purchase and own.
- Solar Energy Systems – Federal tax credits equal to 30% of incurred costs (up to a maximum credit of $2,000) are provided for residential solar domestic hot water and photovoltaic systems [Subtitle C, SEC. 25D., pages 1374-1383] As "The Sunshine State," Florida should take maximum advantage of these federal tax credits.
    - Create a quasi public-private partnership (with bonding authority) that can distribute and receive funds to act as a loan pool to finance the purchase of residential and commercial solar energy systems, and finance other energy efficiency improvements (see below) as well.
        - Require the Florida Solar Energy Center to establish standards for training and certifying independent inspectors for solar energy systems that wish to qualify for this program.
        - Require that all solar systems qualifying for this program be equipped with certifiable energy measurement devices that will allow the energy produced by the system to qualify for trading as Tradable Renewable Energy Credits (TRECs).
        - Require that all TRECS accrue to the quasi public-private partnership that is providing the financing for these systems.
        - Require the quasi public-private partnership to provide very low interest or no interest loans for solar energy and energy-efficiency programs in exchange for the right to sell TRECs from the solar systems it finances.
        - Require that annual loan payments by consumers be less than or equal to the annual energy savings expected to accrue from the solar energy or energy efficiency improvements.
    - Authorize additional performance-based state rebates, over and above the federal incentives, for the installation of residential and commercial photovoltaic systems.
    - Remove the rebate limits on solar hot water system rebates imposed through SB 888 for commercial solar water heating systems.
    - Remove the rebate limits on PV system rebates imposed through SB 888 for commercial PV systems.
    - Require that net metering be made available to qualifying grid-connected PV systems for residential and commercial applications. This will provide substantial incentives for homeowners and businesses to install PV systems.

    - Consider more advantageous time-of-use metering tariffs for residential and commercial customers to more closely reflect the actual costs of generation and the benefits of solar power generation.
- Public Buildings – Federal tax credits for public buildings that exceed specified standards may pass through to the "person primarily responsible for designing the property" [see Subtitle C, SEC. 179D.(d)(4), page 1337 of EPAct 2005]. The state should take maximum advantage of this provision.
    - Provide management incentives, financial incentives and training to persons responsible for procuring public building space
    - Require that "person(s) responsible for designing" public properties be certified as expert in energy-efficient building design and analysis
    - Require that public building properties exceed minimum code requirements by some percentage (e.g., 25%) in all cases
    - Require that all public buildings be commissioned to ensure that efficiency specifications have been achieved – train and certify those persons authorized to commission such buildings.
- Commercial Buildings – Federal tax credits of $1.80 per square foot are offered for commercial buildings that exceed national standards by 50%.
    - Add a state incentive of $0.90 per square foot to the owner of commercial buildings that qualify for this tax credit
    - Create the training and certifying standards to support a cadre of private-industry, state-certified energy professionals that includes, at a minimum, designers, analysts, inspectors and commissioning agents
- New Residential Buildings – Federal tax credits of $2,000 go to builders for new residential buildings that exceed standards [see Subtitle C, SEC. 45L, pages 1344 and following]. The state should provide incentives to both home purchasers and builders that will encourage them to take maximum advantage of this credit.
    - Provide additional incentives to the purchasers of tax credit qualified homes in the form of a performance-based rebate equal to the annual kWh savings times $0.75, as measured by RESNET accredited HERS rating software
    - Provide incentives to local code jurisdiction to "fast-track" residential building permits that qualify for this tax credit
    - Encourage or mandate "feebates" that reduce fees on homes that qualify for these tax credits and raise the revenues from fees on homes that do not qualify for the credits
- Existing Residential Buildings – Federal tax credits are provided to homeowners to improve the energy efficiency of existing homes [Subtitle C. SEC. 25C, pages 1351 and following].
    - Provide a quasi public-private revolving loan pool that will cover some or all of the incremental costs of qualifying for "Energy Efficient Building Property" in accordance with these provisions [see SEC 25C.(d)(3), pages 1358-1360].
        - Require loan payments to be less than or equal to the incremental energy savings arising from the improved equipment
        - Require that the equipment be commissioned by a trained and certified independent party to ensure that the energy savings are achieved

- Require regulated utilities to provide financial incentives in accordance with Public Service Commission RIM test standards to homeowners for the above qualifying equipment.

3. Enhance Florida's Residential Energy Code

- Expand the residential energy uses that are covered by Florida's Building Code
  - Include standard lighting and appliances in Florida residential building code. This would almost double the amount of residential energy use that is considered by Florida's Building Code. Improvements in the efficiency of lighting and appliances can significantly reduce air conditioning loads in Florida buildings. The capability and infrastructure to implement this already exists.
  - Use the *2006 Mortgage Industry National Home Energy Rating Standards* (available online at http://www.resnet.us/standards/mortgage/), which measures whole-building residential energy use as the means of complying with the code.
  - Use Florida's building energy rating system (§ 553.990 F.S. and Rule 9B-60.002 F.A.C.) and the state's cadre of Certified Energy Raters to privatize energy code compliance and achieve maximum home quality and performance.
- Increase the stringency of the Florida's Building Code:
  - Require that the code Baseline Home have the air handler unit located in the conditioned space rather than in the garage, where there are significant health and safety, as well as energy, impacts.
  - Adopt the standards for insulation inspections of the *2006 Mortgage Industry National Home Energy Rating Standards* requiring that insulation installation grades be used in the determination of code compliance.
  - Set the code Baseline Home roof solar reflectance at 0.40 rather than 0.75 (the current value) to encourage more efficient roofing systems.
  - Set the code Baseline Home duct insulation for unconditioned spaces to R-8 to correspond with new national model code minimums.
  - Require that the code Baseline Home be sized in accordance with Manual J 8th edition or equivalent and that the As-built home be required to make up any energy penalty associated with over-sizing.
  - Reduce the percentage of glazing in the code Baseline Home from 18% to 12% to compensate for the increase in house size difference between low-income and high-income homes.
  - Incorporate solar water heating with 50% solar fraction into the reference case code Baseline Home.

4. Reduce Transportation Energy Use

- Create a weighted sales tax for new vehicles based on city miles per gallon. This mileage value is listed on the vehicle window sticker. A tax-neutral measure could be made that would be structured to generate the same total amount of tax as presently. Because the tax is figured into the total expenditure of a new a car and

the related payments, this has the potential to alter the decision-making process for many consumers. An example of how it would works follows:

EPA Sticker Gas Mileage	>=50 mpg	45-49	40-44	35-40	30-34	25-29	20-24	15-19	10-15	<10
Sales Tax %	0%	1%	2%	3%	4%	5%	6%	7%	8%	9%

The structure shown would lead to a 5 to 7 percent sales tax on most current household vehicles sold.

- Reward communities that have achieved compact growth and transit-oriented community design with grants to support the transit. Be particularly supportive of communities that have good pedestrian/transit stop linkages so as to increase ridership.
- Provide a state-level, tax-neutral daily charge on rental cars in Florida such that preference is given to higher-efficiency rental cars. The system should provide credits of up to $3 per day for the most energy-efficient cars and taxes of up to $4 per day for the most energy-inefficient cars based on the combined EPA city/highway mileage for each rental car. This would encourage a more efficient fleet of rental cars in Florida, which would leave tourists with more funds to spend in our state's tourism industry. It would also result in a more fuel-efficient aftermarket for rental cars that are purchased by Florida citizens.
- Increase the percentage of Highway Trust fund dollars for public transit from today's rate of 17% by one percent per year to a maximum of 22% in 10 years. The policy of SB 360 is urban infill and redevelopment. The Secretary of Transportation has issued a policy directive encouraging urban infill and directed TRIP funding to support such projects. However, no increase in transit funding has occurred. SB 360 gave money to new starts, and this is a way to meet the greater need for numerous new city/county systems.
- Provide differential taxation that rewards high efficiency and penalizes low efficiency (a feebate) for privately owned vehicles
- Provide management and financial incentives to state and local government agencies based on fleet average efficiency
- Encourage innovative mass transportation developments
- Encourage improved community development based on minimizing automobile use
- Restructure the way schools receive funding for buses and fuel so as to create incentives for school boards to invest in methods for students living close to schools to walk or bicycle, and to reward schools that save bus and fuel expense without causing more private car trips.
- Aggressively pursue more alternative-fueled buses that will save energy and produce ultra-low emissions, with a goal that all new buses purchased by 2010 will be alternatively fueled.
- Reduce transportation use on and around state University campuses by funding or bonding dormitory construction on campuses to facilitate greater student housing until 40% of students are housed on campus.

5. Set the Example

- Implement a statewide "Utility Report Card" (see http://utilityreportcards.com/) system for public building energy use
  - Provide for inter-agency competitions and improvement incentives
  - Provide "branded" labels and awards for outstanding achievements and advertise publicly
- Create better Florida schools:
  - Set policies that school locations must be selected to receive ideal solar orientation and to minimize transportation use.
  - Require all new schools to have a projected reduction in energy use of 25% from state code and incorporate daylit classrooms as part of their strategies.
  - Complete a state certification process for education facility designers and engineers and encourage local school boards to reward or require such certification in their selection process.
  - Require that by 2010 all new K-12 and University buildings must obtain LEED silver designations so that students and schools lead by example to create healthy and durable learning environments.
  - Work to convert a portion of the school bus fleet to alternative-fueled vehicles.
  - Improve our infrastructure by improving our students
    - Provide an extra $5 million per year to State Universities that develop and incorporate a mandatory curriculum of 6 credit hours in their undergraduate program for understanding energy and resource flows.
    - Create $1 million per year funding for each Architectural department and each Mechanical Engineering Department in the state that develops and maintains an advanced energy-efficient design curriculum that is mandatory. Develop a state Building Energy Analyst professional test that must be passed by the majority of those students in order for the school to receive the funding, and to measure the potential effectiveness of the training.
- Provide technical and financial assistance to support local government and state agency initiatives
  - Significantly expand the state's "PV for Schools" program to install PV "learning systems" on all public schools. Concentrate first on schools used as emergency shelters.
  - Provide for a system of statewide portable PV power systems that are used to offset peak power demands in public buildings but can be rapidly deployed to alternative venues for disaster relief.
  - Reward "green" communities and developments
  - Provide matching financial support to local renewable energy development projects
  - Provide management and monetary incentives for fleet efficiency improvements
  - Require energy ordinance development and implementation as part of comprehensive planning and development.
- Create statewide, uniform standards for training and certifying commercial and public building energy professionals that are:

    - Analogous to those of the *2006 Mortgage Industry National Home Energy Rating Standards* (see http://www.resnet.us/standards/mortgage/)
    - Compatible with Florida's commercial building energy codes and standards
    - Compatible with national "beyond-code" programs such as LEED-NC and LEED-H
    - Compatible with federal requirements for tax credit qualification.
- Provide marketplace advantages for state certified commercial building energy professionals
    - State agency facility design and construction bids
    - Strengthen state commercial and public building rating programs required by the Florida Building Energy Efficiency Ratings Act of 1993.

6. Significantly Expand Florida's Energy Research Agenda

- Create and maintain a long-term energy research plan for Florida and issue competitive, peer-reviewed solicitations to conduct renewable energy and energy efficiency research.
- Conduct high-risk, high-reward research on indigenous renewable energy potentials within Florida.
- Identify critical state energy research areas such as energy efficiency within the state's tourism and lodging industry.
- Create a research program on practical and immediate opportunities for improving energy efficiency in Florida's transportation sector.
- Provide incentives to utilities to conduct meaningful research on power production, distribution, disaster preparedness and energy security.
- Enhance university research cooperation and partnership by creating a "Virtual Center of Excellence" in Energy Research to act as a research clearinghouse and resource for all Florida university researchers.
- Create incentives for Florida universities and industry to successfully compete and win federal grants in the renewable energy and energy efficiency arena by making state matching funds available to prospective PIs for federal proposals requiring cost share.
- Significantly expand university and private industry research on high-technology energy opportunities, such as: advanced photovoltaic devices and systems; advanced technologies for renewable hydrogen production, hydrogen storage and fuel-cell applications; and advanced nano-technology materials for energy production, storage, utilization and efficiency applications.

7. Economic Development

- Level the marketplace playing field between Florida and other states that have created active renewable energy markets in their states by enacting public policies like mandated Renewable Portfolio Standards (RPS) and Public Benefits Funds (BBF)
- Create significantly expanded markets for renewable energy and energy-efficiency products in Florida and exploit them to attract renewable energy manufacturing and energy-efficiency industries to the state. Note that while Florida is responsible for

11% of the new construction in the nation, it produces only 3% of the construction products that are used in that construction, leaving an opportunity to significantly expand state production of energy-efficient building products.

- For all green power programs in Florida, require that “green” electrons purchased from outside the state of Florida be valued significantly less than “green” electrons produced within the state of Florida.
- Create financial incentives that reward the development and use of indigenous renewable energy resources within Florida. Each dollar of indigenous energy expenditure creates approximately 2-3 times as much economic activity and new job opportunities as a dollar expended on conventional power. In addition, it reduces the approximately $21 billion dollars per year that Florida exports for fuel.