

FLORIDA'S ENERGY FUTURE REPORT APPENDICES

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APPENDIX A-1

COMMISSIONER LILA JABER – PSC ARTICLE

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<http://jacksonville.bizjournals.com/jacksonville/stories/2003/09/08/editorial3.html>



OPINION VIEWPOINT

Florida's electric supply: issues affecting reliability

Lila A. Jaber

Recent events in the Northeastern United States relating to the reliability of electricity put the term "grid" into morning newspapers. But exactly what an electric grid is and how it relates to the reliability of the electric supply in Florida remains something of a mystery to some.

In this context, the term "grid" refers to a system made up of three components: generation, transmission and distribution. Generation refers to the power plants that actually produce the power, transmission refers to the means by which power moves from power plants to specific destinations, and distribution is the means by which electricity is delivered to consumers.

The Florida electric grid has proven to be a resilient system, holding up well through extremes of nature -- hurricanes, tornadoes and lightning strikes -- and exponential population growth.

It should be noted that though there is no such thing as a system that functions with 100 percent reliability 100 percent of the time, it is also true that for a number of reasons, Florida's vulnerability to a systemic failure of its electric grid is far less than the states affected by the largest blackout in U.S. history in mid-August. This is true for a number of reasons.

First, our geography makes us unique. Being a peninsula limits our ability to import power from surrounding states.

Although Florida is hooked up electrically to the Eastern Interconnection grid system in Georgia, we only import about 8 percent of energy over long distance transmission lines. Consequently, we must have enough power plants in Florida to meet the bulk of our power requirements. A key component of an electric system's reliability is the adequacy of its supply.

As it stands today, the Florida peninsula has 22 generating utilities with a combined capacity of 38,857 megawatts (MW). Three investor-owned utilities (Florida Power & Light, Progress Energy

Florida and Tampa Electric Co.) provide nearly 75 percent of those 38,857 MW. When power purchases from non-utility generators are added, the total rises to 41,719 MW of generating capacity. By the year 2005, Florida utilities plan to add about 5,725 MW of generating capacity, most of which is already under construction.

Although most utilities in the nation plan to have about 15 percent more generation than they need, Florida Power & Light, Progress Energy and Tampa Electric have committed to have generation reserve margins of 20 percent by the year 2004. Based on recent reports, those three utilities have already met that goal in 2003, with reserve margins of about 24 percent.

Second, though all complicated systems such as power grids have a small probability of failure, the Florida transmission system is designed so that a single disturbance in one area does not cascade into other areas. This exact scenario occurred in 2002 when a utility had a disruption on its system. Customers of that utility experienced outages, but the problem did not affect customers of other utilities.

Third, the Florida Public Service Commission conducts an annual review of electric utilities that own transmission and generation facilities in Florida. Our technical staff assesses both the existing system and the planned upgrades for the next 10 years.

If the PSC determines that there is an inadequacy in the system, we have the statutory authority to require the necessary system improvements. Some improvements may require review by other state agencies for environmental or land use impacts, but for the PSC, the issues focus on balancing the reliability of the system with the cost of the necessary upgrades to the utilities, some of which may be borne by ratepayers.

On a realistic level, the existing safeguards built into the Florida electric system, our relative independence from electric providers in other states, and reserve margins maintained by Florida's investor-owned utilities, provide an alternative that has proven dependable in supplying our state's energy needs.

Our experience with the grid system in Florida has been positive.

Lila A. Jaber is chairwoman of the Florida Public Service Commission.

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APPENDIX A-2

LESSONS FROM THE AUGUST 2003 BLACKOUT

Clean Energy

backgrounder

Lessons from the August 2003 Blackout

Introduction

- Reliability Problems
- Blackout Solutions

The electricity blackout on August 14, 2003, highlighted the fragility of our electricity system and unleashed a torrent of proposals to upgrade it. Energy industry spokespeople have called for grid investments of \$56 billion, \$100 billion, and even as much as \$450 billion in total electricity infrastructure investments. The White House and congressional leaders have also demanded higher rates of profit for transmission owners, federal eminent domain powers to site new transmission lines, and inclusion of electricity reliability measures in an overall energy bill loaded with tens of billion of dollars of additional incentives to the fossil fuel and nuclear industries, drilling in the Arctic National Wildlife Refuge, repealing consumer protections...and much more.

The fact that the specific cause of the blackout—and more importantly, the failure of mechanisms designed to prevent the loss of one or two transmission lines from triggering cascading outages across many states and power systems—are still unknown should give elected officials pause before using the blackout to justify huge investments in new wires, plants and conventional fuel sources. At this point, process and communication failures appear to be major contributors to the size of the blackout and priorities to fix. And there is no evidence that a lack of power plant capacity played a role.

Meanwhile, the one fix nearly everyone agrees upon—enforceable national reliability standards to replace current voluntary guidelines—is being held hostage to passing a controversial comprehensive energy bill. Mandatory reliability standards—which UCS endorsed as a participant in a Department of Energy Task Force on reliability five years ago—should be enacted now.

We also need to implement cost-effective energy efficiency and demand management measures through federal and state standards and incentives. These programs reduce stress and congestion on the transmission and distribution system, avoid the need to

build new power plants and lines, reduce pollution, and pay for themselves in energy savings.

Some investments in upgraded existing transmission lines, building new lines, and implementing "smart grid" technologies will be necessary, but we need to establish fair, accountable, comprehensive regional planning processes that weigh the economic and environmental merits of all options for increasing reliability. As Amory Lovins has pointed out for decades, simply stringing together more central plants and wires can lead to a more brittle and vulnerable power system, whereas adding decentralized technologies for managing electricity demand and generating on-site power can increase the reliability and resilience of the system.

Decentralized, or distributed, resource options include targeted efficiency improvements, incentives for customers to reduce demand, and clean on-site power generation technologies such as fuel cells, micro-turbines, combined heat and power, solar, and small wind and bioenergy plants. We need to remove utility and regulatory barriers to the interconnection of clean distributed generation, and provide federal and state incentives to overcome market barriers to its adoption.

Finally, while it would not have prevented this blackout, diversifying our energy supply can also increase the reliability of our electricity system. We are becoming increasingly dependent on natural gas to generate electricity, increasing our vulnerability to supply shortages and price spikes. That is why the Federal Energy Regulatory Commission recently wrote, in supporting new rules for integrating wind energy into the grid, "Encouraging the development of intermittent generation will increase diversity in the resource base, thereby improving system reliability as a whole."

Wind, solar and other renewable energy resources can also reduce pollution and create tremendous new economic development opportunities, while enhancing the reliability and security of our energy system. A renewable electricity standard requiring utilities to increase their use of renewable electricity from a mere 2 percent today to at least 10 percent by 2020 was one of the few positive provisions in the energy bill recently passed by the Senate.

Reliability Problems

- The nation's over-reliance on large centralized power plants connected to high voltage transmission lines that bring power to consumers over long distances makes us vulnerable to the type of catastrophic failure in the system that occurred on August 14.
- Reliance on large power plants and transmission lines also makes us vulnerable to blackouts from terrorist attacks and other security threats. The United States has nearly 500,000 miles of bulk transmission lines that carry high voltage electricity to consumers. It would be nearly impossible to monitor and protect all of these lines, as well as new lines and power plants, against potential security threats.

- Improvements can certainly be made to lessen the likelihood of these events impacting such a large region in the future. Nonetheless, occasional unplanned blackouts, contained to small geographic areas, are unavoidable. Natural events, human error, and system failures cannot be completely engineered out of a system as complex and interdependent as the electric grid, where large generators in a network spanning more than half the continent must be synchronized to within one-sixtieth of a second.
- Electricity deregulation has contributed to reliability problems in several ways:
 1. The deregulation of wholesale generation and some retail markets has resulted in a marked increase in power transfers over long distances. Since the blackout, a wide range of sources, including the utility-funded Electric Power Research Institute, the Pacific Northwest National Laboratory, and executives with major utilities have cited the problem that the grid was not designed to handle these flows.
 2. Many utilities have cut costs and staff to prepare for deregulation, including resources for maintaining transmission and distribution lines and for energy efficiency programs.
 3. The uncertainty created by the debate over transmission rules, rates, and governing bodies in an era of increasing competition has resulted in reduced investment in the transmission and distribution (T&D) system in some regions. Many analysts believe that additional incentives to build transmission are not necessary. However, transmission owners are waiting to see if they will be allowed such incentives before they invest.

Blackout Solutions

Mandatory reliability standards. Strong, mandatory reliability standards should be established. The current voluntary standards, developed by the North America Electric Reliability Council (NERC), are not enough. Congress should not hold the reliability standards provision—twice passed by both the House and Senate—hostage to passing an overall energy bill.

- According to NERC, roughly half of the 444 standards violations that occurred in 2002 could have caused a blackout. Mandatory standards with strong enforcement provisions are necessary to ensure the reliable operation of the nation's electricity system.

Energy efficiency. Increasing the efficiency of our homes and businesses is the fastest and cheapest way to ease pressure on the electricity system. This can be done by enacting tougher energy efficiency standards for appliances and buildings and increasing federal, state, and utility funding for energy efficiency.

- Federal standards to improve the efficiency of commercial air conditioners, residential furnaces, and distribution transformers could avoid the need to build 83 typical-size new power plants by 2020, and reduce transmission and distribution

loads, while saving consumers \$22 billion, according to the American Council for an Energy Efficient Economy. The standards for residential central air conditioners that were repealed by the Bush Administration would have saved the energy equivalent of another 48 power plants.

Consideration of diverse reliability options. Enhancing reliability must rely on a diversified approach that considers all alternatives before investing in new or upgraded transmission lines. This includes prioritizing targeted efficiency improvements, providing incentives to customers to wisely manage their loads (demand response programs), and developing clean decentralized generation when they are economically and environmentally preferable. There should be explicit opportunities for these options to compete against conventional transmission options.

Demand response programs. Demand response programs, in which customers receive financial incentives to reduce or shift their electricity use or switch on backup generators when power supplies are low or lines are congested, can be much less expensive than adding plants or wires to respond to peak demands on the electrical system. Demand response programs can also reduce vulnerability to corporate market abuses during power shortages. Without eligibility restrictions or environmental constraints, however, such programs can lead to increased use of highly polluting backup diesel generators.

Distributed generation. Distributed, or decentralized, generation sources can increase reliability for customers, avoid the need for new power plants and power lines, avoid power losses during transmission and distribution, decrease congestion on the grid, and bring many other benefits.

- The Rocky Mountain Institute counts 207 benefits to distributed generation in its recent book, *Small is Profitable*.
- Energy consultant Chris Robertson calculates that using clean distributed generation options for critical public health and safety facilities, like hospitals and water treatment facilities, could reduce the probability of at least one blackout in 20 years from nearly 100 percent (from relying on the grid) to about one percent.
- A 1996 UCS analysis, *Renewing Our Neighborhoods*, found that distributed renewable energy generation technologies in the greater Boston area can often be cost-effective if the benefits of avoided transmission and distribution expenditures are counted.
- Solar thermal and photovoltaic systems, small wind systems, and small bioenergy systems can be used as distributed generation. Solar energy is particularly well suited for reducing peak demands from air-conditioning loads on hot summer afternoons. Click here for more information.
- Some of these generation systems, such as the fuel cell in New York City's Central Park police station, helped keep lights on and systems running during the blackout.

Net metering. National interconnection standards and net metering (allowing surplus generation to turn the electric meter backward) are needed to remove barriers to the

development of distributed technologies. Congress should increase research and development spending and adopt financial incentives for distributed energy systems to help overcome market barriers to their introduction. Regulators need to assess and remove other utility, market, and regulatory barriers to distributed generation, and to account for the benefits of distributed generation in system planning.

- 36 states currently have net metering provisions. See the net metering factsheet for more information.

Micro-grids. Distributed generation can be linked in local micro-grids to enhance reliability at the community level. A micro-grid under development by Northern Power Systems in Waitsfield, Vermont (in the Mad River Valley ski area), will initially use propane-fueled engines and microturbines, a photovoltaic array, and a small wind turbine, along with storage devices. It will provide power to 12 homes and five commercial and industrial facilities. It will also examine and potentially incorporate fuel cells, Stirling engines, and flywheels into the system. Learn more about the micro grid.

Fuel diversity. Renewable energy sources also increase system reliability because they diversify our resource base and do not use fuels that are vulnerable to periodic shortages or other supply interruptions. While some people think of solar and wind power as unreliable because they are intermittent generators, the Federal Energy Regulatory Commission (FERC) recently recognized the reliability benefit of wind in adopting new rules to facilitate integrating wind energy into the grid: "Encouraging the development of intermittent generation will increase diversity in the resource base, thereby improving system reliability as a whole."

Renewable energy incentives and standards. The most important ways to increase the use of renewable energy are through extending federal production tax credits and expanding their eligibility to all renewable resources, and through enactment of federal and state renewable electricity standards, also known as renewable portfolio standards. In July 2003, the Senate passed a renewable electricity standard requiring major electricity companies to obtain 10 percent of their electricity from renewable energy sources by 2020.

- Thirteen states currently have renewable electricity standards. See the renewable electricity standards fact sheet for more information.
- A 2002 study by the Energy Information Administration (EIA) found that a 10 percent standard, similar to the one recently passed by the Senate, would save consumers \$13.2 billion on their electricity and natural gas bills between 2002 and 2020. Learn more about the EIA report for more information.
- A 2002 analysis by UCS found even greater benefits from enacting either 10 percent or 20 percent renewable energy standards. See the full report, *Renewing Where We Live*, for more information.
- Competition from renewable generators would also reduce natural gas use in power plants, thereby reducing gas prices for consumers who use natural gas to heat homes and run businesses. Thus, renewable energy can also provide an important

long-term solution to the current natural gas crisis. Learn more about renewable energy and natural gas.

Upgrading existing transmission. Many technologies exist to significantly increase the capacity and efficiency of our existing transmission system, and new technologies have even greater potential. Priority should be placed on upgrading the existing system before building any new lines.

New transmission. Some new transmission will be needed to increase reliability and for other purposes. Some transmission upgrades and new lines will be needed to support wind power development, particularly in rural areas of the country. For example, the Minnesota Public Utilities Commission recently issued an order approving four new high voltage lines to support the development of 825 MW of wind power in southwestern Minnesota by 2006. Several consumer and environmental groups supported the development of these lines because they are being built primarily to support clean electricity from wind power.

RTOs. Regional transmission organizations (RTOs) can potentially have a positive, constructive role in enhancing reliability by facilitating regional planning, reliability assessment, and operational communication and by establishing market rules that treat renewable energy sources fairly. Effective RTOs should be open to all, governed independent of utility interests, work closely with multi-state agencies, and be accountable. Planning for system expansion or upgrades must be open, fair, and allow all options to compete. Rules should provide fair access to the transmission system and remove unfair scheduling penalties for variable-output resources such as wind power.

No across-the-board transmission incentives. Many analysts are not convinced that it is appropriate or legal for FERC to provide additional incentives to monopoly service providers, who already have an obligation to invest in transmission systems and receive a FERC tariff with a built-in profit margin. FERC's proposed across-the-board bonus approach will significantly increase costs to consumers, but may not produce system improvements in the most timely and cost-effective manner.

Analyze deregulation. Proponents of increased deregulation should provide thorough, open analysis of costs and benefits that accounts for the cost of upgrading the grid to achieve savings from purported increased efficiencies.

From *Union of Concerned Scientists*, www.ucsusa.org/

APPENDIX A-3

ENERGY SUPPLY SECTOR

Major Issues:

Key issues and themes in the energy supply sector of importance to Florida's energy planners are:

1. Power infrastructure siting, communities & community activism:

- Health and environmental impacts of relicensing power facilities
- Economic security and power plant efficiencies
- "Electrical generation" (new power plant) zoning
- Upgrading existing power distribution systems:
 - *Substation siting*
 - *Increased capacity distribution lines, tree canopies and overhead vs underground*

2. Dependence on natural gas:

- Long term availability and reliability of supply
- Price volatility especially related to sources and supplies of liquefied natural gas (LNG)
- Planning for a future with or without natural gas
- Fuel choices as the determinant for power systems configuration.

3. Economic & environmental security tied to power plant efficiencies:

- Power plants not designed for optimum use of fuel
 - *Most waste heat discarded rather than used as an additional and valuable source of energy.*
- Increase power plant efficiency to offset fuel imports into Florida and increase economic security and economic opportunities.
- Importance of power plant energy efficiency related to emissions:
 - *Efficiency is directly proportional to emissions reductions.*

- *Using waste heat to increase power plant efficiency reduces criteria pollutants and carbon dioxide emissions substantially more than end-of-pipe or end-use efficiency measures.*
- Best Available Control Technologies (BACT) and Lowest Achievable Emissions Rate (LAER) technologies as disincentives to improving power plant efficiencies.

4. Strategic vision & planning process:

- Determination or affirmation of responsibility for Florida's energy vision and planning process
- Planning based on path of continuous improvements in technology deployment

5. Strategic vision & planning:

- Integrating power supply with economic development:
 - *Cogeneration facilities as sources of usable high grade waste heat for process or air conditioning*
 - *Industry as partners: e.g. manufacturers, residential developers.*
- Distributed or central power systems, or both:
 - *Continuing investment in 40-year sunk infrastructure vs planning, research and deployment of alternate power systems.*
 - The role of New Source Review (NSR)
 - *Transition methodology for distributed generation systems*
 - Renewable power or CHP (combined heat & power/cogeneration)—not simple-cycle
 - *Clean coal plants or hydrogen plants*
 - Coal gasification-to-Hydrogen, source carbon sequestration and interstate hydrogen pipelines or interstate coal shipments, coal plants and no carbon sequestration.
 - *Hydrogen-based, integrated power/transportation systems:*
 - The role and fuels for stationary fuel cells.
 - Distributed hydrogen systems and/or home-based hydrogen systems
 - *Distributed infrastructure interconnection policies and approaches*
 - Role of solar photovoltaics in distributed generation systems

- Green pricing programs
 - *homegrown or green tags*
- Role and deployment of indigenous fuels and associated technologies “at the economic margin”:
 - *Waste heat*
 - *Solar thermal and photovoltaics:*
 - *Biogas from landfills, wastewater treatment plants and dairy waste*
 - *Biomass co-firing*
 - *Municipal solid waste*
- Programs for development of future indigenous energy supplies:
 - *Biomass energy crops*
 - *Ocean thermal and tidal power*
- Renewable Portfolio Standards (RPS)

6. Energy Efficiency & Renewable Energy Incentives

- Generate capital for energy efficiency & infrastructure:
 - *Create a System Benefits Charge (SBC) or Public Benefits Fund (PBF). A non-bypassable, usage-based fee applied to retail distribution or a mill-rate charge per kilowatt-hour, respectively.*
 - *The funds generated to be used for “public purpose” energy efficiency improvements, renewable energy, R&D and low-income services.*
- Create competition for energy efficiency improvements by reviewing the:
 - *Full impact of DSM programs. Are these programs inhibitors to competition in energy efficiency measures, or are they not?*
 - *Extent of required conservation beyond load management.*
 - *Linkage between generation and profits (less efficiency = greater profits)*
 - *Cost effectiveness determinations*

- *Rewarding of utilities for improving energy efficiency. I.E. Profits do not have to be linked to increased electricity use.*

APPENDIX A-4 NATURAL GAS

Natural Gas

A key issue of importance to Florida identified in the ENERGY SUPPLY outline is that of Florida's dependence on natural gas. Specific issues related to this emerging dependence are summarized as follows:

- Long term availability and reliability of supply
- Price volatility especially related to sources and supplies of liquefied natural gas (LNG)
- Planning for a future with or without natural gas
- Fuel choices as the determinant for power systems configuration.

As a logical first step toward addressing these concerns this brief asks the question—"What effect might energy efficiency and renewable energy deployments have to mitigate Florida's exposure to potential natural gas shortages and price increases, both of which represent significant threats to Florida's long term economic security?"

Background

The *Review of Electric Utility 2002 Ten-Year Site Plans* (Florida Public Service Commission, December 2002) cautions that "electric utilities forecast a significant (125%) increase in natural gas requirements over the next ten years". Further, it states "the increase is due to the forecasted net addition of approximately 18,650 MW of gas-fired capacity, in the form of new combined cycle and combustion turbine units, unit repowerings, and fuel conversions."

By the end of 2002, natural gas consumption in Florida's power plants was 562 BCF (billion cubic feet per year), requiring completion of the Gulfstream Natural Gas System in March 2002 to supplement the Florida Gas Transmission (FGT) pipeline and meet the state's needs. In ten years this demand is projected to increase to 1,265 BCF, requiring major expansion of the two Florida pipelines in addition to the construction of natural gas pipelines to south Florida from LNG terminals the Bahamas. Projected price increases by the utilities over the same period vary from 0.5 to 5.2% annually; USDoE's Energy Information Administration (EIA) projects 6% annual price increases. EIA's projections, 6% compounded annually, doubles the price of natural gas from a national average of \$4.52 MMBtu (million Btu) in 2001 to over \$9.00 MMBtu in 2013 with many Florida consumers feeling the effect of rapidly increasing prices based on utility projections alone.

This upward pressure on natural gas prices is actually being felt today, but in a strikingly different way—that of deteriorating air quality and atmospheric pollution. The EIA notes in its September 2003 Electric Power Monthly Report that gas consumption in June 2003 "plunged by 21% compared to June 2002", while "oil-fired generation was up 47% from a year ago". EIA also notes that "the decline in gas-fired generation and the growth in oil-fired generation" is attributable in part to "the high price of gas (\$5.48 MCF in May 2003) compared to fuel oil (\$4.74/MMBtu in May 2003)".

This information infers that we might mitigate the impacts of natural gas shortages and price increases by simply switching to oil-fired generation on an “as needed” basis. Technically this is not difficult to do, as most natural gas power plants built today are designed to be dual-fueled. But this would not only impact our environment it would place increased dependency on imported oil.

Current Energy-Efficiency/Renewable Energy and Natural Gas Modeling

In a recent study The American Council for an Energy-Efficient Economy (ACEEE), with the assistance of Energy and Environmental Analysis, Inc. (EEA) attempts to redress this “dual-fuel” dilemma indirectly, by considering the “natural gas-only scenario”.

Their analysis, *Impacts of Energy Efficiency and Renewable Energy on Natural Gas Markets* (ACEEE, September 2003), was built *prima facie* on “ACEEE developed estimates of reasonably achievable natural gas savings in the continental United States entered into a model of natural gas markets developed by EEA”. This model is EEA’s *Gas Market Data and Forecasting System* and it “projects both regional and national effects of changes in natural gas consumption from a baseline”.

The ACEEE estimates were based on the residential, commercial and industrial sectors, and estimates for renewable resources for the 13 National Electric Reliability Councils in the 48 contiguous states. Estimates were made of the near-term (1-year) and mid-term (5-year) implementable potential for energy efficiency and conservation programs targeted at natural gas and those targeted at electricity.

The overall “results of the model showed a decrease in natural gas prices for all consumers resulting from increased energy efficiency and renewable energy use”.

The ACEEE study notes that “small changes in natural gas consumption can have disproportionately large impacts on natural gas prices because they reduce prices at the margin where they are the highest”. This is also true for oil consumption. By extrapolation, the potential impacts of energy efficiency and renewable energy on natural gas and oil markets are considerable.

Florida Results

Taken directly from the report: “In Florida, total natural gas consumption would be reduced by 0.2% in 2004 and 8.7% by 2008. Most of the savings in 2008 would result from a decrease of 11% in gas consumption by the power industry. Wholesale prices at the South Florida hub would be reduced by 18.5% in 2004 and 21.6% in 2008.

Residential and commercial natural gas customers would see their bills reduced by about 8% in 2008, while industrial customers would experience a 9% reduction. The average residential gas customer would experience a bill reduction of almost \$27/year for the 5 years modeled. Average annual total retail savings for residential, commercial, and industrial customers would be \$122 million for the state”.

Contrast this to the 34% increase in gas prices (6% compounded annually over 5 years) projected by EIA—without energy efficiency and renewable energy deployments.

Recommendations:

- Place a high priority on developing progressive policies and demonstration and deployment programs to encourage the purchase of energy efficient equipment and appliances and renewable energy generation technologies.
- Generate capital for energy efficiency & infrastructure:

- Create a System Benefits Charge (SBC) or Public Benefits Fund (PBF). A non-bypassable, usage-based fee applied to retail distribution or a mill-rate charge per kilowatt-hour, respectively.
- The funds generated to be used for “public purpose” energy efficiency improvements, renewable energy, R&D and low-income services.
- Create competition for energy efficiency improvements by reviewing the:
 - Full impact of DSM programs. Are these programs inhibitors to competition in energy efficiency measures, or are they not?
 - Extent of required conservation beyond load management.
 - Linkage between generation and profits (less efficiency = greater profits)
 - Cost effectiveness determinations
 - Rewarding of utilities for improving energy efficiency. I.E. Profits do not have to be linked to increased electricity use.
- Encourage purchase of energy efficient appliances, light bulbs, air conditioners, etc. through a statewide public awareness campaign.
- Construct high efficiency buildings through use of codes.

APPENDIX B

FLORIDA ENERGY LAWS AND POLICIES

BUILDING CODES AND STANDARDS

Section 553.900 - 553.912, FS. Florida Thermal Efficiency Code

Lead Agency: Department of Community Affairs

Purpose: To provide a statewide uniform standard for energy efficiency in the thermal design and operation of all buildings statewide, consistent with energy conservation goals. The Florida Building Commission is directed to adopt the Florida Energy Efficiency Code for Building Construction within the Florida Building Code, and is responsible for modifying, revising, updating, and maintaining the code.

Section 553.951 - 553.975, FS. Florida Energy Conservation Standards Act

Lead Agency: Department of Community Affairs

Purpose: To provide statewide minimum standards for energy efficiency in certain products. The standards are based on feasible and attainable efficiencies that will reduce Florida's energy consumption growth rate and the growth rate of energy demand. Standards adopted must be cost-effective to the majority of the users and will consider product's expected life. Recognizes Florida's energy policies of conserving energy; using of a range of measures to reduce energy use; and, increasing product efficiency through the adoption of energy conservation standards. Directs the Department of Community Affairs to adopt, modify, revise, update, and maintain the Florida Energy Conservation Standards.

Section 553.990 – 553.998, FS. Florida Building Energy-Efficiency Rating Act

Lead Agency: Department of Community Affairs

Purpose: To provide for a statewide uniform system for rating the energy efficiency of buildings. It is in the interest of the state to encourage the consideration of the energy-efficiency rating system in the market so as to provide market rewards for energy-efficient buildings and to those persons or companies designing, building, or selling energy-efficient buildings. The Department of Community Affairs is directed to adopt, update, and maintain a statewide uniform building energy-efficiency rating system. Upon the request of any builder, designer, rater, or owner of a building, issue nonbinding interpretations, clarifications, and opinions concerning the application and use of the building energy rating system.

GOVERNMENT FACILITIES

Section 255.251-255.258, FS. Florida Energy Conservation in Buildings Act

Lead Agency: Department of Management Services

Purpose: Recognizes state policy that buildings constructed and financed by the state be designed and constructed to minimize energy consumption; to retrofit existing state buildings, when economically feasible, to minimize energy consumption; to operate, maintain, and renovate existing state owned or leased facilities to minimize energy consumption; and, to encourage shared savings financing of such projects.

Each state agency is directed to collect data on energy consumption and cost, which data will be used in the computation of the effectiveness of the state energy management plan and the energy management program of each agency. Each executive agency, the Florida Public Service Commission, the Department of Military Affairs, and the judicial branch are required to appoint a coordinator whose responsibility is to advise the head of the agency on matters relating to energy consumption in their facilities, vehicles, and in other energy-consuming activities of the agency. The coordinator is responsible for the implementation of the agency's energy management program. The Department of Management Services is authorized to develop a state energy management plan. The plan must include a description of actions to reduce consumption of electricity and nonrenewable energy sources used for space heating and cooling, ventilation, lighting, water heating, and transportation.

Section 1013.37, FS. State Uniform Building Code for Public Educational Facilities Construction

Lead Agency: Department of Community Affairs

Purpose: The Florida Building Commission is directed to adopt a uniform statewide building code within the Florida Building Code for public educational facilities. It is also the responsibility of the department to develop, as a part of the uniform building code, standards relating to the performance of life-cycle cost analyses on alternative architectural and engineering designs to evaluate their energy efficiencies.

Section 1013.44, FS. Low-energy Use Design; Solar Energy Systems; Swimming Pool Heaters

Lead Agency: Department of Community Affairs

Purpose: Provides that passive design elements and low-energy usage features be included in the design and construction of new educational facilities. Educational facilities undergoing remodeling or renovation are required to retain existing natural ventilation and install low-energy usage mechanical equipment to allow use of the facility without space conditioning. New educational facilities which expect hot water demand in excess of 1,000 gallons a day are required to be constructed, whenever economically and physically feasible, with a solar energy system as the primary energy source for domestic hot water. Swimming and wading pools constructed as part of an educational facility which are heated are required, whenever feasible, to be heated by either a waste heat recovery system or a solar energy system.

Section 489.145, FS. Guaranteed Energy Performance Savings Contracting Act

Lead Agency: Department of Management Services

Purpose: To reduce the amount of energy consumed and produce immediate and long-term savings by investing in energy conservation measures in agency facilities through energy performance contracts. Encourage agencies to invest in energy conservation measures that reduce energy consumption, produce a cost savings for the agency, and improve the quality of indoor air in public facilities and to operate, maintain, and, when economically feasible, build or renovate existing agency facilities in such a manner as to minimize energy consumption and maximize energy savings. Encourage agencies to reinvest any energy savings resulting from energy conservation measures in additional energy conservation efforts.

Section 1013.23, FS. Energy Efficiency Contracting for Educational Facilities

Lead Agency: Department of Community Affairs

Purpose: To reduce the amount of energy consumed and produce immediate and long-term savings by investing in energy conservation measures in educational facilities through energy performance contracts. Encourage school districts, community colleges, and state universities to invest in energy conservation measures that reduce energy consumption, produce a cost savings, and improve the quality of indoor air in public facilities and to operate, maintain, and, when economically feasible, build or renovate existing educational facilities in such a manner as to minimize energy consumption and maximize energy savings. Encourage school districts, community colleges, and state universities to reinvest any energy savings resulting from energy conservation measures in additional energy conservation efforts.

UTILITY REGULATION

Section 186.801, FS. Ten-Year Site Plans

Lead Agency: Public Service Commission

Purpose: Each electric utility is required to submit to the Public Service Commission a 10-year site plan which estimates its power-generating needs and the general location of its proposed power plant sites. The plans are to be reviewed and submitted at least every two years. The PSC is required to conduct a preliminary study the plan, classify it as "suitable" or "unsuitable," and may suggest alternatives to the plan. The PSC is to make its findings available to the Department of Environmental Protection for its consideration at any subsequent electrical power plant site certification proceedings. In its preliminary study of each 10-year site plan, the commission shall review: the need for electrical power in the area to be served; the anticipated environmental impact of each proposed electrical power plant site; possible alternatives to the proposed plan; the views of appropriate local, state, and federal agencies, including water management districts; the extent to which the plan is consistent with the state comprehensive plan; the plan with respect to the information of the state on energy availability and consumption.

Section 366.01-366.075, FS. Regulation of Public Utilities

Lead Agency: Public Service Commission

Purpose: The commission has primary responsibility for establishing and maintaining continuous liaison with all other appropriate state and federal agencies whose policy decisions and rulemaking authority affect those utilities over which the commission has primary regulatory jurisdiction. This liaison shall be conducted at the policymaking levels as well as the department, division, or bureau levels. Active participation in other agencies' public hearings is encouraged to transmit the commission's policy positions and information requirements, in order to provide for more efficient regulation. The commission has jurisdiction over each public utility's rates and service; assumption by it of liabilities or obligations as guarantor, endorser, or surety; and the issuance and sale of its securities. The jurisdiction conferred upon the commission is exclusive and superior to that of all entities.

With respect to electric utilities, the commission is empowered to: prescribe uniform systems and classifications of accounts; prescribe a rate structure for all electric utilities; require electric power conservation and reliability within a coordinated grid, for operational as well as emergency purposes; approve territorial agreements and disputes between and among rural electric cooperatives, municipal electric utilities, and other electric utilities under its jurisdiction. With respect to natural gas utilities, the commission is empowered to: approve territorial agreements and disputes between and among natural gas utilities.

The commission has jurisdiction over the planning, development, and maintenance of a coordinated electric power grid throughout Florida to assure an adequate and reliable source of energy for operational and emergency purposes in Florida and the avoidance of further uneconomic duplication of generation, transmission, and distribution facilities. The commission has exclusive jurisdiction to prescribe and enforce safety standards for transmission and distribution facilities of all public electric utilities, cooperatives organized under the Rural Electric Cooperative Law, and electric utilities owned and operated by municipalities.

Section 403.501- 403.518, FS. Florida Electrical Power Plant Siting Act

Lead Agency: Department of Environmental Protection

Purpose: To develop a procedure for the selection and use of sites for electrical generating facilities and provide a state position with respect to each proposed site; to improve the permit and review process by centrally coordinating all applications for power plant siting.

Section 403.9401 - 403.9425, FS. Natural Gas Transmission Pipeline Siting Act

Lead Agency: Department of Environmental Protection

Purpose: To establish a centralized and coordinated permitting process for the location of natural gas transmission pipeline corridors and the construction and maintenance of natural gas transmission pipelines.

Section 425.01 – 425.29, FS. Rural Electric Cooperative Law

Lead Agency: Public Service Commission

Purpose: Authorizes the organization of corporations to supply electric energy and to promote and extend their use in rural areas.

ENERGY EFFICIENCY

Section 366.80 – 366.85, FS. Florida Energy Efficiency and Conservation Act

Lead Agency: See below

RENEWABLE RESOURCES

Chapter 74-185, Laws of Florida, Creating the Florida Solar Energy Center. Lead Agency: Florida Board of Regents (now administered by the University of Central Florida). Directed the Board of Regents to develop a plan for a solar energy center to advance research and development in solar energy, to disseminate information on the results of such research, and to engage in projects designed to exemplify the capability of solar energy as a resource for meeting state energy needs. The plan shall include, among other things: a structure to allow personnel from all institutions within the state university systems and others to participate in its activities; the ability to seek federal and other funds to support its work; to coordinate cooperative solar energy research efforts within the state university system; provide for ongoing educational services for persons desiring solar energy technical knowledge; provide for methods for testing solar equipment; a program to develop and demonstrate solar energy systems; a program to disseminate information and maintain an information system on solar energy and solar products; and a program to provide technical assistance to state agencies in the development of information and standards.

Section 163.04, FS. Energy Devices Based on Renewable Resources

Lead Agency: Florida Energy Office

Purpose: Prevents the adoption of measures by community associations that will restrict the ability of consumers to install solar energy and energy saving devices on buildings.

Section 212.08(7)(hh), FS. Sales Tax Exemption for Solar Energy Systems

Lead Agency: Department of Revenue

Purpose: Exempts solar energy systems from sales tax. Expires 2005.

Section 288.0415, FS. Solar Energy Advancement, Economic Development Strategy

Lead Agency: Enterprise Florida

Purpose: Directs Enterprise Florida to assist in the expansion of the solar energy industry in this state in cooperation with the Department of Community Affairs, the Florida Solar Energy Center, and the Florida Solar Energy Industries Association, and shall include: providing assistance and support to new and existing photovoltaic companies, with special emphasis on attracting one or more manufacturers of photovoltaic products to locate within this state; . . . the department shall also promote projects that demonstrate viable applications of solar technology.

The state shall give priority to removing identified barriers to and providing incentives for increased solar energy development and use. In addition, the state shall capitalize on solar energy as an economic development strategy for job creation, market development, international trade, and other related means of stimulating and enhancing the economy of this state.

Requires the Department of Community Affairs to report to the Governor, the President of the Senate, and the Speaker of the House of Representatives the impact of the solar energy industry on the economy of this state and make recommendations on initiatives to further promote the solar energy industry.

Section 366.051, FS. Cogeneration and Small Power Production

Lead Agency: Public Service Commission

Purpose: Provides that electric utilities purchase electricity offered for sale by a cogenerator or small power producer in their service area; provides that the cogenerator or small power producer may sell such electricity to any other electric utility in the state. Directs the commission to establish guidelines relating to the purchase of power or energy by public utilities from cogenerators or small power producers and may set rates at which a public utility must purchase power or energy from a cogenerator or small power producer. Provided authority for rule establishing standards for interconnection of photovoltaic systems.

Section 366.80 – 366.85, FS. Florida Energy Efficiency and Conservation Act

Lead Agency: Public Service Commission

Purpose: To utilize the most efficient and cost-effective energy conservation systems in order to protect the health, prosperity, and general welfare of the state and its citizens by reducing and controlling the growth rates of electric consumption and of weather-sensitive peak demand. Directs the Public Service Commission to adopt goals and approve plans related to the conservation of electric energy and natural gas usage. Authorizes the commission to require each utility to develop plans and implement programs for increasing energy efficiency and conservation within its service area. Expresses the Legislature's intent that the use of solar energy, renewable energy sources, highly efficient systems, cogeneration, and load-control systems be encouraged. Liberal construction of the act is declared in order to

meet the complex problems of reducing and controlling the growth rates of electric consumption and reducing the growth rates of weather-sensitive peak demand; increasing the overall efficiency and cost-effectiveness of electricity and natural gas production and use; encouraging further development of cogeneration facilities; and conserving expensive resources, particularly petroleum fuels.

Section 377.703 Additional functions of the Department of Community Affairs; energy emergency contingency plan; federal and state conservation programs

Lead Agency: Department of Community Affairs

Purpose: Directs the Department of Community Affairs to:

- Develop an emergency contingency plan to respond to serious shortages of primary and secondary energy sources
- Perform or coordinate the functions of any federal energy programs delegated to the state including energy supply, demand, conservation, or allocation; analyze present and proposed federal energy programs and make recommendations regarding those programs to the Governor; coordinate efforts to seek federal or other support for state energy activities, including energy conservation, research, or development, and shall be the state agency responsible for the coordination of multiagency energy conservation programs and plans
- Analyze energy data collected and prepare long-range forecasts of energy supply and demand in coordination with the Florida Public Service Commission. Forecasts will include: an analysis of the relationship of state economic growth and development to energy supply and demand, including the constraints to economic growth resulting from energy supply constraints; plans for the development of renewable energy resources and reduction in dependence on depletable energy resources and an analysis of the extent to which renewable energy sources are being utilized in the state
- Consider alternative scenarios of statewide energy supply and demand for 5, 10, and 20 years, to identify strategies for long-range action, including identification of potential social, economic, and environmental effects; an assessment of the state's energy resources, including examination of the availability of commercially developable and imported fuels, and an analysis of anticipated effects on the state's environment and social services resulting from energy resource development activities or from energy supply constraints, or both
- Report its activities and make recommendations of policies for improvement of the state's response to energy supply and demand, including a report from the Florida Public Service Commission on electricity and natural gas and information on energy conservation programs conducted and under way in the past year and shall include recommendations for energy conservation programs for the state, including: formulation of specific recommendations for improvement in

the efficiency of energy utilization in governmental, residential, commercial, industrial, and transportation sectors; collection and dissemination of information relating to energy conservation; development and conduct of educational and training programs relating to energy conservation.; an analysis of the ways in which state agencies are seeking to implement the state energy policy, and recommendations for better fulfilling this policy

- Promote the development and use of renewable energy resources by establishing goals and strategies for increasing the use of solar energy in this state; developing specific recommendations for overcoming identified barriers, with findings and recommendations to be submitted annually to the Legislature; and undertaking other initiatives to advance the development and use of renewable energy resources in this state
- Promote energy conservation in all energy use sectors throughout the state and constitutes the state agency primarily responsible for this function
- Coordinate, review and comment on the energy conservation programs of all state agencies
- Serve as the state clearinghouse for all information related to energy programs in state universities, in private universities, in federal, state, and local government agencies, and in private industry and inform the state's citizens about such programs and activities
- Coordinate energy-related programs of state government by: providing assistance to other state agencies, counties, municipalities, and regional planning agencies to further and promote their energy planning activities; requiring all state agencies to operate state-owned and state-leased buildings in accordance with energy conservation standards as adopted by the Department of Management Services
- Promote the development and use of renewable energy resources, energy efficiency technologies, and conservation measures
- Promote the recovery of energy from wastes, including the use of waste heat, the use of agricultural products as a source of energy, and recycling of manufactured products
- Develop, coordinate, and promote a comprehensive research plan for state programs consistent with state energy policy that must be updated on a biennial basis
- Include in its energy emergency contingency plan and in the state model energy efficiency building code specific provisions to facilitate the use of cost-effective solar energy technologies as emergency remedial and preventive measures for providing electric power, street lighting, and water heating service in the event of electric power outages.

Section 377.705, FS. Solar Energy Standards Act of 1976

Lead Agency: Florida Solar Energy Center

Purpose: To provide incentives for the production and sale of, and to set standards for, solar energy systems to ensure that they are effective and represent a high level of quality of materials, workmanship, and design. Calls for the expansion of the use of solar energy applications for residential and commercial buildings. Expresses the Legislature's intent to formulate a sound and balanced energy policy by encouraging the development of an alternative energy capability in the form of solar energy.

Section 377.709, FS. Funding by Electric Utilities of Local Governmental Solid Waste Facilities That Generate Electricity

Lead Agency: Public Service Commission

Purpose: Recognizes that the combustion of refuse by solid waste facilities to supplement the electricity supply represents an effective conservation effort but also represents an environmentally preferred alternative to conventional solid waste disposal in this state. Directs the PSC to establish a funding program to encourage the development by local governments of solid waste facilities that use solid waste as a primary source of fuel for the production of electricity.

Section 704.07, FS. Solar Easements

Lead Agency: NA

Purpose: Authorizes voluntary easements for the purpose of maintaining exposure of a solar energy device.

TRANSPORTATION

Chapter 334 –339, 341, 348, 349, FS. Florida Transportation Code

Lead Agency: Department of Transportation

Purpose: Provides that the prevailing principles to be considered in planning and developing an integrated, balanced statewide transportation system are: preserving the existing transportation infrastructure; enhancing Florida's economic competitiveness; and improving travel choices to ensure mobility. Defines the mission of the Department of Transportation as providing a safe statewide transportation system that ensures the mobility of people and goods, enhancing economic prosperity, and preserving the quality of our environment and communities.

Section 339.61-64, FS. Florida Strategic Intermodal System

Lead Agency: Department of Transportation

Purpose: Provides for the designation of a Strategic Intermodal System (SIS), composed of facilities and services of statewide and interregional significance, will efficiently serve the mobility needs of Florida's citizens, businesses, and visitors and will help Florida become a worldwide economic leader, enhance economic prosperity and competitiveness, enrich quality of life, and reflect responsible environmental stewardship. The legislature intends that the SIS consist of transportation facilities that meet a strategic and essential state interest and that limited resources available for the implementation of statewide and interregional transportation priorities be

focused on that system. Designates the following as components of SIS: the Florida Intrastate Highway System; the National Highway System; airport, seaport, and spaceport facilities; rail lines and rail facilities; selected intermodal facilities; passenger and freight terminals; and appropriate components of the state highway system, county road system, city street system, inland waterways, and local public transit systems that serve as existing or planned connectors between the other components listed above; existing or planned corridors that serve a statewide or interregional purpose. Provides for the development of a Strategic Intermodal System Plan that is consistent with the Florida Transportation Plan. Provides for appointment of members of the Statewide Intermodal Transportation Advisory Council to advise and make recommendations to the Legislature and the department on policies, planning, and funding of intermodal transportation projects.

Section 334.065, FS. Center for Urban Transportation

Lead Agency: Department of Transportation

Purpose: Establishes the Florida Center for Urban Transportation Research.

Responsibilities include conducting and facilitating research on issues related to urban transportation problems and serving as an information exchange and depository for the most current information pertaining to urban transportation and related issues; be a continuing resource for the Legislature, the Department of Transportation, local governments, the nation's metropolitan regions, and the private sector in the area of urban transportation and related research.

Section 335.065, FS. Bicycle and pedestrian ways along state roads and transportation facilities.

Lead Agency: Department of Transportation.

Purpose: Provides that bicycle and pedestrian ways shall be given full consideration in the planning and development of transportation facilities.

Section 335.167, FS. State highway construction and maintenance; Xeriscape or Florida-friendly landscaping.

Lead Agency: Department of Transportation

Purpose: Provides that the department shall use and require the use of Xeriscape practices in the construction and maintenance of all new state highways, wayside parks, access roads, welcome stations, and other state highway rights-of-way.

Provides that a deed restriction or covenant entered after October 1, 2001, or local government ordinance may not prohibit any property owner from implementing Xeriscape or Florida-friendly landscape on his or her land.

Section 336.044, FS. Use of recyclable materials in construction.

Lead Agency: Department of Transportation

Purpose: Declares the intent of the Legislature that the Department of Transportation continue to expand its current use of recovered materials in its construction programs; that it is in the public interest to find alternative ways to use certain recyclable materials that currently are part of the solid waste stream and that contribute to problems of declining space in landfills; to determine the feasibility of using certain

recyclable materials for paving materials; allows the department to undertake demonstration projects using recyclable

Section 337.273, FS. Transportation corridors.

Lead Agency: Department of Transportation

Purpose: Directs that action be taken to plan, designate, and develop transportation corridors within the state to allow for planning for future growth, coordinating land use and transportation planning, and complying with the concurrency requirements of chapter 163.

Section 339.175, FS: Metropolitan planning organization.

Lead Agency: Department of Transportation

Purpose: Provides the intent of the Legislature to encourage and promote the safe and efficient management, operation, and development of surface transportation systems that will serve the mobility needs of people and freight within and through urbanized areas of this state while minimizing transportation-related fuel consumption and air pollution. To accomplish these objectives, metropolitan planning organizations, referred to in this section as MPO's, shall develop, in cooperation with the state and public transit operators, transportation plans and programs for metropolitan areas. The plans and programs for each metropolitan area must provide for the development and integrated management and operation of transportation systems and facilities, including pedestrian walkways and bicycle transportation facilities that will function as an intermodal transportation system for the metropolitan area

Section 341.8201-341.842, FS. Florida High-Speed Rail Authority Act

Lead Agency: Department of Transportation

Purpose: Implements the constitutional amendment that directs the Legislature, the Cabinet and the Governor to proceed with the development of a high-speed monorail, fixed guideway, or magnetic levitation system. The development of this system, linking Florida's five largest urban areas, includes acquisition of right-of-way and the financing of design and construction with construction beginning on or before November 1, 2003. The Legislature's findings included:

- Implementation of a high-speed rail system in the state will result in overall social and environmental benefits, improvements in ambient air quality, better protection of water quality, greater preservation of wildlife habitat, less use of open space, and enhanced conservation of natural resources and energy.
- A high-speed rail system, when developed in conjunction with sound land use planning, becomes an integral part in achieving growth management goals and encourages the use of public transportation to augment and implement land use and growth management goals and objectives.
- Development and utilization of a properly designed, constructed, and financed high-speed rail system and associated development can act as a catalyst for economic growth and development, mitigate long and traffic-congested commutes, create new employment opportunities, serve as a positive growth management system for building a better and more

environmentally secure state.

Establishes the Florida High-Speed Rail Authority, consisting of nine voting members, with three each appointed by the Governor, President of the Senate and Speaker of the House. Designates the Secretary of Transportation as a nonvoting ex officio member of the board. The Authority is directed to locate, plan, design, finance, construct, maintain, own, operate, administer, and manage the high-speed rail system in the state.

Section 403.42, FS. Florida Clean Fuel Act

Lead Agency: Department of Community Affairs

Purpose: Establishes the Clean Fuel Florida Advisory Board to study the implementation of alternative fuel vehicles and to formulate and provide recommendations on expanding the use of alternative fuel vehicles in this state and make funding available for implementation.

ENERGY PLANNING & POLICY

Chapter 73-130, Laws of Florida. Creation of the Florida Energy Committee.

Lead Agency: Florida Legislature (temporary committee terminated in 1975).

Purpose: Established by the Legislature in 1973 to obtain a comprehensive long-range study of energy policy; to examine the existing bases for the state's energy policy and provide information and recommendations to the governor and legislature on possible alternative policies. Duties included: study the present policies affecting energy conservation and use in Florida; study the available sources of energy for use in Florida; recommend a comprehensive system of energy policies to meet the needs of Florida; recommend administrative, statutory, or constitutional changes needed to improve energy policies.

Chapter 163, Part II, FS. Growth Policy; County And Municipal Planning; Land Development Regulation.

Lead Agency: Department of Community Affairs

Purpose: Contains the Florida Growth Policy Act, the Local Government Comprehensive Planning and Land Development Regulation Act, the Florida Local Government Development Agreement Act. Broad statute covering all facets of local and intergovernmental planning activities and responsibilities, including transportation. Establishes the required and optional elements of local comprehensive plans.

Section 186.501-186.513, FS. Florida Regional Planning Council Act

Lead Agency: Department of Community Affairs

Purpose: To establish regional planning agencies to assist local governments to resolve their common problems, engage in areawide comprehensive and functional planning, administer certain federal and state grants-in-aid, and provide a regional focus in regard to multiple programs undertaken on an areawide basis; provide financial and technical assistance to regional planning agencies to maximize the effective use of regional programs

undertaken with the authorization of local, state, or federal governments serving the citizens of this state; establish at the regional level clear policy plans that will guide broad-based representative regional planning agencies as they undertake regional review functions.

Section 187.201, FS. State Comprehensive Plan (ENERGY section)

Lead Agency: Executive Office of the Governor

Purpose: To reduce Florida's energy requirements through enhanced conservation and efficiency measures in all end-use sectors, while at the same time promoting an increased use of renewable energy resources.

Policies: continue to reduce per capita energy consumption; encourage and provide incentives for consumer and producer energy conservation and establish acceptable energy performance standards for buildings and energy consuming items; improve the efficiency of traffic flow on existing roads; ensure energy efficiency in transportation design and planning and increase the availability of more efficient modes of transportation; reduce the need for new power plants by encouraging end-use efficiency, reducing peak demand, and using cost-effective alternatives; increase the efficient use of energy in design and operation of buildings, public utility systems, and other infrastructure and related equipment; promote the development and application of solar energy technologies and passive solar design techniques; provide information on energy conservation through active media campaigns; promote the use and development of renewable energy resources; develop and maintain energy preparedness plans that will be both practical and effective under circumstances of disrupted energy supplies or unexpected price surges.

Section 377.601, FS. Planning and Development

Lead Agency: Department of Community Affairs

Purpose: Directs the department to collect and analyze data on the energy flow in the state to provide current and reliable information on the types and quantity of energy resources produced, imported, converted, distributed, exported, stored, held in reserve, or consumed within the state. Declares the policy of the State of Florida is to:

- Develop and promote the effective use of energy in the state and discourage all forms of energy waste
- Play a leading role in developing and instituting energy management programs aimed at promoting energy conservation
- Include energy considerations in all planning; utilize and manage effectively energy resources used within state agencies
- Encourage local governments to include energy considerations in all planning and to support their work in promoting energy management programs
- Include the full participation of citizens in the development and implementation of energy programs
- Consider in its decisions the energy needs of each economic sector,

- including residential, industrial, commercial, agricultural, and governmental uses
- Promote energy education and the public dissemination of information on energy and its environmental, economic, and social impact;
 - Encourage the research, development, demonstration, and application of alternative energy resources, particularly renewable energy resources
 - Consider, in its decisionmaking, the social, economic, and environmental impacts of energy-related activities, so that detrimental effects of these activities are understood and minimized
 - Develop and maintain energy emergency preparedness plans to minimize the effects of an energy shortage within Florida

377.71 Definitions; Southern States Energy Compact

Lead Agency: Executive Office of the Governor

Purpose: Authorizes Florida to become a member of the Southern States Energy Board (SSEB). SSEB is a non-profit interstate compact organization created in 1960 to enhance economic development and the quality of life in the South through innovations in energy and environmental programs and technologies. SSEB endeavors to reach the goal of sustainable development by implementing strategies that support its mission. SSEB develops, promotes and recommends policies and programs that protect and enhance the environment without compromising the needs of future generations.

Section 339.155, FS. Transportation Planning

Lead Agency: Department of Transportation

Purpose: To develop and annually update a statewide transportation plan. The purpose of the Florida Transportation Plan is to establish and define the state's long-range transportation goals and objectives to be accomplished over a period of at least 20 years within the context of the State Comprehensive Plan and be based upon the prevailing principles of: preserving the existing transportation infrastructure; enhancing Florida's economic competitiveness; and improving travel choices to ensure mobility. The Florida Transportation Plan shall consider the needs of the entire state transportation system and examine the use of all modes of transportation to effectively and efficiently meet such needs.

ENERGY TAXATION

Section 196.175, FS. Renewable energy source exemption.

Lead Agency: Department of Revenue

Purpose: Provide a property tax exemption for renewable energy equipment. Provides that no exemption be granted for a period of more than 10 years. No exemption shall be granted with respect to renewable energy source devices installed before January 1, 1980, or after December 31, 1990. This

exemption is no longer available without an amendment to the statute extending the period during which installations are eligible for the exemption.

Section 203.01, FS. Gross Receipts Tax.

Lead Agency: Department of Revenue

Purpose: Requires that every person that receives payment for any utility service report the total amount of gross receipts derived from business done within this state. The tax rate applied to the gross receipts for utility services is 2.5 percent. Provides that electricity produced by cogeneration or by small power producers which is transmitted and distributed by a public utility is subject to the gross receipts tax. The tax shall be applied to the cost price of such electricity and shall be paid each month by the producer of such electricity.

Electricity produced by cogeneration or by small power producers during the 12-month period ending June 30 of each year which is in excess of nontaxable electricity produced during the 12-month period ending June 30, 1990, is subject to the tax imposed by this section. The tax shall be applied to the cost price of such electricity and shall be paid each month, beginning with the month in which total production exceeds the production of nontaxable electricity for the 12-month period ending June 30, 1990. For purposes of this paragraph, "nontaxable electricity" means electricity produced by cogeneration or by small power producers which is not transmitted and distributed by a public utility.

Electricity generated as part of an industrial manufacturing process which manufactures products from phosphate rock, raw wood fiber, paper, citrus, or any agricultural product shall not be subject to the tax imposed by this paragraph. "Industrial manufacturing process" means the entire process conducted at the location where the process takes place. Any person other than a cogenerator or small power producer who produces for his or her own use electrical energy which is a substitute for electrical energy produced by an electric utility is subject to the tax imposed by this section. The tax shall be applied to the cost price of such electrical energy and shall be paid each month. The provisions of this paragraph do not apply to any electrical energy produced and used by an electric utility.

The term "gross receipts" does not include gross receipts of any person derived from: the sale of natural gas or manufactured gas to a public or private utility, including a municipal corporation or rural electric cooperative association, either for resale or for use as fuel in the generation of electricity; or, the sale of electricity to a public or private utility, including a municipal corporation or rural electric cooperative association, for resale within the state, or as part of an electrical interchange agreement or contract between such utilities for the purpose of transferring more economically generated power.

Section 206.41, FS. Motor Fuel Tax.

Lead Agency: Department of Revenue

Purpose: Imposes an excise or license tax on motor fuel of 2 cents per net gallon, referred to as the "second gas tax," and which is designated the "constitutional fuel tax." Imposes an additional tax of 1 cent per net gallon, which is designated as the "county fuel tax." Imposes an additional tax of 1 cent per net gallon, which is designated as the "municipal fuel tax." Authorizes each county to impose an additional tax of 1 cent per net gallon, which shall be designated as the "ninth-cent fuel tax." Authorizes each county to impose an additional tax of between 1 cent and 11 cents per net gallon on motor fuel by each county, which shall be designated as the "local option fuel tax." Imposes an additional tax, designated as the State Comprehensive Enhanced Transportation System Tax, on each net gallon of motor fuel in each county. An additional tax is imposed on each net gallon of motor fuel, which tax is on the privilege of selling motor fuel and which is designated the "fuel sales tax." Provides for refund of the fuel tax in certain cases. Provides for an exemption from fuels tax for aviation and rocket fuels. Provides for the distribution of tax proceeds for specific purposes, including transportation, aquatic plant management facilities and expenses incurred in the course of construction, recreational boating activities, and freshwater fisheries management and research.

Section 206.85, FS. Diesel Fuel Tax

Lead Agency: Department of Revenue

Purpose. Imposes taxes on diesel fuel for the purpose of providing revenue to be used for constructing, widening, reconstructing, maintaining, resurfacing, and repairing the public highways of the state. Imposes an excise tax of 4 cents per gallon on each net gallon of diesel fuel. An additional tax of 1 cent per net gallon is imposed by each county on each net gallon of diesel fuel, which shall be designated as the "ninth-cent fuel tax." An additional tax of 6 cents per net gallon is imposed on diesel fuel by each county, which shall be designated as the "local option fuel tax." An additional tax designated as the State Comprehensive Enhanced Transportation System Tax is imposed on each net gallon of diesel fuel in each county. An additional tax is imposed on each net gallon of diesel fuel, which tax is on the privilege of selling diesel fuel and which is designated the "fuel sales tax." Provides for the payment of annual decal fees in lieu of tax by motor vehicles fueled by liquefied petroleum gas or compressed natural gas. Creates the State and Local Alternative Fuel User Fee Clearing Trust Funds which shall receive revenues from the alternative fuel fees.

Section 206.9825, FS. Aviation Fuel Tax.

Lead Agency: Department of Revenue

Purpose: Imposes an excise tax of 6.9 cents per gallon of aviation fuel, a 6.9 cents tax upon each gallon of kerosene and 6.9 cents tax upon each gallon of

aviation gasoline. Provides for credits, refunds, and exemptions. Provides for the deposit of revenues collected into the Fuel Tax Collection Trust Fund and the State Transportation Trust Fund.

Section 206.9935, FS. Taxes on Fuel and Other Pollutants

Lead Agency: Department of Revenue

Purpose: Imposes an excise tax on pollutants to benefit the Coastal Protection Trust Fund of 2 cents per barrel of pollutant produced in or imported into this state until the balance in the Coastal Protection Trust Fund equals or exceeds \$50 million. For the fiscal year immediately following the year in which the balance in the fund equals or exceeds \$50 million, no excise tax shall be levied unless: the balance in the fund is less than or equal to \$40 million; there is a discharge of catastrophic proportions which could significantly reduce the balance in the fund in which case the Secretary of Environmental Protection may relevel the excise tax in an amount not to exceed 10 cents per barrel until the fund balance reaches \$50 million; the fund is unable to pay any proven claims against the fund at the end of the fiscal year in which case the tax shall be 5 cents per barrel until all outstanding proven claims have been paid and the fund reaches \$20 million; the fund has had appropriated to it by the Legislature, but has not yet repaid, state funds from the General Revenue Fund in which case the excise tax shall continue to be in effect until all such funds are repaid to the General Revenue Fund. Provides that, in the event offshore oil drilling activity, excluding natural gas drilling activities, is approved by the United States Department of the Interior for the waters off the coast of this state in the Atlantic Ocean, Gulf of Mexico, or Straits of Florida, the excise tax shall be 2 cents per barrel of pollutant produced in or imported into this state, and the proceeds shall be deposited into the Coastal Protection Trust Fund with a cap of \$100 million. Provides that the tax shall be imposed only once on each barrel of pollutant, other than petroleum products, when first produced in or imported into this state. Provides that the tax on petroleum products shall be imposed and remitted to the department in the same manner as the motor fuel taxes.

Further imposes an excise tax on pollutants to benefit the Water Quality Assurance Trust Fund. The tax shall be 2.36 cents per gallon of solvents, 1 cent per gallon of motor oil or other lubricants, and 2 cents per barrel of petroleum products, pesticides, ammonia, and chlorine. If the unobligated balance of the Water Quality Assurance Trust Fund is or falls below \$3 million, the tax shall be increased to 5.9 cents per gallon of solvents, 2.5 cents per gallon of motor oil or other lubricants, 2 cents per barrel of ammonia, and 5 cents per barrel of petroleum products, pesticides, and chlorine, and shall remain at said rates until the unobligated balance in the fund exceeds \$5 million, at which time the tax shall be imposed at the initial rates specified above. If the unobligated balance of the fund exceeds \$12 million, the levy of the tax shall be discontinued until the unobligated balance

of the fund falls below \$5 million, at which time the tax shall be imposed at the initial rates specified above. The tax shall be imposed on petroleum products and remitted to the department in the same manner as the motor fuel tax

Further imposes an excise tax on pollutants to benefit the Inland Protection Trust Fund. The tax shall be 30 cents if the unobligated balance of the fund is between \$100 million and \$150 million; 60 cents if the unobligated balance of the fund is above \$50 million, but below \$100 million; 80 cents if the unobligated balance of the fund is \$50 million or less. If the unobligated balance of the fund exceeds \$150 million, the tax shall be discontinued until such time as the unobligated balance of the fund reaches \$100 million.

Provides for exemptions and refunds. Provides that #5 and #6 residual oils, intermediate fuel oils used for marine bunkering with a viscosity of 30 and higher, asphalt oil, petrochemical feedstocks, pesticides, ammonia, chlorine, and derivatives thereof are exempt from the Inland Protection tax. Provides that petroleum products exported from the first storage facility at which they are held in this state are exempt from the Water Quality Assurance and Inland Protection taxes. Provides that pollutants exported from the manufacturing plant, first storage tank system of first warehouse at which they are held in this state are exempt from the Water Quality Assurance tax. Provides that solvents consumed in the manufacture or production of a material that is not a pollutant are exempt from the Water Quality Assurance tax. Provides that solvents, motor oil, and lubricants are exempt from the Coastal Protection and Inland Protection tax. Provides that crude oil produced at a wellsite and exported from that site exclusively by pipeline, truck or rail to beyond the jurisdiction of this state without intermediate storage or stoppage are exempt from the Coastal Protection tax. Provides that petroleum products bunkered into marine vessels engaged in interstate or foreign commerce from the first storage facility at which they are held in this state are exempt from the Water Quality Assurance and Inland Protection taxes.

Section 207.003, FS. Privilege tax.

Lead Agency: Department of Revenue

Purpose: Imposes a tax for the privilege of operating any commercial motor vehicle on the public highways on every motor carrier at a rate which includes the minimum rates imposed by the motor fuels tax on each gallon of diesel fuel or motor fuel.

Section 211.02 - 13, FS. Oil, Gas and Sulfur Production Tax.

Lead Agency: Department of Revenue

Purpose: Imposes an excise tax on every person who severs oil in the state for sale, transport, storage, profit, or commercial use. The value of oil shall be taxed at the following rates: small well oil and tertiary oil, 5 percent of gross value; and, all other oil, 8 percent of gross value. Imposes an excise tax on every person who severs gas in the state for sale, transport, profit, or

commercial use. The gas base rate shall be \$0.171 per mcf. Imposes an excise tax on every person who severs sulfur in this state for sale, transport, storage, profit, or commercial use. The sulfur base rate shall be \$2.71 per long ton. Provides for exemptions from the oil, gas and sulfur production taxes. Establishes the Oil and Gas Tax Trust Fund, providing for collection and distribution of tax proceeds to the General Revenue Fund of the state and the general revenue fund of the county commissioners where produced, and the Minerals Trust Fund. Provides that no other excise or license tax be imposed on any person who produces in any manner any taxable product by taking it from the earth or water of this state. Provides that the value of land for ad valorem tax purposes shall not be increased by reason of the location thereon of any producing oil or gas equipment or machinery used in and around any oil or gas well which is actually used in the operation thereof or because there may be taxable products under the surface of the land.

Section 211.31 - 32, FS. Levy of tax on severance of certain solid minerals.

Lead Agency: Department of Revenue

Purpose: Imposes an excise tax upon every person engaging in the business of severing solid minerals, except phosphate rock and heavy minerals, from the soils and waters of this state for commercial use. The tax shall be 8 percent of the value at the point of severance of the identifiable solid minerals severed. Provides for the distribution of revenues to the General Revenue Fund of the state and to the Minerals Trust Fund. Imposes an excise tax upon every person engaging in the business of severing phosphate rock from the soils or waters of this state for commercial use. Provides for the determination of the tax by the department. Provides for distribution of revenues to the Conservation and Recreation Lands Trust Fund, the General Revenue Fund of the state, the Nonmandatory Land Reclamation Trust Fund, the Phosphate Research Trust Fund, the Minerals Trust Fund and to counties which the phosphate rock is produced. Imposes an excise tax upon every person engaging in the business of severing heavy minerals from the soils or waters of this state for commercial use. The excise tax is based on the bone-dry tons of heavy minerals severed for commercial use at the point of severance at a base rate of \$1.34 per ton severed times the base rate adjustment for the tax year as calculated by the department. Provides for exemptions from tax. Provides for the reclamation and restoration of severance sites, including: control of the physical and chemical quality of the water draining from the area of operation; soil stabilization, including contouring and vegetation; elimination of health and safety hazards; and, conservation and preservation of remaining natural resources. Provides for refund of severance taxes paid to taxpayers in compliance with reclamation of sites, in an amount equal to 100 percent of the costs involved in reclamation, or 100 percent of the fair market value of the land (where the taxpayer transfers title of the land to the state), not to exceed the amount of taxes paid.

Section 212.08 (7), FS. Sales Tax Exemptions

Lead Agency: Department of Revenue

Purpose: Provides that, when purchased for use as a combustible fuel, purchases of natural gas, residual oil, recycled oil, waste oil, solid waste material, coal, sulfur, wood, wood residues or wood bark used in an industrial manufacturing, processing, compounding, or production process at a fixed location in this state are exempt from sales tax. Also provides an exemption for sales of utilities to residential households or owners of residential models in this state by utility companies who pay the gross receipts tax. Sales of fuel to residential households or owners of residential models, including oil, kerosene, liquefied petroleum gas, coal, wood, and other fuel products used in the household or residential model for the purposes of heating, cooking, lighting, and refrigeration. If any part of the utility or fuel is used for a nonexempt purpose, the entire sale is taxable. Licensed family day care homes shall also be exempt. Provides that charges for electricity or steam used to operate machinery and equipment at a fixed location in this state when such machinery and equipment is used to manufacture, process, compound, produce, or prepare for shipment items of tangible personal property for sale, or to operate pollution control equipment, recycling equipment, maintenance equipment, or monitoring or control equipment used in such operations are exempt from sales tax.

CONSTITUTIONAL PROVISIONS RELATED TO ENERGY

Article II, Section 7. Natural resources and scenic beauty. – (a) It shall be the policy of the state to conserve and protect its natural resources and scenic beauty. Adequate provision shall be made by law for the abatement of air and water pollution and of excessive and unnecessary noise and for the conservation and protection of natural resources.

Article VII, Section 1 (b) Motor vehicles, boats, airplanes, ... shall be subject to a license tax for their operation in the amounts and for the purposes prescribed by law.

Article VII, Section 3 (d) Ad valorem tax – renewable energy source device. There may be granted an ad valorem tax exemption to a renewable energy source device and to real property on which such device is installed and operated...

Article VII, Section 10. Pledging credit. --Neither the state nor any county, school district, municipality, special district, or agency of any of them, shall become a joint owner with, or stockholder of, or give, lend or use its taxing power or credit to aid any corporation, association, partnership or person; but this shall not prohibit laws authorizing: ... (d) a municipality, county, special district, or agency of any of them, being a joint owner of, giving, or lending or using its taxing power or credit for the joint ownership, construction and operation of electrical energy generating or transmission facilities with any corporation, association, partnership or person.

Article VII Section 14. Bonds for pollution control and abatement and other water facilities. – (a) When authorized by law, state bonds pledging the full faith and credit of the state may be issued without an election to finance the construction of air and water pollution control and abatement and solid waste disposal facilities ... to be operated by any municipality, county, district or authority, or any agency thereof ... or by any agency of the State of Florida.

Article VII, Section 17. Bonds for acquiring transportation right-of-way or for constructing bridges. – (a) When authorized by law, state bonds pledging the full faith and credit of the state may be issued, without a vote of the electors, to finance or refinance the cost of acquiring real property or the rights to real property for state roads as defined by law, or to finance or refinance the cost of state bridge construction, and purposes incidental to such property acquisition or state bridge construction. (b) Bonds issued under this section shall be secured by a pledge of and shall be payable primarily from motor fuel or special fuel taxes, except those defined in Section 9(c) of Article XII, as provided by law, and shall additionally be secured by the full faith and credit of the state.

Article X, Section 19. High speed ground transportation system. --To reduce traffic congestion and provide alternatives to the traveling public, it is hereby declared to be in the public interest that a high speed ground transportation system consisting of a monorail, fixed guideway or magnetic levitation system, capable of speeds in excess of 120 miles per hour, be developed and operated in the State of Florida to provide high speed ground transportation by innovative, efficient and effective technologies consisting of dedicated rails or guideways separated from motor vehicular traffic that will link the five largest urban areas of the State as determined by the Legislature and provide for access to existing air and ground transportation facilities and services. The Legislature, the Cabinet and the Governor are hereby directed to proceed with the development of such a system by the State and/or by a private entity pursuant to state approval and authorization, including the acquisition of right-of-way, the financing of design and construction of the system, and the operation of the system, as provided by specific appropriation and by law, with construction to begin on or before November 1, 2003.

Article XII, Section 9(c) Motor Vehicle Fuel Taxes. (1) A state tax, designated "second gas tax," of two cents per gallon upon gasoline and other like products of petroleum and an equivalent tax upon other sources of energy used to propel motor vehicles as levied by Article IX, Section 16, of the Constitution of 1885, as amended, is hereby continued

APPENDIX C

SUMMARY OF FLORIDA ENERGY 2020 COMMISSION REPORT

Florida EnergyWise! **THE 2020 VISION**

A STRATEGY FOR FLORIDA'S ENERGY FUTURE

In May of 2000, Florida Governor Jeb Bush recognized the need for a comprehensive state energy policy by creating the Florida Energy 2020 Study Commission. The Study Commission was charged with the responsibility of proposing an energy plan and strategy for Florida. Over the next 20 years, the quality of life, the quality of the business climate and the quality of the environment will be closely linked with how Florida addresses its energy needs.

The Study Commission recommends a comprehensive framework for the industry that is sensitive to consumers and all other stakeholders. The Study Commission's vision for the next 20 years is . . .

*Florida's supply and use of energy promotes
economic prosperity, limits environmental impacts
and enhances the quality of life for all Floridians.*

To achieve this vision, the Study Commission sets forth five goals that establish the comprehensive nature of the overall energy strategy. The five goals are:

- A.** Florida will be a leader in using energy wisely.
- B.** Florida will have a sufficient energy supply to promote economic development and maximize economic prosperity for all Floridians.
- C.** Florida will have an energy infrastructure that assures the reliable delivery of electricity to consumers.
- D.** Florida will have an energy supply and delivery system that preserves Florida's environment.
- E.** Florida will be a leader in encouraging the future growth and development of next-generation energy technologies and renewable sources of energy.

In support of each goal, the Study Commission recommends a number of objectives, strategies, and tasks. Organized by goal, these objectives, strategies, and tasks follow:

A. PROMOTING ENERGY EFFICIENCY AND PUBLIC BENEFITS

OBJECTIVES

A-1 **Customers will be knowledgeable about energy efficiency and have access to information that allows them to make informed decisions about the relative efficiency of energy consuming goods.**

A-2 Customers have the opportunity to participate in programs aimed at increasing the efficient use of energy resources.

A-3 Low-income customers have access to programs designed to reduce the burden of electricity costs and to increase the efficiency of their homes to reduce energy consumption.

A-4 Customers are encouraged to use electricity during off-peak periods by paying prices for electricity that accurately reflect the real-time cost of production.

A-5 Customers are rewarded for managing their consumption of electricity in a way that contributes to the efficient use of generating resources.

STRATEGY

Revitalize the Florida Energy Office.

TASKS

- ◆ The Florida Energy Office should house the office of the state energy director to promote the development of a reliable, efficient, and competitive market to adequately serve consumers.
- ◆ The Florida Energy Office should continue seeking federal funding for specific energy research and development activities.
- ◆ The Florida Energy Office should conduct a study to identify the potential for savings through energy efficiency and improvements in Florida's building code and appliance standards.
- ◆ The Florida Energy Office should promote new investments in energy efficiency, sustainable generating technologies, and energy research and development activities.
- ◆ The Florida Energy Office should develop and coordinate implementation of energy policy within the state.

S T R A T E G Y

Expand availability and use of demand-side resources to provide greater reliability and more efficient use of generating plants, lower the cost of electricity, reduce air emissions from power plants, and increase customer satisfaction.

T A S K S

- ◆ Continue to require load-serving utilities to implement demand-side management programs to maximize the cost-effective contribution of efficiency investments to enhance reliability, lower environmental impacts and lower customer rates.
- ◆ Require the Public Service Commission (PSC) to develop innovative rate programs for the residential, commercial and industrial sectors, such as real-time and time-of-use pricing, that send appropriate price signals to customers.
- ◆ Require the PSC to consider mechanisms that allow customers to directly respond to high market prices for electricity – “demand responsiveness.”
- ◆ Require the PSC to investigate mechanisms for instituting “demand bidding,” enabling customers to be compensated appropriately for curtailing use during periods of high electricity demand.

S T R A T E G Y

Encourage utilities to conduct research and development on load management and energy efficiency.

T A S K

- ◆ The PSC should continue to allow cost recovery for research and development of cost-effective load management and energy efficiency programs.

S T R A T E G Y

The State of Florida should encourage energy efficiency and conservation efforts.

T A S K

- ◆ The State of Florida should undertake a comprehensive evaluation of the energy efficiency of its facilities and develop appropriate goals and standards.

S T R A T E G Y

The State of Florida should increase its support for low-income energy assistance.

T A S K

- ◆ The State of Florida should provide state funding for the Low-Income Home Energy Assistance Program and the Weatherization Assistance Program.

B. ASSURING AN ADEQUATE AND RELIABLE SUPPLY OF ENERGY

O B J E C T I V E S

- B-1** A transition to an effectively competitive wholesale generation market with many buyers and sellers.
- B-2** Competitive sellers of generation are subject to consistent regulatory requirements, including standards for access to and use of the bulk power system.
- B-3** Load-serving utilities have access to a diversified portfolio of energy resources, including demand-side and renewable resources, acquired through competitive means, with no over-reliance on any particular fuel type, and with appropriate demand-side resources.
- B-4** No seller exerts market power.
- B-5** Customers enjoy reliable electric service.
- B-6** Customers are adequately protected and enjoy stable prices for electricity.
- B-7** Utility regulation is aimed at assuring effective competition, regulating prices of monopoly distribution services, and providing proper incentives for minimizing costs, and ensuring operational efficiency and innovation.
- B-8** Florida's state and local tax systems are fair with respect to energy providers and individual classes of electric customers.
- B-9** Electric industry restructuring is revenue neutral with respect to state and local government revenues derived from taxes and fees levied on electric utilities and customers.

S T R A T E G Y

Provide investor-owned load-serving utilities more flexibility for diversifying their energy resources by creating a competitive wholesale market and establishing a competitive acquisition process for load-serving utilities.

T A S K S

- ◆ Load-serving utilities should acquire new capacity through competitive bidding, negotiated bilateral contracts, or from the short-term (i.e., spot) market.
- ◆ In any review by the PSC of the costs being recovered by the load-serving utilities, the standards for determining whether those costs are prudent would continue to be whether:
 - the capacity is needed for reliability;
 - the proposed resource acquisition is the most cost-effective alternative;
 - the proposed resource alternative contributes to the goal of fuel diversity, and
 - the utility has adequately considered cost-effective demand-side alternatives.
- ◆ Competitive bidding for new energy resources should be encouraged by load-serving utilities having the burden of proving that their acquisitions are prudent. Competitive bidding should not be required, though, so that load-serving utilities can act quickly on favorable opportunities.
- ◆ Competitive bidding should be required in situations where load-serving utilities are purchasing new resources from affiliates.
- ◆ Load-serving utilities must be able to demonstrate that their bidding processes are unbiased and preclude advantages to any bidder, including affiliates.
- ◆ The PSC should revise its existing rule on competitive acquisition to be consistent with recommendations made in this report.
- ◆ Time limits should be established on the prudence review process, consistent with due process, in order to maximize market certainty and opportunities.

S T R A T E G Y

Assure adequate fuel diversity.

T A S K S

- ◆ The PSC should assure adequate fuel diversity through its regulation of the competitive acquisition process for load-serving utilities.
- ◆ The PSC should place a higher priority on fuel diversity than on whether a resource is the least-cost option when it is determined that there is excessive or imprudent reliance on the fuel of the planned least-cost option.
- ◆ The Governor, the Legislature and the PSC should continue to pursue the safe, efficient and economic disposal of radioactive waste in order to remove a major obstacle to the continued viability of nuclear power.

S T R A T E G Y

Remove barriers to entry for merchant plants and facilitate the development of new generating capacity.

T A S K S

- ◆ Eliminate the need-determination process.
- ◆ The recommendation for eliminating the need-determination process should apply to municipal and cooperative utility projects as well.
- ◆ Review the role of the Siting Board.

S T R A T E G Y

Provide for nondiscriminatory access to the transmission system by competitive wholesale providers of electricity by authorizing the transfer of utility transmission assets to a regional transmission organization (RTO).

378 T A S K S

- ◆ Florida's transmission-owning utilities should be authorized to transfer their transmission assets to a FERC-approved RTO, or to allow an RTO to exercise operational control over these assets.
- ◆ Transmission assets transferred to an RTO should be transferred at book value.

S T R A T E G Y

Create a mechanism for transitioning existing generation to a competitive market to further competition in the wholesale market.

T A S K

- ◆ Investor-owned utilities should be allowed to transfer or sell existing generating assets under the following terms:
 - Transfers or sales of generating assets should be discretionary on the part of the investor-owned utilities to provide for an appropriate assignment of risk.
 - Transfers of existing generating assets to affiliates should be at book value.
 - Load-serving utilities should have the right to six-year cost-based transition contracts to commit the capacity of existing assets sold or transferred back to the load-serving utilities.
 - Load-serving utilities should be given the right to unilaterally cancel the transition contracts any time during the six-year contract term, subject to reasonable prior notice.
 - Profits from "off-system sales" from plants subject to transition contracts should be shared with customers.
 - Gains on sales of existing generating assets directly from the regulated rate base should be shared with customers.

- Gains on sales of existing generating assets that have been transferred and are subject to transition contracts should be shared with customers.
- Losses on sales of existing generating plants should be absorbed by utility shareholders.

S T R A T E G Y

Authorize the PSC to monitor competition in the wholesale market, investigate allegations of market improprieties, and petition the FERC for remedies.

T A S K S

- ◆ The PSC should have clear statutory responsibility to monitor and evaluate competition in the wholesale market.
- ◆ The PSC should be given clear authority to petition the FERC for remedies.
- ◆ The PSC should develop expertise in electricity markets, to the extent it does not already exist.
- ◆ The PSC should have access to books and records of all market participants, subject to valid claims of confidentiality.

S T R A T E G Y

Broaden the PSC's responsibility to require utilities to maintain adequate reserves.

T A S K S

- ◆ The PSC should continue to assure adequate electrical reserves and to require load-serving utilities to seek additional resources, including power plant construction, when forecasted reserve margins drop below the level deemed necessary by the PSC.
- ◆ The PSC should have access to information of new market participants (Independent Power Producers (IPP) and Regional Transmission Organization (RTO)) to carry out its responsibility of assuring adequate electricity reserves.
- ◆ The PSC should report annually on the status of the state's electric reliability, including a review of fuel availability and fuel mix of Florida's utilities.

S T R A T E G Y

Create mandatory reliability standards for the bulk power system that apply to all market participants and are enforced by the PSC.

T A S K S

- ◆ A self-regulating reliability organization (SRRO) should be established to set standards pertaining to the operation of the bulk power system.
- ◆ The SRRO should develop standards applicable to all users of the bulk power system.
- ◆ The PSC should be authorized to adopt these standards as rules and to enforce the standards.

STRATEGY

Assure the PSC's role in protecting against cross-subsidization of competitive services by regulated services.

TASKS

- ◆ The PSC should continue to have authority to protect consumers against cross-subsidization of unregulated operations by regulated operations.
- ◆ The PSC should have access to books and records of affiliates.
- ◆ The PSC should have authority to prescribe a code of conduct regarding affiliate transactions.

STRATEGY

Provide incentives for utilities to provide efficient low-cost electric service.

TASK

- ◆ The PSC should consider and implement, if appropriate, performance or incentive rate structures for load-serving utilities to encourage: (1) least-cost supply decisions, (2) cost savings, and (3) reliability.

STRATEGY

Establish a mechanism for long-term monitoring of the development and effectiveness of competition in the electric industry.

TASKS

- ◆ Retail competition should not be considered until after the development of an effectively competitive wholesale market.
- ◆ The PSC should monitor the development of competition in Florida's wholesale market, in retail markets in other states, and in policy determinations at the federal level.
- ◆ The PSC should report biennially to the Governor and the Legislature on the status of competition.

- ◆ A study commission, similar to the Florida Energy 2020 Study Commission, should be established in 2004 to assess the status of wholesale competition and make recommendations as to whether retail competition should be allowed.

S T R A T E G Y

Begin the process of transitioning to a tax system that takes into account the changes taking place in the energy industry.

T A S K S

- ◆ There should be a review of the definition of the taxable commodity of electricity to clarify the applicability of taxes to the separate functions of generation, transmission, and distribution services.
- ◆ Consider changes to taxes and fees paid by Florida's utilities and utility customers necessary to assure a system that is fair with respect to energy providers and individual classes of electric customers, and that provides revenue neutrality to state and local governments.

C. IMPROVING ENERGY INFRASTRUCTURE

O B J E C T I V E S

- C-1** The energy transmission system provides nondiscriminatory access to sellers of electricity, is independently controlled and operated, and has been relieved of major constraints.
- C-2** Transmission pricing provides efficient signals for the siting of new generation capacity and the location of new loads.

S T R A T E G Y

The transmission line siting process should be changed to lead to faster siting of transmission facilities without compromising environmental requirements.

T A S K S

- ◆ Transmission lines and substations must be recognized as electrical infrastructure necessary for the public health, safety, and welfare that should not be unreasonably prevented from being located where determined necessary for the efficient, reliable delivery of electricity, consistent with existing environmental protections.
- ◆ Local governments should be required to adopt reasonable land-use and site condition standards for substations.

- ◆ The criteria as approved by the Board of Trustees of the Internal Improvement Trust Fund on January 23, 1996, for the use of natural resource lands by linear facilities should be adopted by rule.
- ◆ The existing easement fee exemption for crossing sovereignty lands and lands held for purposes other than conservation (non-natural resource lands) by transmission lines should apply to all state or federally regulated transmission lines.
- ◆ Encourage co-location of transmission facilities with linear facilities, such as roads, canals, and railroads. Agencies should be required to allow transmission lines to co-locate within their rights-of-way, provided the transmission line will not interfere with the agency's operations, cause unacceptable environmental harm or unacceptable impacts to natural resource lands. When co-location of a new transmission line within an existing right-of-way is not feasible, incentives should be offered to encourage placement of the transmission line immediately adjacent to the existing right-of-way.
- ◆ Encourage co-location of new transmission lines with existing linear facilities by: (1) expanding the exemption from the Transmission Line Siting Act (TLSA) to construction "immediately adjacent" to established linear rights-of-way at the option of the applicant; and (2) replacing the October 1, 1983, deadline for transmission line rights-of-way to be considered "established" for purposes of the exemption with either a requirement that a transmission line already exist within the right-of-way, or that one have existed for a minimum number of years.
- ◆ Streamline the licensing of major transmission line projects by eliminating the adjudicatory hearing presently mandated for all TLSA projects unless a party requests one.
- ◆ Shorten the post-certification review process by allowing TLSA transmission lines to qualify for a general permit when "best management practices" are used for construction.
- ◆ The Department of Environmental Protection (DEP) should undertake a review of the TLSA and other relevant statutory provisions to identify other ways in which Florida's electricity infrastructure can be improved, upgraded and extended, and permitting of transmission line facilities streamlined without compromising environmental requirements.

S T R A T E G Y

Assure that a regional transmission organization can apply for extensions or improvements of the transmission system.

T A S K S

- ◆ The TLSA should be clarified to indicate that an RTO can be a proper applicant.
- ◆ Provide RTOs eminent domain authority.

S T R A T E G Y

The PSC should encourage the FERC-approved RTO to recognize the importance of sending proper short-term price signals reflecting the true costs of generation and consumption.

T A S K S

- ◆ The PSC should work with the RTO and the FERC to ensure that transmission pricing leads to cost-minimizing decisions by both the RTO and generation companies.
- ◆ In conjunction with the RTO and the FERC, the PSC should ensure that the incentives created by transmission pricing lead to the appropriate level and mix of transmission and generation investment.

S T R A T E G Y

Develop long-range planning and policy with regard to transmission infrastructure development.

T A S K

- ◆ Encourage transmission planners to consult with outside experts and affected parties early in the process to promote the timely resolution of siting issues.

D. PRESERVING FLORIDA'S ENVIRONMENT:

O B J E C T I V E S

- D-1** Generating plants and transmission lines are subject to cost-effective environmental requirements that protect and enhance air quality and protect and conserve Florida's water resources.
- D-2** Cost-effective environmental control requirements align market incentives with environmental quality goals.

S T R A T E G Y

Continued analysis by DEP on cost-effective methods to reduce emissions of SO₂, NO_x and Mercury from power plants in Florida.

T A S K S

- ◆ Consistent with the approach proposed in the National Energy Policy, a multiple-emission control approach is the most promising method of controlling criteria pollutants.

- ◆ Any new program for reducing emissions should adhere to certain principles.
- ◆ Programs should: (1) be based on sound science, risk assessment, and cost-benefit analysis, (2) include market-based trading components, (3) maintain fuel diversity, (4) provide certainty and consistency, and (5) allow credit for voluntary early action.

S T R A T E G Y

Develop and maintain an inventory of greenhouse gas (GHG) emissions in Florida.

T A S K

- ◆ The DEP should develop regulations to inventory and track greenhouse gas emissions within Florida.

S T R A T E G Y

Encourage a collaborative and proactive approach to siting power plants, transmission lines and substations utilizing available natural areas inventories and statewide and regional natural resource maps.

T A S K

The DEP should consider adopting incentives to encourage applicants seeking to site energy facilities to undergo a pre-application consultative process with affected stakeholders.

S T R A T E G Y

Encourage efficient use and reuse of water in the production of electricity.

T A S K S

- ◆ Ensure that Florida's limited water resources are used wisely.
- ◆ The DEP, water management districts, and other agencies with jurisdiction over water resources should continue to consider and encourage innovative ways to reuse water.

E. PREPARING FLORIDA FOR NEW TECHNOLOGIES AND RENEWABLES

OBJECTIVES

- E-1** Renewable resources make up a portion of the state's energy resources, including resources of load-serving utilities used in satisfying customers' demand for electricity, as well as customer-owned applications.
- E-2** Consumers have options for cost-effective self-generation, such as micro-turbines, fuel cells and high-efficiency cogeneration.
- E-3** New technologies in power electronics and superconductivity should be applied to the transmission grid to achieve the ability to control actively the flow of energy and gain greater efficiency out of existing infrastructure and right-of-way corridors.

S T R A T E G Y

Encourage development and use of renewables.

T A S K S

- ◆ The PSC should conduct a study to identify the current level of renewables and prescribe a cost-effective level of new resources.
- ◆ The PSC should have the authority to require a portion of utilities' resources to be from renewable sources available within Florida, including solar, biomass, and waste-to-energy.
- ◆ The PSC should continue to encourage utilities to offer or expand "green pricing" programs.

S T R A T E G Y

Reduce barriers to distributed resources.

T A S K

- ◆ Require the PSC to investigate ways of reducing barriers to distributed resources, such as micro-turbines, fuel cells, and high-efficiency cogeneration, including the adoption of interconnection standards.

S T R A T E G Y

Encourage development and application of new technologies to increase the efficiency of the transmission system.

T A S K

- ◆ Encourage public and private research organizations to investigate and support development and application of new technologies.

S T R A T E G Y

Mitigate, to the extent possible, labor force dislocations associated with new technologies and industry conditions.

T A S K

- ◆ Encourage job retraining programs by regulated utilities and by electricity producers.

APPENDIX D PUBLIC PARTICIPATION

APPENDIX D-1 OUTLINE SURVEY 1: RESULTS Florida Energy Plan Survey 1 September 24, 2003

Outcomes

The Florida Energy Plan is meant to provide a well-founded, cohesive and easily understood plan for addressing the present and future energy needs of the state. It will address the roles and responsibilities of state government and its officials, with full consideration of other parties and partners, such as local governments, federal agencies and the private market place. It will serve as a tool for carrying out energy policies and priorities of the state.

The Plan will be practical in nature and at the same time aspirational in its scope and approach. It will be visionary, projecting ahead to future conditions and needs, while also attendant to present and near term challenges and opportunities. From an implementation standpoint, it will consider known and likely funding capabilities, as well as organizational structures and capacities of implementing entities, among other factors. It will be expressly aimed at serving the near and long-term best interests of the Florida public.

These are the responses to the survey as of 9/24/03. There were 115 respondents.

The average response for each outcome is given. Blank rankings are not counted.

The outcomes were ranked according to the following scale:

**5-extremely important
4-important
3-neutral
2-not important
1-do not consider**

Comments are as received.

- **Transitioning Florida to a sustainable energy future, including: increased energy efficiency, reduced dependence on fuel imports, increased diversity of energy sources and greater use of renewable energy resources.**

4.7

Comments, concerns and suggestions:

Energy = Independence; we need to break the economic and political drain of Middle East NOW

Because Florida is bereft of an abundant useful renewable fuel stock, the state must depend on conservation measures & clean technologies more so than green technologies.

In order to reduce the amount of pollution generated from energy production, Florida must insist that the old power plants upgrade their equipment to reduce the amount of toxic emissions.

The constantly increasing immigration from other states increases the energy demand far more than in other states. Sustainability will be difficult when public expectations are often for more of everything, like bigger wider SUVs and the 1000 HP Cadillac.

Need to be based on practical technology. Most of the Florida proposals are based on solar power which makes zero sense. Makes more sense to recycle waste heat from the AC system to make hot water and heat pool for example. Makes more sense to control humidity in a home and raise the indoor temperature. Makes more sense to use double pane windows. Etc.

Many of the energy efficient fixes lead to mold problems in homes and this makes people sick. Such solutions are not useful. We don't want to save energy and make people sick.

It is very important that we (Floridians) try to end our addiction to fossil fuels. This will make our air cleaner, our water less likely to be polluted by an oil spill, and our state, our nation, more secure.

Our dependence on natural gas and oil from other states will not benefit the long term economic viability of this state. Natural gas prices are causing deep cuts into our manufacturing sector. Florida needs to be part of the solution rather than just taking resources from other states. Something has to be done to bring down natural gas prices or eventually many businesses that rely heavily on natural gas in Florida will go out of business.

While reducing dependence on fuel imports is a noble idealistic cause, Florida will always have to rely on imported fuels for energy. There are insufficient natural sources

of fossil fuel within the state nor are there sufficient renewable resources/technologies or land to support sufficient renewables to provide energy independence. Increased fuel diversity is a must along with increased energy efficiency.

Only if the State has a very limited (or non-existent) role in this process.

Energy efficiency is a very economical and practical way to start reducing energy usage in Florida. Information regarding practical ways for homeowners and businesses to reduce fuel bills and save money is needed. Requiring more energy efficient appliances and lighting for new buildings, and designing buildings to keep the sun and heat out would reduce energy demand substantially. Reducing the amount of hardscapes around buildings and increasing landscaping and shade trees is both aesthetically pleasing and energy saving. Florida has an abundance of sunshine. Incentives for solar water heating and solar electricity production should be explored. Promotion of fuel efficient hybrid vehicles will help reduce air pollution and fuel imports.

Florida PACE shares the view that "transitioning Florida to a sustainable energy future" is critical. And increasing energy efficiencies and a greater use of renewables will be important elements to that sustainability. However, Florida's peak demand is expected to increase by +/- 11,000 mw's in the next decade. More than \$6 billion dollars of new power plants are listed in the four IOU ten-year site plans. Successful implementation of energy efficiencies and increased renewable resources can help reduce that load growth somewhat. But a comprehensive Energy Plan must also identify the improvements needed on the supply side of the energy equation. Three broad topics should be added to the discussion: 1) Diversity of fuel should be evaluated. 2) Diversity of power plant ownership should also be a consideration in an effort to reduce consumer investment risk (Consumers currently bear all the capital risk for the \$6 billion price tag). And 3) the study should evaluate the transmission infrastructure needs that are critical to moving power around the Sunshine State.

This should be the primary area of effort.

One policy that would be a significant step forward in energy efficiency is setting energy efficiency standards for products and appliances not currently covered by federal standards. A recent report, "Energy Efficient Florida: Smart Energy Policy That Benefits Florida's Economy & Environment" recommended efficiency standards for ten products, and estimated consumer savings of \$3 billion between 2005 and 2030 as a result. The electric savings would be enough to avoid having to build three 500 MW power plants.

When evaluating the economic viability of renewable energy resources versus traditional fossil and nuclear fuels, the impact of local, state and federal subsidies on the cost to consumers should be taken into consideration.

Help the public so that they can build for energy efficiency without feeling that they have to pay too much for the house than if they didn't try to make it energy efficient.

When discussing Florida's energy future, the electric power grid in Florida and the Southern Region of the United States must be an integral part. Without a robust grid, access to diversity of fuel sources, including renewable sources will not be possible. The goal stated in this question can not be achieved without the focus on a robust and reliable grid.

Florida should be able to get 5% of its energy requirements from renewables. The only way to reduce fuel imports is to find fuel in Florida or go nuclear! 95% of our energy has to come from "Non-renewables!"

FL should be ahead of the pack. With FL's wonderful abundance of sunshine we could be leaders in the solar energy field!

Greater use of renewable energy resources is the only way to preserve and protect our planet and provide a safe future for our children and the future of the human race.

We have to do this now!

We are too dependent on oil and other fossil fuels.

As our population continues to grow, so does our need for energy which does not contribute to the pollution of the air and water. We have not solved our existing pollution problems as yet and it will only get worse unless we plan and use energy wisely.

This is extremely doable if politicians had the character to resist the influence of campaign contributions of traditional energy corporations.

This question is a "no-brainer". How could you put anything but a "5" for this question as phrased?

Solar power for the sunshine state

New diverse energy sources must not generate toxics, harm human health or harm the environment.

Transitioning means trying. How about actually getting there? How about measurable goals? "Cut fuel imports in half by 2020." Quadruple funding for that solar school in Florida.

It is past time to do this seriously. We do not need to add natural gas to our already pathetic list of fuel dependencies.

For economic, and sustainability reasons it is vital to do this. Also to reduce pollution. The State is characterized by the label the "Sunshine State" and this label should further epitomize our use and support for the development of solar energy technologies

(domestic water heating and photovoltaics). Development of wind, water and perhaps TIDAL (we do have quite an extensive coastline) should also be explored and encouraged.

We have the solar, the surf-hydrodynamics, and possibly the wind surrounding our unique peninsula to fuel such an objective.

All state fleet vehicles should be either hybrid or electrical. All builders should offer/push choices in building homes and businesses with the most energy efficient materials possible--solar water heaters, providing photovoltaic arrays on both commercial and family dwellings, radiant barriers, spectrally selective windows, white paint to reflect heat from roofs and walls, energy efficient lighting, motion sensors, A/C ducts inside living space, eliminate coal burning power plants to natural gas, etc.

This is a loaded question. The real question is how to balance these desires along with cost-effectiveness.

Support changes in tax policy at the Federal level so that fossil and nuclear energy sources are not treated more favorably than renewable energy supplies, as is currently the case. Further, laws need to be put into place requiring energy companies to provide for net metering for situations where photovoltaics are integrated into buildings.

The "Plan" contains statements about renewables -- CFR has submitted a "Florida Renewables Plan" that differs from all others in the US as it takes advantage of Florida's climate, availability of agricultural lands to produce, using CFR's proprietary anaerobic fermentation technology to produce a very substantial quantity of Florida's energy needs under ideal environmentally favorable circumstances.

Solar (passive minimally and active per cost constraints) should be integrated into EVERY house built in FL...no excuse for not doing this now.

Energy cost issues are impacting business and industry in a big way. There should be provisions to ensure the viability of industry as related to energy issues
Emphasis should be on developing integrated energy systems and domestically produced zero-carbon or low-carbon fuels that maximize life-cycle or system efficiency and minimize carbon emissions to the atmosphere.

Moving to sustainable, renewable energy will promote a higher, better quality of life for all residents and promote additional high-tech employment in the state.

Grid connected solar with variable metering and a rebate for installation similar to California would create a new vibrant industry overnight. It would also reduce our dependence on foreign oil and natural gas price spikes.

I believe we should do all we can to work toward sustainability and energy independence.

WE need safer and more environmentally friendly energy and we need to manufacture it within our own state. Otherwise we are dependant on someone else and they can use that to their advantage and our disadvantage.

The importance of this goal can hardly be overstated. Increasing efficiency is critical to the long term economic success of Florida. I believe that the effort will provide jobs paid for by long term energy savings. The health of our citizens is an important and financially significant factor affected by our dedication to the goal of increased efficiency and implementation of renewable energy. Our national security enhanced when we reduce our dependence on imported fuels.

We must become less dependent on imported oil and other polluting and non renewable sources of energy.

Between the climate changes, the northeast blackout, the smog alerts in various areas of the country and the current war in Iraq, we are seeing the results of our country's dependence on oil. Florida is blessed with an abundance of sun but poor wind. It's in our best interest to develop more solar strategies for this state.

The current levels of growth and consumption will never be sustainable

Accelerate research and implementation of hydrogen cell technology for housing. At this point they indicate that technology will be cost effective within 15 years. Let's pull out of Iraq and use the money to implement cost effective hydrogen cell technology in the home within 5 to 7 years.

I feel that decreasing our need for foreign fuel is a top priority.

We must do these things in the proper order. The transition to renewable sources and greater diversity will take time and must be economically competitive. We should do all we can to develop our own resources to reduce imports as we proceed toward our ultimate goal.

Florida could blaze the way for reduction in energy. We have an incredible flow of new residents that are a need that must be met, NOW. We have an amazing potential for solar energy, and optimal lengths of coastline for wind technology (Without that much in sentimental constraints like New England is having, and more like the areas where windmills have become pleasing attractions in and of themselves. Do not let hurricanes put us off.) There are strides being made in alternative petroleum sources (bio-diesel and compressed animal waste) that Florida should stay aware of. We can be the example for the future.

- **Enhancing the Florida economy through energy choices in all end-use sectors that emphasize energy efficiency, resource diversification and energy independence, and by positioning Florida as a leader in the development and deployment of new and emerging energy technologies.**

4.4

Comments, concerns and suggestions:

Florida is idea world showcase... a totally under played "social/economic resource"
Look at all wasted by inefficient rental autos...

Re: enhancing the FL economy, this is a must considering the growth & development patterns that FL has exhibited. These patterns see no chance of slowing down.
Re: positioning FL as a leader.... not as likely. This should be a separate item in the questionnaire.

Florida's internal energy choices are biomass, solar, and coastal winds. Our use is primarily NG, oil, coal, and nuclear, at odds with internal independency. Florida thus is dependent upon outside resources.

The University of Central Florida's Solar Energy Center can help us with a concerted effort to accomplish this. I have spoken to researchers at they center and they have some excellent ideas.

Energy choices for Florida must be made in an economic manner. Mandates for non-economic energy choices that increase costs to the consumer to foster individual agendas will only hurt consumers and ultimately Florida's economy as a whole.

Only if the choices are left to the individual citizen and not influenced by preferential treatment by the government to decide which energy choices that they should make through subsidies that would inflate the actual value.

Florida PACE represents wholesale power interests and seldom gets involved in retail energy choices, but we do support the concept that consumers should be given an array of energy solutions, including diversified power options. Obviously, new technologies should be explored to make sure Florida is ready to capitalize on those new sources when those new technologies are commercially feasible.

This is quicksand, and can always be revisited at a future date.

If "new and emerging energy technologies" were deleted then the rank should be 4 rather than 3.

Florida has the analytical and simulation tools necessary to answer the questions about how to organize a system which integrates renewables and distributed generation into the existing power grid.

This is a golden opportunity for FL.

Florida, the "Sunshine State", must now and can become the "Solar State".

Expanding energy choices and energy efficiency will do more than reduce our precarious dependency on energy sources from outside the state. It can do more than make Florida a leader in new and emerging energy technologies. It can do more than simply enhance the economy.

It can give Florida residents the opportunity to choose energy sources that are safe to live with. That's the choice we don't have now. Existing renewable and new emerging energy technologies do not require that we live in fear that an accident or sabotage will endanger our lives. We have had to live with the threat of nuclear accidents and spent fuel sabotage or theft. Not everyone is comfortable with risk benefit analysis. I believe many would choose not to live in this neurotic state.

Expanding energy choices can give people the opportunity to choose energy systems that do not change the balance of gasses in the atmosphere. Our present system of increasing the ratio of gasses that trap heat can drive storm events to new levels of destruction and can raise coastal sea levels that may cause real estate losses and destroy valuable mangrove marine habitat areas.

Florida could be a leader. Solar energy comes to mind.

We have an opportunity, if it is handled correctly, to think outside the box and develop new technologies which could be adapted by other states.

A major push for solar power is prime example and could enhance the Florida economy; however they just do not have sufficient funds to contribute to get the attention of the Bush administration.

Turn up the thermostat in state buildings.

Efficiency incentives are not productive. Powerful efficiency standards are required. Energy independence must not include drilling and mining in offshore areas, also no drilling and mining in environmentally sensitive areas. No "drain America first" policy can be acceptable. Utilize foreign fuels if reasonably priced. Maximize efficiency.

Huh? How will my choice as a consumer in buying an appliance for instance, enhance Florida's economy?

In my dreams... You will need to remove gas and oil politics from this endeavor, and it will be most difficult to do so.

Better economic competitiveness will be achieved through energy efficiency. Diversity is important, now more than ever, with the security of any single or centralized source and its absolute protection being questionable.

I do not consider LNG plants to be 'emerging technologies' and oppose their development in Florida and the Bahamas.

We have the academics and technology leaders in business that can not only lead but benefit from such an initiative.

Training should be mandatory for all who will help this transition come to fruition--those working on vehicles as well as sales persons and builders and all who provide materials involved for this transition.

Part of this question is a repeat of the first question. And why do we want to be energy independent from the rest of the US? Why not exploit the fact that we can import power more cheaply, for example, than by generating it here? After all, some of our IOUs are part owners of plants in Georgia.

It is possible to design all new buildings and to renovate buildings so that they provide much of their own energy needs using passive solar heating, cooling and day-lighting strategies along with efficiency measures at little or no increase in cost. In some cases, the cost is even less. It is even possible that the buildings can become net energy generators when active solar hot water systems and photovoltaics are integrated into the building.

The "Plan" appears to emphasize "electric utility" effects and substantially ignores direct use of natural gas -- thermo-ground effect technologies and other non-electric use methods to increase energy efficiency.

This sounds very good but don't forget energy (aka natural gas) is also a raw material for products made here in Florida - products like fertilizer that we need. These industries are being driven out by the high price of natural gas compared to overseas supplies and competition.

R&D for hydrogen fuels and enabling technologies must be supported by State funded programs.

This would add well-paying, high-tech employment in the state and help draw additional high-tech industry to Florida.

Someone needs to take the lead and I think Florida is a good state to do it.

Florida has mortgaged its future by relying on the current building boom. This, like a multi-level marketing scheme, pays off for those in and out early, but late comers suffer the losses. Florida desperately needs to leverage its natural advantages and lay a foundation for the costly society that our ancestors will inherit.

This is especially important because of our growing population.

We are already well set up for bending the technological envelop with the placement of a solar school at UCF. The climate in Florida is extremely different from the areas that

most solar power is used in (the west) so developing new technologies that work for our climate is important.

25% increase in efficiency along with limiting growth would be a good start until Disney perfects cold fusion and shares for free with the rest of the state

Also use planning to encourage more new urbanism concepts and reduce our dependence on the automobile. Encourage the use of pedal power vehicles, electric and hybrids through tax incentives.

All well and good, but we have to get from here to there. Our economy must remain competitive.

This question could be more simply worded, but yes, make us number one and the benefits will come.

- **Preserving and protecting environmental resources by way of judicious decision making in energy matters.**

4.6

Comments, concerns and suggestions:

Nature is brutal...look at impact of Andrew... those who think Mother Nature knows best...should think again.... protecting species and biodiversity absolutely... but limiting progress because of obscure and vague "feelings" about nature ...forget it...

Some invasion into the environment is necessary. The emphasis should be to protect "environmentally sensitive" areas since not all of the outdoors is sensitive.

Fossil fuels produce wastes that pollute the air and water. Nuclear power is safe or not, with little in-between status. So far, safety emphasis has prevented "events". As natural gas prices increase, there will be clamor for the government to keep prices below costs, an untenable situation.

Again by make the right cost effective decisions.

There has to be a balance here. Natural gas is considered the cleanest fuel for factories to burn, but we can't get it at a price we can afford. It's not only a fuel for many businesses, but a raw material.

Energy production and use in Florida must be done in an environmentally responsible manner regardless of the source of that energy.

Unclear who would be in control of the "judicious decision-making".

Protecting the environment should be a critical consideration. PACE would give it a "6" rating if you had one. Currently about half of the central power stations in Florida are 30 years old or older. Given that renewables are the cleanest, newer combined cycle technologies are approximately 40% more efficient than more than half the existing Florida generation portfolio. Creating opportunities for newer, cleaner, more efficient power facilities being built, without saddling consumers with unnecessary capital risks should be considered.

Important, but too many people talk and talk and talk...

Let environmental considerations and energy needs meet in a way that decisions are made with full disclosure of all issues; those that are complementary and those that are competing. Let the public decide.

Nothing is benign in this process. It is always the lesser of 2 evils!

Why junk up our state with unsightly land fills? FL can lead in recycling; make it an economic decision for citizens and business, including development, to participate. Educating the public has come along way, need to continue and take this to new heights.

Government should promote the use of clean energy sources. Polluting energy sources and nuclear energy impose a cost on all of us that is not internalized in the cost of energy. Therefore the market place tends to prefer polluting energy sources since they are cheaper. Incentives, restrictions of emissions, and other techniques need to level the playing field.

This is vitally important. Don't look the other way.

Energy choices have an enormous impact on atmospheric and terrestrial environmental health and sustainability. Energy choices also affect human health. Unfortunately, in our present system, individuals don't have the option to choose the least environmentally damaging energy source. For instance, residents in Orlando must get their electricity from a coal fired plant. Or, they must ride on a diesel fuel bus. If they had an opportunity to make judicious decisions, they might choose electricity generated from near zero polluting photovoltaic systems either on community rooftops or from a central generating facility. They might choose to ride on a hybrid system bus or even a fuel cell powered bus.

Oil, for example, is needed to make plastics. It is a waste to burn it in our vehicles.

Especially air and water quality.

Public health and the environmental will be improved by phasing out destructive nuclear and coal burning technologies. Plan for aggressive use of natural gas as pipelines delivering foreign gas open. Energy efficiency will prove to be the most successful way of reducing energy consumption while simultaneously improving the Florida economy.

Judicious decision-making??? How about making preservation and protection a basic requirement for all energy related matters? What does judicious mean? In the case of sky dumps, it means that one in 100,000 people living nearby is going to die from a disease that was caused by the incineration source for each pollutant that meets this "acceptable level." Is that judicious? How about if it is your family member?

DEP is trying VERY hard to do this but is mired in political quicksand. They should be independent and truly serve the public.

The St. Johns and its water shed...are they worth preserving?

Of course, we all want that. But what are people willing to pay for that?

Please see the Green Building Rating Council systems and those established by various home building associations (e.g., Colorado).

CFR's technology, see submitted plan, demonstrates Florida methodology for protecting and improving Florida's environment.

We all want to protect the environment. We can develop natural gas sources in Florida and protect the environment. Florida's position on no natural gas drilling while the need for electricity increases is inconsistent. That electricity will come from natural gas.

The goal should be clear and simple -- near-zero emissions and releases of all forms of pollution from the production, distribution and use of energy.

The reason why almost everyone has moved (or stayed) in Florida is because of the state's hospitable environment. Preserving & protecting what's left will improve & enhance the quality of life for all.

Hopefully there will be the right people in charge. Most people in charge of energy matters actually see to the advantages of profit for the companies, rather than what is good for the people and the planet.

Many Florida waters are spoiled by mercury, the source of which most believe are from coal fired power plants. Florida's natural environment is contracting at a rate that is probably proportional to the rate of residential development. What will be left is the "Idea" of what this state represents, but the reality will be far short.

We must protect our environment for our children and future generations. If we are not careful with our resources we could reach a dangerous point of no return in our ecological system.

Resources by themselves in Florida aren't as important because we don't really produce the coal we use. However, improving the quality of the air and other natural resources here by not pumping as much waste into the environment is definitely a good idea. There will also be a health savings in decreased asthma, allergy complaints.

Assuming "judicious" is economically feasible.

We are a small state. You can't screw-up somewhere and not have people living down the road. Safeguarding our coasts, water supply, trees (which make it cooler and reduce the need for A/C), and places that aren't yet like Three-mile Island is very important.

- **Informing and empowering the Florida public and constituents in all end-use sectors to play a meaningful role in achieving the energy goals of the state.**

4.3

Comments, concerns and suggestions:

Any public energy plan will fail without adequate outreach efforts.

Most Floridians are aware of these issues but are not motivated to reduce energy use. Consumption sales taxes are required to shift the energy balance. "But what about the poor?" socialists ask. Externalize these costs by increasing welfare payments if needed. The "poor" will exist as long as their service employees exist, just as "poor" is essentially the lower 10% of the public no matter how high the standard of living may become.

No. The government will push windmills and solar power like they did in California where we used to live and bankrupt the state.

It is important that people understand that solar power and wind power are not for research anymore; they are practical power sources that, with government incentives to overcome installation costs, can supplement our current power generation facilities.

This would happen naturally if Supply and Demand principles were not meddled with.

Again, Florida PACE represents wholesale power interests and seldom gets involved in retail energy issues, but whatever choice end-users are offered must be accompanied with meaningful education that allows the consumer to make informed choices.

Should include children somehow.

Politicians need to be more realistic in informing the public about their energy sources. 95% of Florida's energy needs are going to come from fossil and nuclear sources. PBS and local city, county, state TV stations have done an excellent job carrying the message. This message now needs to go on commercial channels also.

The people are the government.

Educating the public about the true costs of our present energy systems should help speed the transition to systems that do not alter the climate, contribute to respiratory diseases or require 24 hour maintenance of costly security management

The public must get behind energy goals. Those of us perceived as "tree huggers" can't do it by ourselves.

This would be wonderful but would require the cooperation of media. This would be difficult.

Informing and empowering education must fully describe health hazards and environmental hazards associated with energy production. Efficiency and conservation need to be the primary goals since neither produce health hazards nor environmental hazards.

Would prefer that changes were seamless. Stop wasting money telling the homeowner to turn off light bulbs when the big energy wasters are farther up the food chain.

Part of why we fail is lack of public information and involvement. This is a most honorable goal, and one which should serve future generations well, if you can accomplish it.

Public input will encourage participation and involvement.

It's very important to have folks adopt this as their own, but the average Joe is going to need an incentive to change. It will also be very difficult to keep the momentum going over a period of many years. Good legislation helps to set precedent, but cultural change is needed and that takes time. Look at lawn watering - an example where legislation has never addressed the fundamental issues. We have begun to accept rationing, but are caught in the middle when we want to do more, between the understanding for the need for conservation and home owners associations that permit and developers that install water thirsty St. Augustine grass. Yes it's pretty, but is it really worth it.

Are press releases going just to print media or also to TV media? I have not seen any coverage in my local media. I think press releases will need to be followed up with phone calls as well.

I oppose deregulation of utilities as a means of achieving 'energy goals'.

From my limited background in this general area, it appears to me that this (education in a format that the end user will want to act on) is a critical point on a path forward.

Sounds great. Are there any proposed mechanisms on the table as yet?

Encourage marketing organizations to take on this mission. Two of the biggest challenges are: (1) getting designers to use energy design tools at the start of the design process for both new construction and renovation/remodeling and (2) achieving an integrated building design, construction, and commissioning and management process.

Absolutely -- the Florida Solar Energy Institutes program involving energy conservation in residential and commercial buildings should be supported by legislation providing substantial tax benefits for energy efficient construction approaches.

Business and industry must have an input that is considered and valued here in Florida. Hydrogen may become a good fuel source for vehicles in the future. The most cost effective way to get the H2 is thru natural gas reforming. Florida does not want natural gas development. This makes no sense.

Consumers are totally ignorant of the energy consumed by their daily activities and the pollution released by the production, distribution and use of that energy. Mandatory labeling of pollution releases from the residential and commercial use of electricity and gasoline / diesel fuel purchases.

Give people information and choices and they will invariably choose what's best for all.

Without the active involvement of all segments of the population it will be virtually impossible to do what needs to be done. The effort must be national, each region developing those resources that provide the biggest bang for the buck.

In a democracy the people are the government and should be put ahead of special interests in the decision making process

Florida is really behind the ball in community participation on alternative resources. We need more renewable energy seminars that people can participate in to learn about the emerging technologies.

This is fine, but you need to reach and educate those at the bottom of the socio-economic scale. Florida is a mix of many nationalities and many residents come from countries where energy and environment are non-issues. The same applies to Americans from lower socio-economic levels.

Absolutely. The public must be behind all these decisions. They pay the ultimate bill. There needs to be more active engagement of the public. I only became aware of this through an enviro alert e-mail and it still was too late to attend my local Workshop.

- **Actively engaging governmental agencies at the state, regional and local levels in ensuring successful implementation of the State Energy Plan.**

4.3

Comments, concerns and suggestions:

sounds like another ton of paper and "hollow" but neat sounding words flipping back and forth among do-as-little-as possible government bureaucrats at all levels...been there, done it... committees beget committees...studies beget more studies...endless chain...unless the Governor himself... personally provides a strategic vision... strategic visions do not bubble up from the bureaucratic quagmire...can't happen and won't

A separate watchdog effort is more effective.

Great idea but if not implemented carefully, it could become a bureaucratic nightmare.

Florida must also be a leader in Congress on influencing national energy policies. Most agencies are also aware of energy costs. Budgeting them for energy costs would provide an incentive to reduce energy waste.

No. The government will push windmills and solar power like they did in California where we used to live and bankrupt the state.

It is important to also engage the Federal Government. A National solar power and wind power incentive plan would prevent an electric power crisis that will eventually happen in this state and many other states.

The State government should tax all end use energy consumption. This would stimulate demand for energy conservations measures. Revenues should be deposited into the State's general revenue fund WITHOUT subsidizing specific special interests involved with the energy conservation field. Use the money for education or highways, etc., not to influence consumers through artificially inflating the value of one industry because of successful lobbying activities for that industry. Hopeful thought.

A plan is only as good as its implementation. Whatever energy plan is adopted will require the support of the PSC, legislature, DEP and other agencies to be successful. Some tracking of the implementation success will be required long after the plan is written.

The main issue will be fears of unfunded mandates by the state.

Our legislators must be properly informed in order to pass vital legislation to accomplish these goals.

Fortunately, the state can find guidance from numerous other states with programs supporting increasing levels of energy efficiency and renewable alternatives. For instance, San Francisco is installing solar systems on municipal facilities without any increased taxes. Reductions from existing electrical bills will pay for the systems.

Government is part of the process, but so are citizens and businesses.

The full engagement of all governmental agencies is absolutely vital to make sure that the State Energy Plan is implemented correctly.

This would not happen under the current Bush administration, no way, no how.

We need government buy in and support of the plan.

The current legislation does not allow RPCs to formally adopt an energy element as part of their Strategic Regional Policy Plans. TCRPC recently attempted to have legislation passed that would allow RPC's to adopt an energy element. The bill passed the state senate, but failed in the house because it was opposed by lobbyists for the electric utilities. How do we get the state legislature on board? How do we get the utilities on board?

Stop public vehicles from idling (to keep the A.C. running) while workers are out of them. I've seen this happening.

Governments need to take leadership roles in reducing energy waste and reducing energy consumption. Electricity deregulation may be the worst possible case for implementing a successful energy plan.

Only as appropriate. Not another waste of money on "trainings" and educational material.

Do not add another or additional level of political oversight. This goal and implementation should be a given in all existing governmental agencies.

I think this should also involve representatives from public school systems

Only if the emphasis is on conservation and alternative energy such as solar, wind, etc.

If we are serious, then the infrastructure must reflect it.

This is a double-edged sword. On one hand the State cannot ignore local interests or politics, but on the other hand trying to satisfy everybody can lead to undesirable outcomes.

Local governments, especially- -over many years people have tended to relate to local and Federal government more than state government.

Every comp plan should include a stand-alone energy component that addresses both buildings and transportation energy infrastructure and pollution releases.

To be successful, there MUST be buy-in at ALL levels of government.

This is REALLY the toughest battle ahead. Most of our political leaders are tied in with the existing energy companies and they are protecting their interests. How they are going to be separated from the greed and profits is the most difficult challenge of all, I think.

Tax structure, building codes and current energy rate structures are a start of what is required to move the effort forward.

Cooperation at all levels is important to ensure the success of any plan

Self explanatory can't get anything done without government support. They make the laws.

They should take a leadership role and put into practice the measures they propose to show the public they are feasible and they are protecting the public treasury.

Duh

- **Safeguarding the welfare of Florida's citizens and business community against domestic security incidents and other forms of energy emergencies.**

4.1

Comments, concerns and suggestions:

Goes w/o saying.... review how long folks impacted by Andrew were w/o electricity... energy supplies = security....

Of extreme importance, but this can be an economic trap if it requires subsidy. This is more politically-related than energy-related.

Classically, terrorists have uses felling of transmission lines to cause public chaos (see Shining Path, etc.) The lines cannot be protected in remote areas since the towers are vulnerable to explosives or even a hacksaw. Distributed energy is necessary to reduce this vulnerability, even if long-lines are retained.

If we do all we can to reduce the need for foreign oil, we will reduce the money that can be used to fund terrorists.

Is overblown, overly emotional and a remote issue.

Obviously, security is critical.

Important, but needs to be reworked. This is a necessary, but negative matter.

Emergency plans - including energy - are better addressed in a different forum.

Florida's 3? Nuclear facilities need great protection, esp. in the case of energy loss to the facility and the threat of spent rods heating up. The public should be made aware of the dangers of these facilities in our backyards.

Distributing energy generation from conventional central power plants to facilities such as small biomass plants and school building and homeowner rooftops will make it virtually impossible for accidents or sabotage to disrupt our communities

This is one of the drawbacks of nuclear energy. Using hydrogen for energy has risks also.

I believe the risks are overblown.

Added importance of reorganizing the causes of security incidents. Is USA foreign policy a contributor to anti-US sentiment?

The worst case scenario for Florida would be an attack on the spent fuel pools at Crystal River, Turkey Point, and St. Lucie nuclear reactors. Security is woefully inadequate. Unless these facilities are substantially reconfigured, all other security measures pale in comparison.

Assuming that domestic security incident means energy related. In that case the most evil thing anyone could think of has to do with the Nukes. Why are we still taking this great risk?

Please avoid paranoia and the reduction of any additional personal property or privacy rights whenever possible. Do not replace one set of fears with another.

One word mentioned earlier provides us with the answer: diversification.

LNG plants are potential terrorist targets.

This particular area is too significant and different in "gender" to be addressed in this forum.

By using renewables we automatically safeguard the citizens and energy emergencies. By having solar and renewable energy available, we do not have to rely on other countries so we become less vulnerable.

A major reason for putting more emphasis on renewables!

Emergency strategies need governmental implementation

Being energy efficient INHERENTLY increases our national security, in at least several ways:

1. Removes the pressure on us to do business with unsavory countries just to buy their energy (limits support to 'bad' countries), and
2. Lowers the incredibly high (and growing) trade deficit, which is adding to our national debt in unprecedented amounts.
3. Using Renewable energy as much as possible offers citizens access to cheap, clean energy for years to come...peace of mind certainly adds to national security.
4. Energy technologies can be exported, adding jobs to the U.S., which also increases national security.
5. Renewables reduce the potential for spills and accidents, which reduces the pressure on 'emergency responders' across the board. Etc, etc, etc...

By reducing the demand for foreign produced & controlled energy sources, our security is strengthened.

The domestic security issue is a thorny one. On the one hand, transitioning to renewable and sustainable energy programs will clearly make us less threatening to peoples around the world (particularly those who live in fossil fuel rich nations), and thus reduce the domestic security threat; however, on the other hand, associating energy policy in any way whatsoever with state security apparatus and ideology is abhorrent in a nation that has traditionally kept the military and para-military (i.e. today's highly militarized police and anti-crime units) at arm's length from domestic issues and policy. That the US Dept of Energy not only oversees our energy requirements, but is also responsible for our nuclear weapons stockpile, makes this issue of all the more concern.

I think this risk is not nearly as great, as the air pollution we breathe in every minute of every day. We are in a lot more danger from what is allowed in this country from polluting power plants, than from any terrorists attack.

Decentralized power offers the best response to this issue. Just as the internet is designed to route data around failed areas, so to a decentralized power grid could handle localized failures without a massive blackout.

Should always be important. The recent blackout has highlighted the weaknesses in our power grids.

The government has taken it upon itself to do many things they should stay out of. However, when it comes to what is needed, reliable energy that is as clean as possible should be a priority. (Also especially in times of disaster or emergency when the people are in a crisis already)

Are there other broad outcomes that you suggest be added?

Need a REAL Top-Down Strategic Vision...Now...based on embracement of hydrogen economy

Reduce energy, water and operational costs at state and local government levels so that tax dollars may be diverted to other beneficial uses.

Government and private industry must invest or be given incentives to invest in the research and development of renewable energy and environmentally sound energy resources.

In coastal areas, sea breeze energy may provide a useful offsetting or "subsidizing" of utility energy to reduce the mid-day air conditioning load that requires more plants. Here at Florida Tech, we are researching these effects to assess the potential energy that could be extracted by off-shore or coastal wind turbines. (Dr. Steven Lazarus is the principal investigator.)

Many of the energy efficient fixes lead to mold problems in homes and this makes people sick. Such solutions are not useful. We don't want to save energy and make people sick.

Compact fluorescent light bulbs reduce energy cost and make the house easier to cool.
Gary Rosen Ph.D.

Florida should try to find a way make it economically attractive for electric companies to install solar panels on the rooftops of their commercial customers. Perhaps, later the same could be done for residential customers.

Urge Congress to move toward a national policy that will ultimately reduce the price and increase the quantity of natural gas.

Remove the Public Service Commission from the authority for the State's energy conservation program. Subsequently, remove the utilities from being subsidized by the State to implement the State's conservation programs. After all, utilities are in the business of SELLING energy consumption NOT conserving energy consumption. If it is beneficial for a utility to implement an energy conservation program, they should fund the program through operating expenses and shareholder's equity and NOT through the public as authorized by the Florida Public Services Commission.

Relying less on large power plants by decentralizing power production will provide more secure power supplies.

Again, I think the Florida Energy Plan should be comprehensive and discuss the array of strategies that should be employed to provide the state with a viable plan to meet its energy needs. Efficiency and conservation measures should be optimized recognizing the need for measured economic retention and/or development. Equally critical, this plan should address the attributes needed for an open supply side component that would complement the conservation and efficiency measures, as well as the needs of the transmission infrastructure needed to link generation to end users. Finally, PACE recommends that throughout the discussion, a clear differentiation between "wholesale"

energy considerations and "retail" choice considerations be maintained and not confused.

Identifying barriers to greater use of solar energy systems in this state, and developing specific recommendations for overcoming identified barriers.

Energy Plan results in a focus that includes a process whereby the health of the economy, especially tourist and agriculture industries, is assured.

Consider building offshore windmills producing hydrogen that also creates marine sanctuaries in the process. Any "solution" based on fossil fuels will be short-sighted. Any "solution" based on nuclear fission without considering the waste dilemma will be wrong-sighted.

Reduce population

Do not forget the conventional transmission network. It will need additions if Florida's anticipated power demand materializes.

Regulating all new and re-development in the state to require solar components would quickly bring the cost down and eliminate many energy producing problems.

Citizens should be made aware of any tax incentives available for the installation of solar energy systems and solar hot water heaters and cooling systems, and the state of Florida and energy companies should provide money for these systems as a cost saving measure instead of relying on purchasing energy credits.

Something that can be done sooner rather than later: require all power plants to conform to stricter emission guidelines. Older plants shouldn't be allowed operate unless they upgrade their pollution controls.

Hydrogen is said now to be the fuel that can provide clean energy for this century. But hydrogen is not an energy source; it is an energy medium that requires energy to produce. Should conventional energy systems be used to produce hydrogen? Or should sustainable systems such as PV and biomass or new ocean wave power systems be used to produce hydrogen? All aspects of hydrogen as a fuel must be investigated.

There should be a POSITIVE approach with incentives as opposed to fines.

Developing a plan that is realistic and has the capacity to supply the energy needs of Florida.

Apparently public health issues are being totally ignored. This is wrong.

1. Eliminate the use of fossil fuels. Stop the subsidies.
2. Make Florida a Universal showcase for solar power.

3. Stop sham recycling. Burning garbage is more efficient at delivering pollutants to the air than it will ever be as an energy source. The "acceptable" costs of death and disease associated with incinerators are not acceptable!
4. Nuclear power is obsolete. It is way too dangerous for the service provided. This is where we are most vulnerable to terrorist attack or the gross incompetence of the personnel at these sites. Pull the plug on these dinosaurs now.

Do not allow merchant power plants in this state. Do not allow un-needed natural gas pipelines in this state. We do not need either the gas, or that kind of environmental impact. DEP is faced with a difficult situation in this regard and the quality of life for many generations to come is currently in their hands.

Do everything possible to prevent deregulation of utilities, merchant power plants and LNG regasification plants.

Protecting Florida's unique environmental habitats

Find a methodology, program structure, or format so that we can benefit from the awareness and intelligence of our youth (K thru 12 + 4).

Recognize that moving toward energy independence is also a means to strengthen the local and state economies.

See CFR's plan for broad outcome needs and methodology.

1. Solar initiatives - to incentivize the process. With all the sun in FL, it's a CRIME that this is currently so limited. See Maine, a State which receives but a small percentage of the sun compared to FL...They have incredibly active incentives. Why is FL so behind the curve on so many issues?
2. Hybrid car incentives - There ARE no FL hybrid incentives...WHY NOT? This is a no-brainer.

The issue of Natural Gas development off shore in Florida should be revisited. It is important to our state and our nation. It will keep us dependent on sources of energy outside of our state.

The State of Florida should fund a comprehensive study that identifies alternative pathways and life-cycle efficiencies and emissions from the production, distribution and use of hydrogen fuels in Florida from fossil, renewable and nuclear energy sources. This study should include importing hydrogen produced from energy sources outside the state via pipeline and other bulk transport methods.

Streamlining the Florida Model Energy Code (now part of the "Uniform" Building Code) to allow easier interpretation by building officials thereby reducing the amount of time and paper work required by the public sector to get new construction to "pass" this portion of the permit process.

Advertising,

Implement alternative power in schools first, then everywhere else too!

The alternative to efficiency improvements and alternative energy sources is nuclear and fossil fuels. The long term health of our citizens will ultimately suffer if we continue on that path.

Ensure that any new consumer level products being brought to market have gone through an extensive consumer focus group studies to achieve palatability and affordability for the potential owner/user.

Financial incentives for contracting companies that use green strategies in building. Not necessarily just alternative fuel sources, but building so that the homes are energy efficient and with southern exposure to reduce cooling costs.

Hydroelectricity

-Clean alternative energy is a must if you want to do your job at all. (And don't forget better/less harmful storage system for solar power would be a major improvement)
-Resources or demand for automobile energy must be improved.
-Promotion of trees verses lawns is going to come, the sooner the better. This out-dated mentality is a hangover from American propaganda (little wifey at home, kids in the yard, Dad on the lawnmower) and for some reason people cling to it. My life would have fulfilled its purpose if I could stop this destructive ideal. Lawn chemicals cause huge problems, tree shaded areas are much cooler to the point of not needing A/C, and everyone I know complains of having to cut their grass (**with electric and gas mowers**) every week because of the rains.

Other comments:

Need to develop a k-12 energy education program that complements existing (though somewhat dismal) state education program

More incentives to use solar power, government buildings utilizing solar power, grants to solar power research, reduce the cost of solar panels

This planning for state future energy is greatly needed to prepare for the future needs. The costs of natural gas will greatly increase since most new plants use it as fuel for environmental reasons. Renewable energy research for Florida conditions is necessary to determine the best mix of sources considering the availability and economics. Florida Tech would be pleased to assist. Frank Leslie, 321-674-7377.

The Florida Department of Revenue is considering action that would tax the importation of all natural gas for industrial uses. This proposal was defeated in the 2003 legislative session. The Florida Minerals and Chemistry Council believes that we should clarify the

law so that natural gas used by industrial users is not subject to a gross receipts tax. The fact that Florida is anti-exploration, coupled with trying to impose a tax on importation of the natural gas for industrial uses, will drive manufacturers out of the state.

Florida PACE appreciates the opportunity to make these comments and looks forward to working with the group in the plan development.

Poly-thermalization technology to convert organic waste to oil should be considered

An energy plan for Florida that promotes safe, clean renewable energy is vitally important for our future. We need to safeguard our citizens, and our environment from harmful pollution that results from the current methods of bringing power to people's lives. Florida, the Sunshine State, should change its slogan, its trademark, to become the Solar State. We can do it.

I agree that increasing energy efficiency and applying new energy technologies may lead to new industries and economic growth. However, the public will not receive the full benefits that government can provide if the Florida Energy Plan is merely an attempt to promote economic growth. If the environmental and health related aspects of each energy option are not sufficiently investigated under the Plan, government will not be performing the function many people believe is their true constitutional responsibility

Let's help to "Wake Up America"!

The TCRPC advisory report, "Energy Planning in the Twenty-First Century: A Guide for Florida Communities" is available on the TCRPC web site in the section on energy planning. This document has many goals, strategies, and policies that should be considered when developing the State Energy Plan.

Florida will be confronting the disposal of more arsenic treated wood than any state in the nation. Recycled wood must not be used as a fuel source since issues such as identification of treated wood and effective pollution control problems have not yet been solved.

This survey is full of vague "feel good" words. What does it really say?

Thank you for your efforts in attempting to do this correctly. Educating the public is the largest part of this responsibility. You are to be commended.

Sorry, I only found this today and am short of time right now...

I would like to see the following added to the web resources section of your site:

- 1) "Energy Planning in the Twenty-First Century: A Guide for Florida Communities" by the Energy Task Force of the Treasure Coast Regional Planning Council, which is viewable at the web site of the Treasure Coast Regional Planning Council;

2) Florida House Institute for Sustainable Development in Sarasota, FL. Their web address is www.i4sd.org.

3) Florida Energy Extension Service (FEES).

I would like to see the participation of those knowledgeable about the importance of tree planting for energy conservation as outlined in the Cool Communities projects of American Forests. Certain areas of Miami-Dade County were part of the Cool Communities project as a result of the devastation of Hurricane Andrew. Miami-Dade County does have as part of its landscape code a section pertaining to tree planting for energy conservation and also has available a comprehensive Landscape Manual.

Thank you for this opportunity.

The results of such a survey are really not that telling unless you look at how much money will be spent achieving these goals, and what the costs and benefits will be.

Please support CFR's "Green Reserve" proposal.

Recognize the value and importance of energy as a source of energy and as a source of raw materials for products we need and use every day.

The state has an over-whelming abundance of clean, cheap energy pouring over us almost every day of the year. We need to utilize just a fraction of that energy to improve everyone's life & our general surroundings.

Find funds for my venture: www.greenhouse2000.com

I would like to see Florida leading the way in these important energy issues.

If we must continue to suffer with centralized power, then it should be from Not for Profit corporations or municipal systems. The private corporations have a de facto monopoly and have a strong disincentive to reduce emissions.

Thank you for asking.

Education on cost effectiveness of energy wise investments: light bulbs, solar panels, etc.

I would love to see Florida become a leader in solar energy strategies. We have the natural resources here to make it work.

APPENDIX D-2

ONLINE SURVEY 2: RESULTS

Florida Energy Plan Survey 2 Results

September 24, 2003

Results for #1 and #2 are total number checked.

Averages for #3 and #4 are calculated using the rankings: High=3, Medium=2, Low=1. Unanswered questions, "Not a Concern" and "Don't Know" are not counted in the average.

There were 132 respondents.

The total number for each question may vary as the respondents may have left some questions blank.

1. Which of the following roles currently apply to you? *Please check all that apply.*

10 Civic leader _4_ Local government official _27_ Citizen activist

25 Government employee _20_ Energy professional _7_ Planner

81 Concerned citizen

Other: Utility, Social Cause and Environmental Interest citizen welfare person, Conservation professional, Activist for Animals and their Habitat, Renewable Energy Professor, Architect, Sierra Club Conservation Chair Calusa Group, Florida League of Cities, Board member of environmental organization, Owner/Builder of a new energy efficient home, Renewables Corporate President, Professional Engineer- Mechanical, contractor for not-for-profit, Architect, master conservationist at Sarasota's Florida House

2. Which of the following considerations do you think are the most important in developing a State Energy Plan? *Please select your top 3 only and indicate by an "X".*

66 Saving energy _32_ Reducing fuel imports

94 Providing alternative energy resources

7 Reducing the cost of government _82_ Protecting the environment
30 Educating the public _2_ Creating jobs _9_ Stimulating the economy
32 Ensuring affordable energy _14_ Empowering people & communities
10 Increasing consumer self reliance
8 Safeguarding the State against emergencies

Other:

- Improving Reliability
- Maximizing the use of natural gas to lower energy use
- Providing RENEWABLE, alternative energy resources
- Protecting our economy
- Reducing proliferation of oil/gas wells and towers
- Keeping Elected officials out of the planing process.
- Establish a truly diversified energy mix
- Educating local governments and other authorities
- CLEAN alternative energy resources
- Continuity of energy resources
- Electric system reliability
- reduce/eliminate use of fossil fuels
- clarifing market opportunities
- increasing capacity & robustness of interconnects to national grid
- Creating reliable energy resources
- They only care about who can line they pockets

- Making Florida a low energy intensity state (CA was #2)
- Comprehensive, clear and enforceable policy
- demonstrating leadership
- encouraging distributed power generation, reducing grid reliance

3. Which of these energy-related issues are of concern to you from a quality of life standpoint? Please check the applicable responses as to your level of concern.

- a) traffic congestion
High:70 Medium:52 Low:2 Not a Concern:3 Avg:2.5
- b) air pollution
High:98 Medium:23 Low:5 Not a Concern:2 Avg:2.7
- c) current energy costs
High:30 Medium:67 Low:29 Not a Concern:3 Avg:2.0
- d) future energy costs
High:64 Medium:51 Low:12 Not a Concern:1 Avg:2.4
- e) dependence on foreign oil
High:88 Medium:32 Low:7 Not a Concern:0 Avg:2.6
- f) water pollution
High:105 Medium:17 Low:4 Not a Concern:1 Avg:2.8
- g) limited access to energy alternatives (solar technology, alternative fuel vehicles, energy efficient housing, etc.)
High:102 Medium:22 Low:2 Not a Concern:1 Avg:2.8
- h) high cost of energy alternatives
High:63 Medium:45 Low:19 Not a Concern:2 Avg:2.3
- i) lack of consumer knowledge about energy alternatives
High:90 Medium:31 Low:5 Not a Concern:1 Avg:2.7
- j) inefficient community design
High:75 Medium:41 Low:8 Not a Concern:1 Avg:2.5

k) potential disruption of energy supplies
High:50 Medium:62 Low:13 Not a Concern:1 Avg:2.3

l) health concerns due to emissions
High:77 Medium:35 Low:8 Not a Concern:5 Avg:2.6

m) urban sprawl
High:74 Medium:40 Low:6 Not a Concern:6 Avg:2.6

Other:

--Lack of focus on economical renewable energy alternatives

--Distributive energy network (i.e., production at point of use).

--over population

--lack of available housing near workplace

--Sea breeze mid-day peaking energy

--We are still in the 1800's. All the CEO, COO, PHB etc are raping the consumer

--Pollution increasing the Dead Zone, Red Tide & Black Water in Gulf ect

--Compare "true" cost of smoke stack power vs solar/fuelcell/wind on health

--maintaining current air & water quality in the future

--waste

--lack of mass transit that is accessible, flexible, safe

--Building codes should require solar pool and domestic water heating.

--Continual use of energy-gobbling light sources in all buildings

--disconnect between national,state, regional, and local policy

--Lack of incentives for energy efficient construction, remodeling, financing

--people who don't know the impacts of energy use and treat it like t.p.

--Conservation (the lost strategy in the energy debate)!!!!

--insufficient safety, infrastructure or incentives for bicycle commuting
--Restrictive codes and ordinances blocking renewable energy
--By taking all the profits!!!!!!!!!!!!!!
--Current energy costs are too low, prevents development of efficiency
--being ready for the future
--Tax incentives for renewable energy installations
--no consumer oriented energy decision support tools available
--recycling awareness of energy savings (like 1 recyclable can saves for 3 hours of TV)

4. There are many ways to address state energy challenges and opportunities. Following are some examples. Which do you think are the most important to pursue (High, Medium or Low Priority) and what other methods or ideas do you suggest?

a) Expand public transit

High:59 Medium:46 Low:16 Don't Know:2 Avg:2.4

b) Make transit more convenient

High:73 Medium:39 Low:11 Don't Know:3 Avg:2.5

c) Provide more bikeways and sidewalks

High:53 Medium:49 Low:26 Don't Know:0 Avg:2.2

d) Use more solar energy

High:96 Medium:26 Low:6 Don't Know:0 Avg:2.7

e) Build more energy efficient homes

High:94 Medium:28 Low:3 Don't Know:0 Avg:2.7

f) Plan communities to require less travel

High:73 Medium:39 Low:12 Don't Know:2 Avg:2.5

g) Educate consumers about energy efficient products and practices

High:92 Medium:31 Low:2 Don't Know:0 Avg:2.7

h) Build fewer power plants

High:45 Medium:39 Low:23 Don't Know:17 Avg:2.2

i) Build more power plants

High:7 Medium:27 Low:69 Don't Know:16 Avg:1.4

j) Bring more "sustainable" energy sources into everyday use

High:105 Medium:20 Low:0 Don't Know:1 Avg:2.8

k) Make energy saving products more readily available

High:90 Medium:31 Low:1 Don't Know:2 Avg:2.7

l) Have government lead by example in saving energy and using alternative energy sources

High:104 Medium:16 Low:6 Don't Know:1 Avg:2.8

m) Establish conservation incentives for:

i) building construction

High:101 Medium:19 Low:4 Don't Know:0 Avg:2.8

ii) community development

High:93 Medium:27 Low:6 Don't Know:0 Avg:2.7

iii) appliance efficiency

High:97 Medium:23 Low:4 Don't Know:0 Avg:2.8

iv) pollution control

High:102 Medium:18 Low:6 Don't Know:0 Avg:2.8

Other:

--renewable energy

--State buiding codes should include energy saving techniques and strategies.

--we need mass transit like et3.com and skytran.net

--the fastest way of acquiring the energy we need is through conservation

--For m i through m iv, can use regulations or incentives, all high priority.

--Include wind energy in incentive programs

--establish conservation incentives for residential alternative energy

--What difference does it make? You all are going to do what in the best

- energy efficient designs for commercial buildings
- Build fewer "conventional" power plants
- Establish and maintain consumer rebates for solar
- State/local control over energy policy; no federal one size fits all - High
- Make renewable energy installations less expensive with tax incentives.
- Teach people how to reuse & recycle everything.
- Establish conservation incentives for fuel efficient cars & trucks - High
- Build capacity to decide on above
- expand local alternative energy production
- protecting agricultural and forest space from development
- For h and i, would depend on fuel type and plant location.
- interest for your perks and extra bonuses!
- Change business practice to encourage more power producers.
- Consider (brainstorm) non-taxpayer funding sources for alternative energy
- System reliability and robust wholesale market - High
- sales tax exemptions for high efficiency appliances and AC systems
- Develop long-term state energy vision to action program.

5. Comments or suggestions?

- Surveys need to concentrate on economic reality and thus how Florida -- currently without indigenous energy and related resources can lead the nation in alternatives to current energy practices.
- Own a gas-electric hybrid car. We save significant amount of money on gas by driving hybrid around town for errands and such. There should be more incentive for families to buy/drive at least one hybrid/alternative vehicle per household.

--When we moved to Florida, we thought solar power would be more prevalent. Imagine our surprise when one expresses solar power and all one thinks of here is heating ones pool.

The Sunshine State needs to show the rest of the country how it's done with real solar power - meaning electricity.

--Excessive development is one of the biggest threats...there needs to be required amounts of green spaces per every building project. There needs to be mandatory energy efficiency in all new construction. We need education for all consumers, mandatory recycling, Florida should require improved vehicle fuel efficiency and emission standards. How about placing huge fees on anyone wanting to buy or register an SUV in this state? There are many ways to protect our state and we need to act.

--An emphasis must be placed at the state and private level on energy efficiency, conservation and investment in renewable sources if we have any hope for a sustainable energy future for our children.

--Before building new power plants, we should do everything we can to conserve energy, including eliminating excess us of lights in unoccupied buildings at night (light pollution also prevents good star gazing) and instituting a McMansion tax on super large new houses to encourage building of smaller spaces. I would support new power plants that used sustainable fuels such as solar, wind or biomass rather than fossil fuels. Distributed power seems like a good idea. I would definitely not support additional nuclear plants.

--Florida is known as the sunshine state, yet we invest little in solar energy. We should have widespread use of solar energy in businesses and homes. We should also offer energy efficiency incentives. The cost could be mitigated by establishing an alternative energy and efficiency fund, paid for by a small fee added to energy bills. This could be as small as \$1-2 on a residential bill and a comparable amount for a business. I have heard some other states already do this.

--Introduce pollution control (and penalties) for dangerous emissions from both gas and diesel vehicles.

--Here in Florida we have a perfect chance to use SOLAR ENERGY and WIND ENERGY. I think we should very seriously explore these natural energy options. In addition I am very concerned about the water policy in this state: dumping acid in the Gulf and not protecting the ground water is a crime. Thank you.

--Health of the individual and the planet must come first, therefore air pollution must be the # 1 concern.

--Appreciate the website for quick review of meeting information.

--As a new mother I'm truly worried about what the world will be like for my son in the upcoming years. Choices we make today will make that future brighter or dimmer, and I feel it is increasingly important for us as Americans to curb our energy consumption and turn towards renewable and "cleaner" energy sources for our future needs. Many consumers may feel the same way, but due to lack of education about the subject or time and energy to further research which products are more energy efficient, many buy whatever happens to be cheapest or most popular. I feel branding ALL energy-consumable products with an energy-star rating much as large appliances are, would help busy consumers make more enlightened choices. Though I know this is beyond the purview of the State of Florida, I feel that our gifted politicians could bring this to national attention, and thus affect change.

--Thank you for letting concerned folk participate.

--None. You all don't listen. Too many government officials tell you all what to do. NO ONE HAS ANY BACKBONE. Newspapers and the like are afraid of the elected officials. Sad. We will fallas a nation. Just like Russia said in the 50's. We will get you from within. It is happening. No one votes except the rich.

--As richest nation in world or so called greatest nation we should be able to accomplish things without making life worse due to health and price.

--I have lived in two states Arizona and Florida where sunshine is abound. It amazes me that solar energy is not utilized to its potential. The reason as I see it is the low energy costs in both of these states. I have often heard that energy companies price their products weather it is oil, natural gas, or electricity just at the point the keeps alternative energy uncompetitive. This is even true for OPEC. Makes you wonder.

--Make the necessary technological and organizational changes to open the grid to a multitude (i.e. Million Rooftops) of energy producers. Make the cost of energy reflect the pollution of our air.

--At some point in time you will need to pin people down on choices. We cannot say no to everything (taxes, NIMBY, etc.), but we are already heading in that direction. Also, from what I understand, surplus natural gas pipeline capacity is very low.

--Get more environmentally friendly people in Government. STOP CATERING TO BIG MONEY GROUPS.

--Create incentives for private and public use of alternative energy resources, such as solar energy and educate and provide training for developers and builders.

--The Sunshine State should be the Solar State.

--The state should work with the federal government to institute Tax incentives for renewable energy investment.

--I think people need education as you have suggested.... But more important, they need an example and a 'package' to pursue. ie, we have a solar water heater, we can show it off but if we could tell folks how they could do it maybe they would. We had to do some research and legwork to get ours, maybe it could be easier..... An effort to get examples of any of our new technologies used by ordinary people in our communities as a 'see it work' example might help... We are ready financially to do a solar intertie system, but what do we choose?? Again, we need to do a lot of researh. Maybe you could get some scattered volunteers and help them and they could be 'show cases.'

-- We have technology available to us today to significantly reduce the energy consumed by homeowners and businesses WITHOUT impacting their qulaity of life. However, I have renovated homes and buildings and am unable to get consumers to pay more for more insulation, high efficiency heat & air conditioning, tankless hot water (gas usually), solar hot water or efficient windows. All of these items are logical investments with reasonable paybacks. We will probably need to REQUIRE greater energy efficency in new construction and renovations. We will need to provide incentives to builders/homeowners and businesses to invest in alternative (mostly solar hot water in the short term) energy uses to grow the industry and make it more common.

--1.Require electric utilities to give small rate reductions to customers that install renewable energy devices on their homes or businesses. The amount of the rate reductions could be pegged to cost of the fuels the electric utility uses. Apply similar benefits to businesses that install energy efficient distributed power devices at their facilities.

2.Eliminate the sales tax on the cost to insulate buildings to a higher R-value than the code minimums. Likewise, low-e window and door glazing or heat reflective coatings, white or light colored roofing, etc.

3.Eliminate sales tax on fuel cell or hybrid vehicles.

4.Give permanent "environmental benefit" property tax discounts to building owners that install renewable energy and highly energy efficent AC systems, insulation, glazing, etc on their buildings. Likewise, give discounts for water saving devices, designs and appliances. Also, give discounts for xeriscaping in landscape plantings.

5.Give tax incentives and discounts on permit fees, impact fees , etc. to builders on energy/water efficient buildings they construct.

--Thanks for asking for public input.

--Surprised that the building group concentrated almost exclusively on building construction without sufficient inclusion where electric appliances were substituted by non- or minimum use electric appliances

--Offer a tax incentive to corporations that donate their roof space for photovoltaic that generate electricity for the power grid. That space is often unused anyways, and many companies would love the chance to have the publicity of being "green" while getting savings from taxes.

--We must develop energy sources other than foreign oil. In the short term, we should develop our domestic fuel sources, while putting in place an infrastructure of alternate energy sources (solar, nuclear, etc.). Discussing things like hydrogen fuel, without a discussion of how that hydrogen is produced, is also anti-productive. It is my understanding that it takes more fossil fuel to produce the hydrogen than it would have taken to use the fossil fuel directly. An alternate source of energy, such as solar or nuclear, would be necessary for hydrogen to be effectively used as an alternate (portable) fuel.

--public education is the cornerstone on which all future gains will be made. Legislation alone will not make a difference nor will more powerplants. Lifestyle changes require an incentive before they will be made

--What about the possibilities of tide/wave powered generators?

This type of energy source should become available if the investment were made in designing such a system. The technology is there, the perceived incentive is not.

--Solar energy for water heating and electrical power generation should play a BIG role in our state energy plan. The technologies are mature and with incentives, affordable. Continuing with more fossil fuel power plants is only cheaper if you don't count all the costs. When doing the right thing is not the cheaper alternative, government has to get involved (e.g., provide incentives) to help business and the public to do the right thing.

--A recent internet search of all states reveals that the "Sunshine State" (Florida) ranks in the lower 1/3 of all states in usage of and incentives for using solar power. With all the solar energy available in the state, it is a significant omission that this abundant "natural resource" is so neglected by the Florida legislature, industry, commercial & urban planners, and the population at large.

When I moved to Florida from Virginia (where I had an active & passive solar home) I expected to see solar arrays on every Florida home, heating hot water, interior spaces, etc. Sadly, on the solar pool hot water industry utilizes this abundantly available resource to any extent.

With the cost of energy rising, and its transmission and distribution at increasing risk of disruption from decaying infrastructure and terrorist acts, one would think that the

Sunshine State would want to market it Solar Resource even as we have marketed phosphate and orange juice.

--We need to truly make Florida the "Sunshine State" that is touted on brochures and advertisements. There is NO EXCUSE to have nuclear power in the state of Florida, especially when all the developers do is rape the environment, build houses that suck up energy and don't capitalize on that energy source to run the homes.

--it is important for our society to stop binging on energy and understand that there is not an unending supply of fossil fuel and that conservation is the first step toward managing our fuel consumption and air pollution

--Develop more solar and wind power sources and decentralize fossil fuel dependence. Large central power generating systems are vulnerable to industry blackmail and possible failures due to outside forces. Independent energy sources local to each residence and transportation vehicle will free communities of dependence on centralized and vulnerable generators and distribution systems.

--Reduce urban sprawl and introduce real 'green belts' around and between communities. Aggressively conserve what little is left of our watersheds - even increase these areas if possible

--There should be more emphasis on sustainable building methods with education dealing with green building and alternative energy sources. A lot of time things are done a certain way only because that is the way that they have always been done. The future depends on being able to use the best and most effective methods and having the education and tools necessary to determine what those might be given the variables involved.

--FL is the Sunshine State so why not use the sun/solar energy to better supply the energy needs. It is relatively inexpensive, esp if costs come down because of greater demand, clean, and saves other energy sources.

--There are several programs which already exist that provide rebates/incentives for building efficient homes/buildings... More advertisement of existing programs needs to happen.

--We can't ask what we don't know...community - public education is important. Industry leaders to acquire the information of products available as well.

--Energy conservation is very important but not at the expense of our environment.

--Present energy policies are short-sighted, inefficient, dangerous and environmentally unsound. We need to reduce our reliance on petroleum power plants; gradually eliminate nuclear power generation; hold older power plants to Clean Air Act

requirements; require manufacturers to produce more energy efficient vehicles, appliances and tools; and focus research and funds on alternative energy sources.

--The electrical energy supply network should be modified over time so that energy is produced locally. By building a grid of many mini-power plants to produce electricity for the immediate area, the system will be less vulnerable to "black-outs."

---Question 2 is a bit narrow. I picked my top three, feel that protecting the environment and safeguarding the state from emergencies are equally important.

-Having gov agencies use recycled materials and draw attention to it is a good idea (like utility bills envelopes and paper that prominently state 'we recycle do you?', there are even plastic type envelope windows made from wood pulp)

-More trees and less lawns for a cooler temp.

--Sacrificing of environmental areas for increase in domestic energy consumption is a dangerous, short-term, and costly solution to a long-standing problem.

CONSERVATION is the only short-term solution which has merit, for it offers no disasterous long-term effects. Adding "alternative" energy resources to Florida should be a priority, especially wind and solar resources!!!

APPENDIX D-3

REGIONAL WORKSHOP SURVEY

WORKSHOP 1

NICEVILLE, WEST FLORIDA REGIONAL PLANNING COUNCIL

NUMBER OF PARTICIPANTS

24 signed in; 16 completed surveys.

COMPOSITION

Question 1 – Which roles apply to you?* (Point per Response = 1)		% of Respondents	Responses	% of Responses
Civic Leader	2	12.50%	29	6.90%
Local Government Official	5	31.25%	29	17.24%
Citizen Activist	2	12.50%	29	6.90%
Government Employee	2	12.50%	29	6.90%
Energy Professional	6	37.50%	29	20.69%
Planner	1	6.25%	29	3.45%
Concerned Citizen	6	37.50%	29	20.69%
Other	5	31.25%	29	17.24%

*Additional roles can be found below in Comments.

SURVEY RATINGS

Question 2 – Why did you attend this workshop? (Point per Response = 1)		% of Respondents	Responses	Percentage
Learn more about energy	4	25.00%	33	12.12%
Find out more about the Florida Energy Plan	11	68.75%	33	33.33%
Offer comments	6	37.50%	33	18.18%
Monitor for my organization	7	43.75%	33	21.21%
Came for RPC mtg., stayed for energy	3	18.75%	33	9.09%
Other	2	12.50%	33	6.06%
Question 3 – Most important considerations? (Point per Response = 1)		% of Respondents	Responses	Percentage
Saving Energy	9	56.25%	48	18.75%
Reducing fuel imports	2	12.50%	48	4.17%
Providing alternative energy resources	10	62.50%	48	20.83%
Reducing the cost of government	3	18.75%	48	6.25%
Protecting the environment	2	12.50%	48	4.17%
Education the public	3	18.75%	48	6.25%

Creating jobs	2	12.50%	48	4.17%
Stimulating the economy	2	12.50%	48	4.17%
Ensuring affordable energy	7	43.75%	48	14.58%
Empowering people & communities	0	0.00%	48	0.00%
Increasing consumer self reliance	1	6.25%	48	2.08%
Safeguarding the State against emergencies	6	37.50%	48	12.50%
Other	1	6.25%	48	2.08%
Question 4 – Which issues are concern from quality of life standpoint? (High=4, Med=3, Low=2, NC=1, No Response=0)		Mean Score		
Traffic congestion	50	3.13		
Air pollution	51	3.19		
Current energy costs	52	3.25		
Future energy costs	56	3.50		
Dependence on foreign oil	60	3.75		
Water pollution	55	3.44		
Limited access to alternatives	56	3.50		
High cost of alternatives	51	3.19		
Lack of knowledge about alternatives	57	3.56		
Inefficient community design	49	3.06		
Potential disruption of supplies	53	3.31		
Health concerns due to emissions	49	3.06		
Urban sprawl	40	2.50		
Other	0	0.00		
Question 5 – Most important state energy challenges and opportunities? (High=4, Med=3, Low=2, NC=1, No Response=0)		Mean Score		
Expand public transit	40	2.50		
Make transit more convenient	42	2.63		
Provide more bikeways and sidewalks	45	2.81		
Use more solar energy	53	3.31		
Build more energy efficient home	59	3.69		
Plan communities to require less travel	44	2.75		
Educate consumers about energy efficient products	50	3.13		
Build fewer power plants	31	1.94		
Build more power plants	36	2.25		
Bring more sustainable sources into everyday use	54	3.38		
Make energy saving products more readily available	57	3.56		
Have government lead by example	54	3.38		
Establish conservation incentives for building construction	59	3.69		
Establish conservation incentives for community development	52	3.25		
Establish conservation incentives for appliance efficiency	49	3.06		
Establish conservation incentives for pollution control	50	3.13		
Other	11	0.69		
Question 7 – Visited energy project Web site? (Point per Response = 1)		Percentage		

Yes	6	37.50%		
No	10	62.50%	Check	
No Response	0	0.00%	100.00%	
Question 8 – Like to receive electronic updates? (Point per Response = 1)		Percentage		
Yes	11	68.75%		
No	5	31.25%		
No Response	0	0.00%	Check	
Question 9 – Like to have future involvement? (Point per Response = 1)		Percentage		
Yes	9	56.25%		
No	7	43.75%		
No Response	0	0.00%	Check	
			100.00%	

SURVEY COMMENTS

Question 1 – Which roles apply to you?
1. Reporter
2. Local radio news
3. Solar contractor
4. Media – Radio talk show host
5. Educator
Question 2 – Why did you attend this workshop?
1. Report news to listeners
Question 3 – Most important considerations?
1. We need a renewable low-cost way to generate non-polluting electricity
Question 5 – Most important state energy challenges and opportunities?
1. Energy conservation evaluations Assistance in implementing conservation measures
2. Develop alternative energy sources (other than solar) Educate the public about the safety of nuclear energy
3. Waste to energy conversion
Question 6 – Other comments or suggestions?
1. Local siting of fuel cell power plants (Unite Technology Corp PC25 - Fuel Cell were using sewage general methane in New York) Siemens AG hybrid power plant can use methane. Greatly reduces pollution.
2. The Florida Energy Office's former Energy Conservation Program (FCAP) should be reinstated along with a low cost energy implementation loan program such as the former Florida Energy Loan Program (FECP).
3. Build a standard home that needs no heat or A/C with super insulation and energy saving technologies.
4. Push tax incentives for retrofitting for energy savings. Do not expect the cooperation from "Joe Six-pack" if you try to use mandates and punitive actions for failure to comply with bureaucratic dictates.

Question 9 – Like to have future involvement? Comments?	
1.	Build a power production using Florida Gulf Stream to produce cheaper clean energy (electric), send it up each coast using super conductor.
2.	Would like guest to come on the air on my local talk shows.
3.	I have a redundant renewable system to be introduced that can supply constant renewable energy.

PRIORITY ISSUES

Score	
7	More public information
6	Local generation/distribution generation
5	Remove regulatory barriers
4	Net Metering
4	Deployment of New Technology
4	Mandated daylighting in large commercial building and schools
4	Government facility audits
3	Gulf stream generation
2	Energy Smart Schools -- retrofitting existing ↓ \$.59
2	Existing housing
2	Underground transmission lines in conjunction with high speed rail
0	Performance contracting (promote)
0	Create performance contracting regulation (look at SNAPS)
0	Local generation study prior to certification of need for power plant lines

WORKSHOP 2

MAITLAND, EAST CENTRAL FLORIDA REGIONAL PLANNING COUNCIL

NUMBER OF PARTICIPANTS

15 signed in*; 24 completed surveys.

COMPOSITION

Question 1 – Which roles apply to you?** (Point per Response = 1)		% of Respondents	Responses	% of Responses
Civic Leader	2	8.33%	37	5.41%
Local Government Official	7	29.17%	37	18.92%
Citizen Activist	5	20.83%	37	13.51%
Government Employee	6	25.00%	37	16.22%
Energy Professional	4	16.67%	37	10.81%
Planner	3	12.50%	37	8.11%
Concerned Citizen	7	29.17%	37	18.92%

*Received Sign-in Sheet, Page 2 only.

**Additional roles can be found below in Comments.

SURVEY RATINGS

Question 2 – Why did you attend this workshop? (Point per Response = 1)		% of Respondents	Responses	Percentage
Learn more about energy	4	16.67%	44	9.09%
Find out more about the Florida Energy Plan	10	41.67%	44	22.73%
Offer comments	8	33.33%	44	18.18%
Monitor for my organization	9	37.50%	44	20.45%
Came for RPC mtg., stayed for energy	10	41.67%	44	22.73%
Other	3	12.50%	44	6.82%
Question 3 = Most important considerations? (Point per Response = 1)		% of Respondents	Responses	Percentage
Saving Energy	14	58.33%	77	18.18%
Reducing fuel imports	6	25.00%	77	7.79%
Providing alternative energy resources	12	50.00%	77	15.58%
Reducing the cost of government	2	8.33%	77	2.60%
Protecting the environment	9	37.50%	77	11.69%
Education the public	2	8.33%	77	2.60%
Creating jobs	3	12.50%	77	3.90%
Stimulating the economy	4	16.67%	77	5.19%
Ensuring affordable energy	9	37.50%	77	11.69%
Empowering people & communities	3	12.50%	77	3.90%
Increasing consumer self reliance	4	16.67%	77	5.19%
Safeguarding the State against emergencies	6	25.00%	77	7.79%

Other	3	12.50%	77	3.90%
Question 4 – Which issues are concern from quality of life standpoint? (High=4, Med=3, Low=2, NC=1, No Response=0)		Mean Score		
Traffic congestion	81	3.38		
Air pollution	83	3.46		
Current energy costs	68	2.83		
Future energy costs	77	3.21		
Dependence on foreign oil	80	3.33		
Water pollution	83	3.46		
Limited access to alternatives	79	3.29		
High cost of alternatives	75	3.13		
Lack of knowledge about alternatives	79	3.29		
Inefficient community design	74	3.08		
Potential disruption of supplies	80	3.33		
Health concerns due to emissions	75	3.13		
Urban sprawl	76	3.17		
Other	1	0.04		
Question 5 – Most important state energy challenges and opportunities? (High=4, Med=3, Low=2, NC=1, No Response=0)		Mean Score		
Expand public transit	71	2.96		
Make transit more convenient	69	2.88		
Provide more bikeways and sidewalks	69	2.88		
Use more solar energy	82	3.42		
Build more energy efficient home	85	3.54		
Plan communities to require less travel	79	3.29		
Educate consumers about energy efficient products	79	3.29		
Build fewer power plants	57	2.38		
Build more power plants	49	2.04		
Bring more sustainable sources into everyday use	80	3.33		
Make energy saving products more readily available	80	3.33		
Have government lead by example	84	3.50		
Establish conservation incentives for building construction	89	3.71		
Establish conservation incentives for community development	83	3.46		
Establish conservation incentives for appliance efficiency	82	3.42		
Establish conservation incentives for pollution control	83	3.46		
Other	8	0.33		
Question 7 – Visited energy project Web site? (Point per Response = 1)		Percentage		
Yes	10	41.67%		
No	13	54.17%	Check	
No Response	1	4.17%	100.00%	

Question 8 – Like to receive electronic updates? (Point per Response = 1)		Percentage		
Yes	14	58.33%		
No	9	37.50%		
No Response	1	4.17%	Check 100.00%	
Question 9 (Point per Response = 1)		Percentage		
Yes	13	54.17%		
No	9	37.50%		
No Response	2	8.33%	Check 100.00%	

SURVEY COMMENTS

Question 1 – Which roles apply to you?
1. Audubon Society member
2. Utility employee
3. Officer of 2 advisory groups
4. University professor (Adjunct, Florida Tech.)
Question 2 – Why did you attend this workshop?
1. Follow up education from Energy 2020 meeting. (Ma)
2. May eventually be interested in promoting through article writing. (Ma)
3. Educational aspects and funding (Ma)
Question 3 – Most important considerations?
1. Enforce existing energy codes and rules.
2. Educate the politicians.
3. Creating a State Energy Benefits Fund.
4. Promoting the 5 Star Energy Program
Question 4 – Which issues are concern from quality of life standpoint?
1. I put politicians very high. (Ma)
2. Overpopulation (Ma)
Question 5 – Most important state energy challenges and opportunities?
1. Retrofit
2. Hydrogen as an energy carrier.
3. Making energy saving products cheaper.
4. Develop a state population policy where goal is to stabilize Florida's population. There can be no sustainable future without a sustainable population.
Question 6 – Other comments or suggestions?
1. Use San Francisco example to fund PV on government buildings.
2. Constraints on wind turbine location should be reduced. A model ordinance should be prepared.
3. Economic development through funding for technology and alternative fuels development is in Florida's best interest. Significant federal funding is available to assist in this development.

Question 9 – Like to have future involvement? Comments?	
1.	This is a broadly diverse and complicated field. Explanations for the public and legislators are important.
2.	My comments were submitted in writing at the public meeting at East Central Florida Regional Planning Council on August 20, 2003.
3.	I'll do it with email.
4.	Let me know about meetings.

PRIORITY ISSUES

Score	
5	Look at state benefit funds (system/public BF)
3	Enforce laws that are on the books
3	Renewable Portfolio Standard (20% → 100% by 2050)
2	Incentives for building improvements
2	Intergovernmental building summit (energy accessibility & safety) STAT!
2	University energy research and programs
2	Educate the public about their environmental impacts of energy use (unbiased-not marketing)
2	Look at laws that prevent or restrict energy-efficient technology
2	Require utilities to buy back power
1	Plan to stop Florida's population growth
1	Develop hydrogen as an energy carrier
1	Develop ocean currents as an energy source
1	Use fear to motivate public and politicians
1	Solving Global Warming problems (climate change resolution by Florida Audubon
1	Change the cost-effectiveness test for DSM
1	Need to look at other forms - evaluate coastal wind energy resource (tall hub height turbines)
1	Expand solar exemption to daylighting and geothermal
1	Time of use billing
1	Join with other states to develop PV manufacturing facility
1	Mandatory recycling
1	Have an implementation plan
1	Interconnect energy, water issues
1	Increase availability of alternative fueling stations
1	Increase impact fees
1	Incentives for rated homes 4 star or 5 star
0	Prize for single package solar powered A/C
0	Retrofit program for buildings and street cars
0	Show state in-flow/out-flow of energy dollars
0	Revise all energy efficiency codes
0	Marketing programs with measured results
0	New home program through FHBA
0	Join CA fuel economy
0	Oversight of ESCO pricing
0	Energy in Comp. Plans Seminole included it
0	State law on LPG refrigerant in MACS (DACS)
0	Set temperature standards

WORKSHOP 3

OCALA, WITHLACOOCHEE REGIONAL PLANNING COUNCIL

NUMBER OF PARTICIPANTS

11 signed in; 21 completed surveys.

COMPOSITION

Question 1 – Which roles apply to you?* (Point per Response = 1)		% of Respondents	Responses	% of Responses
Civic Leader	2	9.52%	25	8.00%
Local Government Official	4	19.05%	25	16.00%
Citizen Activist	1	4.76%	25	4.00%
Government Employee	4	19.05%	25	16.00%
Energy Professional	4	19.05%	25	16.00%
Planner	4	19.05%	25	16.00%
Concerned Citizen	5	23.81%	25	20.00%

*Additional roles can be found below in Comments.

SURVEY RATINGS

Question 2 – Why did you attend this workshop? (Point per Response = 1)		% of Respondents	Responses	Percentage
Learn more about energy	4	19.05%	32	12.50%
Find out more about the Florida Energy Plan	8	38.10%	32	25.00%
Offer comments	3	14.29%	32	9.38%
Monitor for my organization	5	23.81%	32	15.63%
Came for RPC mtg., stayed for energy	12	57.14%	32	37.50%
Other	0	0.00%	32	0.00%
Question 3 = Most important considerations? (Point per Response = 1)		% of Respondents	Responses	Percentage
Saving Energy	11	52.38%	73	15.07%
Reducing fuel imports	3	14.29%	73	4.11%
Providing alternative energy resources	13	61.90%	73	17.81%
Reducing the cost of government	3	14.29%	73	4.11%
Protecting the environment	14	66.67%	73	19.18%
Education the public	5	23.81%	73	6.85%
Creating jobs	3	14.29%	73	4.11%
Stimulating the economy	4	19.05%	73	5.48%
Ensuring affordable energy	8	38.10%	73	10.96%
Empowering people & communities	3	14.29%	73	4.11%
Increasing consumer self reliance	2	9.52%	73	2.74%
Safeguarding the State against emergencies	2	9.52%	73	2.74%
Other	2	9.52%	73	2.74%

Question 4 – Which issues are concern from quality of life standpoint? (High=4, Med=3, Low=2, NC=1, No Response=0)		Mean Score	
Traffic congestion	71	3.38	
Air pollution	73	3.48	
Current energy costs	62	2.95	
Future energy costs	71	3.38	
Dependence on foreign oil	73	3.48	
Water pollution	75	3.57	
Limited access to alternatives	70	3.33	
High cost of alternatives	63	3.00	
Lack of knowledge about alternatives	66	3.14	
Inefficient community design	73	3.48	
Potential disruption of supplies	67	3.19	
Health concerns due to emissions	70	3.33	
Urban sprawl	70	3.33	
Other	0	0.00	
Question 5 – Most important state energy challenges and opportunities? (High=4, Med=3, Low=2, NC=1, No Response=0)		Mean Score	
Expand public transit	64	3.05	
Make transit more convenient	66	3.14	
Provide more bikeways and sidewalks	60	2.86	
Use more solar energy	73	3.48	
Build more energy efficient home	79	3.76	
Plan communities to require less travel	70	3.33	
Educate consumers about energy efficient products	71	3.38	
Build fewer power plants	52	2.48	
Build more power plants	63	3.00	
Bring more sustainable sources into everyday use	72	3.43	
Make energy saving products more readily available	78	3.71	
Have government lead by example	75	3.57	
Establish conservation incentives for building construction	80	3.81	
Establish conservation incentives for community development	77	3.67	
Establish conservation incentives for appliance efficiency	74	3.52	
Establish conservation incentives for pollution control	74	3.52	
Other	0	0.00	
Question 7 – Visited energy project Web site? (Point per Response = 1)		Percentage	
Yes	7	33.33%	
No	14	66.67%	Check
No Response	0	0.00%	100.00%

Question 8 – Like to receive electronic updates? (Point per Response = 1)				
Yes	10	47.62%		
No	10	47.62%		
No Response	1	4.76%	Check 100.00%	
Question 9 (Point per Response = 1)		Percentage		
Yes	11	52.38%		
No	7	33.33%		
No Response	3	14.29%	Check 100.00%	

SURVEY COMMENTS

Question 1 – Which roles apply to you?
1. WRPC Board member
2. Regional planning planner
Question 3 – Most important considerations?
1. Consider more clean energy (nuclear, solar).
2. Put brakes on growth.
Question 6 – Other comments or suggestions?
1. These questions must be coupled with what each costs. Most people would want this, but are they willing to pay for it?
Question 9 – Like to have future involvement? Comments?
1. I plan on submitting written proposals and analysis.
2. Consider nuclear!
3. Maybe. What kind of input?

PRIORITY ISSUES

Score	NO DATA
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WORKSHOP 4

HOLLYWOOD, SOUTH FLORIDA REGIONAL PLANNING COUNCIL

NUMBER OF PARTICIPANTS

40 signed in; 37 completed surveys.

COMPOSITION

Question 1 – Which roles apply to you?* (Point per Response = 1)		% of Respondents	Responses	% of Responses
Civic Leader	2	5.41%	60	3.33%
Local Government Official	3	8.11%	60	5.00%
Citizen Activist	9	24.32%	60	15.00%
Government Employee	16	43.24%	60	26.67%
Energy Professional	4	10.81%	60	6.67%
Planner	2	5.41%	60	3.33%
Concerned Citizen	15	40.54%	60	25.00%

*Additional roles can be found below in Comments.

SURVEY RATINGS

Question 2 – Why did you attend this workshop? (Point per Response = 1)		% of Respondents	Responses	Percentage
Learn more about energy	17	45.95%	79	21.52%
Find out more about the Florida Energy Plan	28	75.68%	79	35.44%
Offer comments	13	35.14%	79	16.46%
Monitor for my organization	18	48.65%	79	22.78%
Came for RPC mtg., stayed for energy	0	0.00%	79	0.00%
Other	3	8.11%	79	3.80%
Question 3 = Most important considerations? (Point per Response = 1)		% of Respondents	Responses	Percentage
Saving Energy	27	72.97%	111	24.32%
Reducing fuel imports	12	32.43%	111	10.81%
Providing alternative energy resources	21	56.76%	111	18.92%
Reducing the cost of government	0	0.00%	111	0.00%
Protecting the environment	21	56.76%	111	18.92%
Education the public	7	18.92%	111	6.31%
Creating jobs	0	0.00%	111	0.00%
Stimulating the economy	1	2.70%	111	0.90%
Ensuring affordable energy	6	16.22%	111	5.41%
Empowering people & communities	5	13.51%	111	4.50%
Increasing consumer self reliance	2	5.41%	111	1.80%
Safeguarding the State against emergencies	2	5.41%	111	1.80%
Other	7	18.92%	111	6.31%

Question 4 – Which issues are concern from quality of life standpoint? (High=4, Med=3, Low=2, NC=1, No Response=0)		Mean Score		
Traffic congestion	133	3.59		
Air pollution	137	3.70		
Current energy costs	97	2.62		
Future energy costs	116	3.14		
Dependence on foreign oil	126	3.41		
Water pollution	130	3.51		
Limited access to alternatives	136	3.68		
High cost of alternatives	128	3.46		
Lack of knowledge about alternatives	129	3.49		
Inefficient community design	115	3.11		
Potential disruption of supplies	111	3.00		
Health concerns due to emissions	123	3.32		
Urban sprawl	123	3.32		
Other	16	0.43		
Question 5 – Most important state energy challenges and opportunities? (High=4, Med=3, Low=2, NC=1, No Response=0)		Mean Score		
Expand public transit	129	3.49		
Make transit more convenient	127	3.43		
Provide more bikeways and sidewalks	116	3.14		
Use more solar energy	137	3.70		
Build more energy efficient home	142	3.84		
Plan communities to require less travel	126	3.41		
Educate consumers about energy efficient products	130	3.51		
Build fewer power plants	99	2.68		
Build more power plants	72	1.95		
Bring more sustainable sources into everyday use	135	3.65		
Make energy saving products more readily available	133	3.59		
Have government lead by example	134	3.62		
Establish conservation incentives for building construction	141	3.81		
Establish conservation incentives for community development	131	3.54		
Establish conservation incentives for appliance efficiency	133	3.59		
Establish conservation incentives for pollution control	133	3.59		
Other	52	1.41		
Question 7 – Visited energy project Web site? (Point per Response = 1)		Percentage		
Yes	14	37.84%		
No	23	62.16%		
No Response	0	0.00%	Check 100.00%	

Question 8 – Like to receive electronic updates? (Point per Response = 1)				
Yes	28	75.68%		
No	7	18.92%		
No Response	2	5.41%	Check 100%	
Question 9 (Point per Response = 1)		Percentage		
Yes	24	64.86%		
No	6	16.22%		
No Response	7	18.92%	Check 100%	

SURVEY COMMENTS

1 – Which roles apply to you?
1. Professor/ Grad Prog. In Public Mgt.
2. Real Estate Professional/ Artist
3. Health care professional
4. Environmental Educator
5. Local government attorney - private practice
6. Bank Director
7. Educator
6. State University
9. Co-chair Brown County Green Party
Question 2 – Why did you attend this workshop?
1. Renewables and real estate policy
2. Concerned about proposed natural gas pipelines.
3. Promote energy research.
4. Learn about solar power opportunities for my home/ office.
Question 3 – Most important considerations?
1. Creating a regulatory framework that enables an economically viable entity to capture returns on investment in Energy Efficiency Bank. Implementation on a Regional level.
2. Educating public of & public paying TRUE cost of energy production (including environmental impacts)
3. Limiting growth
4. Increase supply-side and demand-side efficiency.
5. Implementing sustainable energy sources/ uses
6. Ensuring available energy. Ensuring we have an all-Florida Integrated Energy Plan.
Question 4 – Which issues are concern from quality of life standpoint?
1. Lack of attractive transportation choices.
2. Mandatory appliance efficiency codes. No new transmission corridors.
3. limited requirements on building efficiencies
4. energy efficiency codes
5. Lack of consumer knowledge about energy alternatives is now a "High." It was lower before

seeing this presentation.
6. Current energy costs are too cheap!!
7. "Rigged Game" by PSC is anti-consumer (e.g., prohibitor of solar water heater program by utilities).
Question 5 – Most important state energy challenges and opportunities?
1. Health impacts Higher café standards
2. Have energy codes/ legislation implemented as intended, rather than being circumvented by loopholes. Implement Smart Growth Initiatives
3. Limit growth & population density & automobiles, like in Hawaii.
4. Energy supply (diversity & fuel sources) Role of renewables in supply
5. Enhance/ increase efficiency of the state's power plants. Increase efficiency and _____ing of the Florida transmission grid.
6. Require land development to include natural gas. Marketing to influence consumer choice.
7. Home Improvements Tree planting
8. Develop/ adopt energy standards for buildings (commercial & residential).
9. Reformation of the FL PSC to shift emphasis away from protecting utility company revenues to sustainable energy system development.
10. Educate the public on conservation and energy efficiency.
11. Environmental protection Punitive measure for energy profligacy.
12. Health/ environmental costs due to dependence on petroleum.
13. Public Benefits Fund for Florida Broward County Solar Energy Projects
Question 6 – Other comments or suggestions?
1. We need to address growth since growth causes increased demand for energy. Growth is controlled by adhering to the State Comprehensive Plan.
2. Expand hands-on within pusic tower techniques of solar equipment and techniques with public for .
3. Funding Source: Impact fee based on amount of carbon produced by the primary source.
4. The Taxpayer needs to be aware of where all tax base money that goes to Power Companies.
5. clear, enforceable implementation (Hol)
6. The development of market-based incentives for energy efficient building construction should be a top priority.
7. Develop a curriculum for elementary, middle & high schools to educate students about ways to save energy.
8. Florida's 11 public universities offer an opportunity to expand research in energy issues.
9. Thank you for this seminar. It was very educational for me. I'm going to buy seven \$4.00 fluorescent light bulbs today.
Question 9 – Like to have future involvement? Comments?
1. I hope this energy policy has more impact than the current Comprehensive Land Use Planning policies.
2. As the state grows in population, the energy demands are great.
3. clear., enforceable implementation
4. It depends upon what issues are addressed in the Plan.
5. Undecided.

- | | |
|----|--|
| 6. | Research ways to improve regional (multi-county) energy initiatives. Consider using the same multi-county regions as Enterprise Florida and FDOT's Strategic Intermodal Plan. |
| 7. | This was a very good workshop. How about a field trip to visit successful solar installations?> Or a "do-it-yourself" or contractor information workshop for solar? For consumers? |

PRIORITY ISSUES

Score	
10	Stricter growth management and land use planning (to slow growth) by local government
7	Encourage renewable generating technologies including waste to energy
7	Implementation of Energy Plan on regional basis (Empower regions)
6	Make public transportation more reliable and available
6	Maximize use of solar through incentives and grants
5	Clarify supply side goals of the Florida Energy Plan
5	Create a regulatory framework for energy efficiency banks
5	Punitive measures for energy waste (buildings, cars, etc.)
5	Transparent, long-term planning process for primary energy and fuel supply
5	Total cost accounting for all externalities
5	Government facilities should set example including fleets and operations
5	Mandatory appliance efficiency codes (more stringent and new appliances)
5	Educate (formal & informal) public about conservation and efficiency and renewables
4	Impact fee built into electric rate
4	Net metering
4	NG pipelines should come in from north
4	Identify most inefficient users of energy-impose user fee for top 25%
3	Immediate cessation of grandfathering and waivers to power plant environmental improvements
3	State and national on energy alternative, especially ocean energy
2	Enhance and protect supply side reliability and security
2	Creation of meaningful market-based incentives for commercial buildings (for developer & user)
2	Implement current law as intended to accomplish legislative goal
2	Enhanced market transformation for energy efficiency and renewables
2	Create a carbon tax on (impact fee) source of use
2	Concern about NG - source and cost for new power plants
2	Consumer information on total costs-appliance and energy (life cycle)
2	Florida Energy Policy is rigged wants access to solar energy (subsidized)
2	Account for environmental costs
1	Rename the FEP
1	State facilities standards are applied to subsidized projects
1	Emphasize mass transit development
1	Stronger CAFÉ standards
1	Educate public officials (P&Z boards)
1	Tax credits to manufacturers of renewables and rebates to users
1	Local jurisdiction over energy system decisions (siting, etc.)
0	Want modern information from utilities
0	Enhanced marketing programs for retail market

0	Better energy use of sewage treatment
0	Gear Energy Plan toward quality of life
0	Wants info on energy subsidies (conventional)

WORKSHOP 5

LAKE CITY, NORTH CENTRAL FLORIDA REGIONAL PLANNING COUNCIL

NUMBER OF PARTICIPANTS

16 signed in; 11 completed surveys.

COMPOSITION

Question 1 – Which roles apply to you?* (Point per Response = 1)		% of Respondents	Responses	% of Responses
Civic Leader	0	0.00%	13	0.00%
Local Government Official	0	0.00%	13	0.00%
Citizen Activist	3	27.27%	13	23.08%
Government Employee	3	27.27%	13	23.08%
Energy Professional	4	36.36%	13	30.77%
Planner	1	9.09%	13	7.69%
Concerned Citizen	1	9.09%	13	7.69%

*Additional roles can be found below in Comments.

SURVEY RATINGS

Question 2 – Why did you attend this workshop? (Point per Response = 1)		% of Respondents	Responses	Percentage
Learn more about energy	3	27.27%	20	15.00%
Find out more about the Florida Energy Plan	8	72.73%	20	40.00%
Offer comments	3	27.27%	20	15.00%
Monitor for my organization	6	54.55%	20	30.00%
Came for RPC mtg., stayed for energy	0	0.00%	20	0.00%
Other	0	0.00%	20	0.00%
Question 3 – Most important considerations? (Point per Response = 1)		% of Respondents	Responses	Percentage
Saving Energy	4	36.36%	37	10.81%
Reducing fuel imports	2	18.18%	37	5.41%
Providing alternative energy resources	4	36.36%	37	10.81%
Reducing the cost of government	2	18.18%	37	5.41%
Protecting the environment	8	72.73%	37	21.62%
Education the public	3	27.27%	37	8.11%
Creating jobs	0	0.00%	37	0.00%
Stimulating the economy	1	9.09%	37	2.70%
Ensuring affordable energy	7	63.64%	37	18.92%
Empowering people & communities	1	9.09%	37	2.70%
Increasing consumer self reliance	0	0.00%	37	0.00%

Safeguarding the State against emergencies	3	27.27%	37	8.11%
Other	2	18.18%	37	5.41%
Question 4 – Which issues are concern from quality of life standpoint? (High=4, Med=3, Low=2, NC=1, No Response=0)		Mean Score		
Traffic congestion	33	3.00		
Air pollution	35	3.18		
Current energy costs	34	3.09		
Future energy costs	38	3.45		
Dependence on foreign oil	40	3.64		
Water pollution	34	3.09		
Limited access to alternatives	36	3.27		
High cost of alternatives	34	3.09		
Lack of knowledge about alternatives	34	3.09		
Inefficient community design	34	3.09		
Potential disruption of supplies	41	3.73		
Health concerns due to emissions	33	3.00		
Urban sprawl	29	2.64		
Other	4	0.36		
Question 5 – Most important state energy challenges and opportunities? (High=4, Med=3, Low=2, NC=1, No Response=0)		Mean Score		
Expand public transit	31	2.82		
Make transit more convenient	32	2.91		
Provide more bikeways and sidewalks	28	2.55		
Use more solar energy	35	3.18		
Build more energy efficient home	41	3.73		
Plan communities to require less travel	30	2.73		
Educate consumers about energy efficient products	41	3.73		
Build fewer power plants	22	2.00		
Build more power plants	31	2.82		
Bring more sustainable sources into everyday use	38	3.45		
Make energy saving products more readily available	37	3.36		
Have government lead by example	40	3.64		
Establish conservation incentives for building construction	41	3.73		
Establish conservation incentives for community development	38	3.45		
Establish conservation incentives for appliance efficiency	41	3.73		
Establish conservation incentives for pollution control	37	3.36		
Other	4	0.36		
Question 7 – Visited energy project Web site? (Point per Response = 1)		Percentage		
Yes	4	36.36%		
No	5	45.45%	Check	

No Response	2	18.18%	100%	
Question 8 – Like to receive electronic updates? (Point per Response = 1)		Percentage		
Yes	4	36.36%		
No	3	27.27%		
No Response	4	36.36%	Check 100%	
Question 9 – Like to have future involvement? (Point per Response = 1)		Percentage		
Yes	5	45.45%		
No	2	18.18%		
No Response	4	36.36%	Check 100%	

SURVEY COMMENTS

Question 1 – Which roles apply to you?

1. Window manufacturing

Question 3 – Most important considerations?

1. Encourage Florida sources of renewable energy (e.g., waste heat)
2. Lower speed limits

Question 4 – Which issues are concern from quality of life standpoint?

1. Making energy costs competitive for industry, to allow economic development
2. Lower speed

Question 5 – Most important state energy challenges and opportunities?

1. Encourage Florida sources of renewable energy (e.g., waste heat)
2. Re: 5k (Build more power plants): distributed
3. Building Construction

Question 6 – Other comments or suggestions?

1. The Florida Energy Plan needs a specific focus in order to have a reasonable chance of success. Since it is not trying to address all supply issues for all users (consumers, commercial & industrial), it needs a more targeted name for the plan.

Question 9 – Like to have future involvement? Comments?

1. FICA & FIPUG are two Florida industrial groups that represent Florida's largest energy users. They would like to be involved in the development of any new programs, to offer constructive input based on decades of ratepayer experience.
2. Lower speed limit
3. The need to address building construction to reduce temperature in homes. Eliminate single glazing on windows and use insulated glass with lowe(?)

PRIORITY ISSUES:

Score	
6	Energy education on efficiency

4	Energy efficient building standards
4	Lower speed limits
4	Sales tax exemption week for energy efficiency
3	Qualified reflective roof coatings
3	Solar on govt/school buildings
2	Adoption of appliance standards
2	Cleaner fuel
2	Greater mpg (CAFÉ)
2	Sales tax exempt for high efficiency ac replace
2	Incentives to industry for potential energy savings biofuels, waste heat
	Mandate solar heating in new homes and provide significant incentives for retrofits for existing houses
2	Promote residential grid-tied PV and reduce utility barriers
2	Encourage megawatts by demand response rate-making
2	Develop nuclear energy resources
2	R& D for waste disposal and melt down
2	Investment incentives for renewables
1	Reduced number of lights on highways
1	Synch/reduce traffic lights
1	Stricter enforcement of traffic regs
1	Sales tax exempt for high efficiency motors
1	Give incentives for Florida energy efficiency industries
1	Waste wood/bio-fuel
1	Encourage PV for homes
1	Incentives for residents/business (tax credits, etc.)
0	Require passive solar design
0	Solar power
0	Light system retrofits
0	Energy efficient buildings/schools/government
0	State energy plan with mass buy in
0	Add flat demand charge in summer for ECCR funds
0	Govt buildings use timer/programmable thermostats
0	Govt based buildings use efficient lighting
0	Use solar for all appliances
0	Reduce cost/write downs for energy efficient products
0	Incentives for lighting industry and life cycle costs education
0	Encourage FC for transportation
0	Incorporate biomass generation in state mix

WORKSHOP 6

STUART, TREASURE COAST REGIONAL PLANNING COUNCIL

NUMBER OF PARTICIPANTS

33 signed in; 25 completed surveys.

COMPOSITION

Question 1 – Which roles apply to you?* (Point per Response = 1)		% of Respondents	Responses	% of Responses
Civic Leader	3	12.00%	34	8.82%
Local Government Official	0	0.00%	34	0.00%
Citizen Activist	8	32.00%	34	23.53%
Government Employee	1	4.00%	34	2.94%
Energy Professional	8	32.00%	34	23.53%
Planner	1	4.00%	34	2.94%
Concerned Citizen	8	32.00%	34	23.53%
Other	5	20.00%	34	14.71%

*Additional roles can be found below in Comments.

SURVEY RATINGS

Question 2 – Why did you attend this workshop? (Point per Response = 1)		% of Respondents	Responses	Percentage
Learn more about energy	5	20.00%	47	10.64%
Find out more about the Florida Energy Plan	23	92.00%	47	48.94%
Offer comments	10	40.00%	47	21.28%
Monitor for my organization	8	32.00%	47	17.02%
Came for RPC mtg., stayed for energy	0	0.00%	47	0.00%
Other	1	4.00%	47	2.13%
Question 3 – Most important considerations? (Point per Response = 1)		% of Respondents	Responses	Percentage
Saving Energy	13	52.00%	78	16.67%
Reducing fuel imports	8	32.00%	78	10.26%
Providing alternative energy resources	18	72.00%	78	23.08%
Reducing the cost of government	2	8.00%	78	2.56%
Protecting the environment	10	40.00%	78	12.82%
Education the public	5	20.00%	78	6.41%
Creating jobs	1	4.00%	78	1.28%
Stimulating the economy	4	16.00%	78	5.13%
Ensuring affordable energy	3	12.00%	78	3.85%
Empowering people & communities	5	20.00%	78	6.41%
Increasing consumer self reliance	2	8.00%	78	2.56%
Safeguarding the State against emergencies	0	0.00%	78	0.00%

Other	7	28.00%	78	8.97%
Question 4 – Which issues are concern from quality of life standpoint? (High=4, Med=3, Low=2, NC=1, No Response=0)		Mean Score		
Traffic congestion	85	3.40		
Air pollution	90	3.60		
Current energy costs	80	3.20		
Future energy costs	87	3.48		
Dependence on foreign oil	87	3.48		
Water pollution	89	3.56		
Limited access to alternatives	88	3.52		
High cost of alternatives	76	3.04		
Lack of knowledge about alternatives	84	3.36		
Inefficient community design	78	3.12		
Potential disruption of supplies	73	2.92		
Health concerns due to emissions	85	3.40		
Urban sprawl	83	3.32		
Other	8	0.32		
Question 5 – Most important state energy challenges and opportunities? (High=4, Med=3, Low=2, NC=1, No Response=0)		Mean Score		
Expand public transit	78	3.12		
Make transit more convenient	78	3.12		
Provide more bikeways and sidewalks	77	3.08		
Use more solar energy	77	3.08		
Build more energy efficient home	90	3.60		
Plan communities to require less travel	79	3.16		
Educate consumers about energy efficient products	79	3.16		
Build fewer power plants	63	2.52		
Build more power plants	42	1.68		
Bring more sustainable sources into everyday use	88	3.52		
Make energy saving products more readily available	88	3.52		
Have government lead by example	91	3.64		
Establish conservation incentives for building construction	84	3.36		
Establish conservation incentives for community development	84	3.36		
Establish conservation incentives for appliance efficiency	80	3.20		
Establish conservation incentives for pollution control	87	3.48		
Other	12	0.48		
Question 7 – Visited energy project Web site? (Point per Response = 1)		Percentage		
Yes	10	40.00%		
No	15	60.00%	Check	
No Response	0	0.00%	100%	

Question 8 – Like to receive electronic updates? (Point per Response = 1)		Percentage		
Yes	18	72.00%		
No	7	28.00%		
No Response	0	0.00%	Check 100%	
Question 9 – Like to have future involvement? Comments? (Point per Response = 1)		Percentage		
Yes	17	68.00%		
No	8	32.00%		
No Response	0	0.00%	Check 100%	

SURVEY COMMENTS

Question 1 – Which roles apply to you?
1. Health Ed – American Lung Association
2. Tech Student
3. Public Utility Employee
4. Business community
5. NG utility
Question 2 – Why did you attend this workshop?
1. Representing client
2. Had to leave due to prior commitment
Question 3 – Most important considerations?
1. Law-making people benefit monetarily by being energy efficient.
2. Enforce existing Florida laws re: energy
3. Green energy pricing
4. Protecting the environment & the people
5. Reduce pollution.
6. Safeguarding the State against emergencies – Transmission
7. Reducing CO ₂ emissions
8. Developing a realistic plan that can be embraced.
9. Providing alternative energy resources – solar Plant trees.
Question 4 – Which issues are concern from quality of life standpoint?
1. g) limited access to energy alternatives (MSW, cogeneration)
2. m) urban sprawl – Public oversight Transmission
3. Supply/ demand for potable water
Question 5 – Most important state energy challenges and opportunities?
1. Pay to consume back for effort. Federal Government Manhattan Project
2. Harvesting Energy of Gulf Stream

3. Expand public transit – Most will not use.
4. Prohibit urban sprawl.
5. Build more/ fewer power plants – Don't Know - depends on other factors

Question 6 – Other comments or suggestions?

1. Will make through Web site.
2. Look to Gulf Stream generation.
3. Would like to see large public and private sector employers participant in commute trip reduction of single occupant vehicles and vehicle miles traveled through provision of Transportation Demand Management Incentives and other strategies.
4. Incentives for “off the grid”
5. Enforce energy code requirements at the Final Product, not just at the permit state (New Home Construction Market)
6. Give power back to the people, not the corporate/ development public, & remove the threat of financial ruin when the little guys speak up. The politicians go with big money.

Question 9 – Like to have future involvement? Comments?

1. Am glad to see the use being made of the Internet to do this.
2. Harvesting Energy of Gulf Stream
3. Completing a study on the benefits and costs of mandatory commute trip reduction programs. May provide useful input.

PRIORITY ISSUES

Score	
7	FPL needs to embrace renewables
5	Do more to encourage renewable energy (including MSW)
5	Open access for DG
4	Require grandfathered plants for under clean air act
4	Prohibit urban sprawl
4	Harvest energy of Gulf stream
4	Fuel efficient vehicles
3	More nuclear and re-use spent fuel rods
3	Restore home rule in matters under FERC jurisdiction
3	More local and state power to review power plant siting (including cogenerators)
3	Drive hybrid cars
2	Incentives for off-grid PV
2	Look at large scale storage of energy
2	Deregulation
2	Require renewables and efficiency be considered in generation planning
2	Needs better marketing of hybrid vehicles
2	Public Counsel role be changed to represent only residential class of utility customer
2	Bring back tax incentives and utility incentives
2	More research into other forms of renewables (wind, etc.)
1	Enforce rules and regulations in place now
1	Independent operator for transmission (needs public input)
1	Green pricing
1	More large private and public employer driven reduction in VMT
1	Progressive alternative fuels program
1	Need a "Manhattan Project" for energy

1	Plant trees
1	Cheap energy policy needs to be changed
1	Be pro-active, make efficiency a priority
1	PSC needs to implement laws as intended by legislative
0	Make better use of water and sun
0	Energy efficient rebates through insurance
0	Need for reliable cost effective environmentally friendly generation
0	Better information about gas transmission lines
0	Better notice of renewal of Title V air permits
0	More education for energy professionals
0	Truly empower the public by removing roadblocks
0	More local initiatives
0	Pollution credits should be eliminated
0	Concerns about fuel diversity and security

WORKSHOP 7

TALLAHASSEE, APALACHEE REGIONAL PLANNING COUNCIL

NUMBER OF PARTICIPANTS

10 signed in (15 were present); 0 completed surveys

PRIORITY ISSUES

Issues and scores identified through the facilitated public input process were:

Score	
7	Reliable affordable electricity with recognition to balancing environmental and economic
5	Greater use of biomass resources
5	Grants/incentives to local government to support low income consumers to make energy efficiency choices, e.g., CFL purchases that cost more up front but dramatically reduce operation costs
3	Consumer research and advertising/ease of purchase for energy efficiency products
3	Energy leadership priority
2	Recognition of carbon cycle and more energy/environmental economic factors
2	Lessen energy use in buildings informed building operators and consumers
2	Consumer friendly, easy to use mass transit system
2	Better design and operation/management of building energy use
2	Distributed generation
1	More electric generation from biomass
1	Cost effectiveness in consumer choice information
1	Greater emphasis on achieving energy efficiency
0	Update and manage energy users
0	Stable funding for FEO
0	Florida get fair share of all FEO funds
0	Relook/ expand SWAP e.g. add solar/options to low income programs
0	Review WAD level of funding for individual homes

PUBLIC COMMENTS

General Comments

1. Florida energy numbers should be compared with those of the rest of the nation.

Facilitator response that Florida is different than other states and thereby difficult to compare, that Florida is growing faster than any other state in the nation.

2. Look at the number of cars owned per family, and also compare that with other states.

Targeted Comments

The facilitator asked that each person take a turn to state what is their most important issue or action that they think needs to be taken. A project recorder translated the comments into the above-outlined “Priority Issues”.

1. Increased energy demands due to population growth are significant. Small diameter wood, biomass resources are available and need to be taken advantage of in Florida. Other countries are doing this successfully, including biomass generation and cogeneration. We also need to make it beneficial to utilities to tap these resources.
2. Some argue against biomass because it puts CO₂ into the atmosphere. However, fossils fuels put out 150 million years worth of accumulated, concentrated carbon emissions, and do so in a very short period of time, as opposed to biomass that is recently harvested and does not reflect that build up. People need to be educated about this so that they understand the comparative effect.
3. What could we do about energy use in Florida buildings? People buy a house and they don't know about the various energy considerations.
4. The 2020 Energy Commission emphasized cost effectiveness. The Governor's quote about “a kilowatt saved is a kilowatt earned” isn't a good one. A consumer can spend a lot of money improving a house with energy features when consuming the electric power may have been the better choice cost-wise. The ultimate arbiter of the energy choices we make as a society is the market price. Research is critical but it's not always a function of information or spending more money on an approach. The microwave oven prevailed not because it was an energy saving device but because it was convenient to consumers. Having information is not a panacea.
5. Cars need to be consumer friendly. The same with other energy alternatives, whether efficient light bulbs, solar panels, or hybrid vehicles. It's difficult for the consumer to tell where to even find a solar collector much less to make a decision on buying one, including convincing family members that it's a good thing to do (like in the case of the solar collector, that it looks different). Energy alternatives need to look good, feel good and be good.
6. Timber is an under-utilized renewable energy resource. We also need mass transit that's easy and consumer friendly.
7. Better energy management is needed, instead of improper and overuse of equipment, inadequate insulation, costly heating and cooling losses, etc. It's hard to know how to get there, such as getting people to switch to more expensive cars that are energy efficient when they can just use their old car without paying more. It's also concerning to drive by so many buildings at night and see the lights on when no one is there.

8. An enormous growth in electric demand has been projected for Florida, along with significant water requirements and a whole host of side effects. Energy efficiency standards are needed for appliances and others products in the marketplace. We need to follow a vision focused less on the centralized power grid and more on distributed energy. Energy needs to be a priority with state policy makers. More funding is also needed for the Florida Energy Office. There needs to be an emphasis on renewable energy sources. There is a proposal before the Governor right now on appliance efficiency.
9. Most of the people who have spoken thus far come from the perspective of consumers who own their own homes and businesses. I'm here on behalf of low-income people, who usually rent their homes and have no control over their facilities or appliances. These people are living from financial crisis to financial crisis and cannot afford to have energy costs go up. Grant programs are needed to help people more to increase conservation. The low-income person can't think about buying a \$4 light bulb when their thoughts are on having the 50 cents they need to ride the bus. Grants are needed plus other incentives to local governments in order to provide the resources for low-income people to implement energy efficiency in their homes.
10. Energy conservation is important, including the low-income issues that have been raised. And it doesn't stop there. Action is needed with and by higher income people as well. Example cited of person who bought a home and the utility bills were too high. They went into the attic and found a large hole where the conditioned space was being blown to the outside. The City could have someone go around and check for these things (energy audit). They need the (code) enforcement authority and the ability to go around and assist people. Even if energy was still cheap, why wouldn't you want to save it anyway.
11. A lot of people don't realize that there are a lot of programs for weatherization. Many low-income families depend on these programs. We need a policy and government leadership so that Florida gets its fair share of these federal dollars, in order to address these needs in our state.
12. Next Person: Just monitoring, no comments
13. Ten years ago a news clip from California read that new housing starts were being required to include solar. We need these kinds of steps here while at the same time the acknowledgement that not everyone can afford such measures . . . [Refer to Tape]
14. [Refer to Tape]. . . the dollar limit needs to be increased. \$2,500 per unit is not enough.

15. The City does still have a program. It offers energy audits at no charge, and also sponsors a low-interest loan program.

WORKSHOP 8

JACKSONVILLE, NORTHEAST FLORIDA REGIONAL PLANNING COUNCIL

NUMBER OF PARTICIPANTS

24 signed in; 16 completed surveys.

COMPOSITION

Question 1 – Which roles apply to you?* (Point per Response = 1)		% of Respondents	Responses	% of Responses
Civic Leader	2	12.50%	23	8.70%
Local Government Official	2	12.50%	23	8.70%
Citizen Activist	3	18.75%	23	13.04%
Government Employee	4	25.00%	23	17.39%
Energy Professional	6	37.50%	23	26.09%
Planner	0	0.00%	23	0.00%
Concerned Citizen	4	25.00%	23	17.39%
Other	2	12.50%	23	8.70%

*Additional roles can be found below in Comments.

SURVEY RATINGS

Question 2 – Why did you attend this workshop? (Point per Response = 1)		% of Respondents	Responses	Percentage
Learn more about energy	4	25.00%	34	11.76%
Find out more about the Florida Energy Plan	13	81.25%	34	38.24%
Offer comments	9	56.25%	34	26.47%
Monitor for my organization	7	43.75%	34	20.59%
Came for RPC mtg., stayed for energy	0	0.00%	34	0.00%
Other	1	6.25%	34	2.94%
Question 3 – Most important considerations? (Point per Response = 1)		% of Respondents	Responses	Percentage
Saving Energy	6	37.50%	47	12.77%
Reducing fuel imports	2	12.50%	47	4.26%
Providing alternative energy resources	9	56.25%	47	19.15%
Reducing the cost of government	2	12.50%	47	4.26%
Protecting the environment	5	31.25%	47	10.64%
Education the public	7	43.75%	47	14.89%
Creating jobs	2	12.50%	47	4.26%
Stimulating the economy	1	6.25%	47	2.13%
Ensuring affordable energy	4	25.00%	47	8.51%
Empowering people & communities	2	12.50%	47	4.26%
Increasing consumer self reliance	3	18.75%	47	6.38%
Safeguarding the State against emergencies	0	0.00%	47	0.00%
Other	4	25.00%	47	8.51%

Question 4 – Which issues are concern from quality of life standpoint? (High=4, Med=3, Low=2, NC=1, No Response=0)		Mean Score		
Traffic congestion	53	3.31		
Air pollution	56	3.50		
Current energy costs	49	3.06		
Future energy costs	50	3.13		
Dependence on foreign oil	50	3.13		
Water pollution	53	3.31		
Limited access to alternatives	53	3.31		
High cost of alternatives	44	2.75		
Lack of knowledge about alternatives	53	3.31		
Inefficient community design	53	3.31		
Potential disruption of supplies	47	2.94		
Health concerns due to emissions	53	3.31		
Urban sprawl	42	2.63		
Other	4	0.25		
Question 5 – Most important state energy challenges and opportunities? (High=4, Med=3, Low=2, NC=1, No Response=0)		Mean Score		
Expand public transit	42	2.63		
Make transit more convenient	39	2.44		
Provide more bikeways and sidewalks	44	2.75		
Use more solar energy	56	3.50		
Build more energy efficient home	57	3.56		
Plan communities to require less travel	50	3.13		
Educate consumers about energy efficient products	58	3.63		
Build fewer power plants	44	2.75		
Build more power plants	30	1.88		
Bring more sustainable sources into everyday use	54	3.38		
Make energy saving products more readily available	57	3.56		
Have government lead by example	55	3.44		
Establish conservation incentives for building construction	59	3.69		
Establish conservation incentives for community development	52	3.25		
Establish conservation incentives for appliance efficiency	55	3.44		
Establish conservation incentives for pollution control	55	3.44		
Other	8	0.50		
Question 7 – Visited energy project Web site? (Point per Response = 1)		Percentage		
Yes	10	62.50%		
No	6	37.50%	Check	
No Response	0	0.00%	100%	
Question 8 – Like to receive electronic updates? (Point per Response = 1)		Percentage		

Yes	14	87.50%		
No	2	12.50%		
No Response	0	0.00%	Check 100%	
Question 9 – Like to have future involvement? (Point per Response = 1)		Percentage		
Yes	12	75.00%		
No	4	25.00%		
No Response	0	0.00%	Check 100%	

SURVEY COMMENTS

Question 1 – Which roles apply to you?
1. Educator
2. Business Leader
Question 2 – Why did you attend this workshop?
1. Democracy at work
2. Monitor for Sierra Club
Question 3 – Most important considerations?
1. Make real energy costs (internal AND external) apparent to citizens so that alternatives stand a chance economically.
2. Reliability of energy supply.
3. Educating the builders. Reduce energy subsidies.
Question 4 – Which issues are concern from quality of life standpoint?
1. Current and future energy costs, including external costs.
2. Concern for the knowledge limitations of our local and state elected officials.
Question 5 – Most important state energy challenges and opportunities?
1. Start integrating hydrogen as renewable energy alternative to fossil fuels.
2. Expand trolley and bus public transit.
3. Local elected officials must learn to say no to developers when no need exists. Better community planning allowing for more green space for parks and silvaculture and agriculture.
Question 6 – Other comments or suggestions?
1. Make it the most comprehensive, effective, environmentally-friendly plan in the nation! Let's set the precedent!
2. Good presentation/ information.
3. Slide presentation needs to be available as a handout.
Question 9 – Like to have future involvement? Comments?
1. Whatever it takes.
2. I am interested helping promote hybrid car usage, energy-efficient lighting, solar water heating, and Green Building Coalition.
3. Time is limited.

4. Yes, if JEA can continue to assist, contact me or our legislative dept. (Bud Para/ Berdell Knowles)

PRIORITY ISSUES

Scored	
7	Conventional energy subsidies are a problem reduce or level the playing field
7	Educate builders, provide builders with consumer infor on energy efficiency
6	Mandate solar water heating in new construction
5	Promote solar energy use
4	More K-16 energy education
3	Simplified regulator structure for energy
3	Hydrogen as an energy carrier in an integrated transportation and electrical system
3	Add 6¢ to gasoline tax (FL = 14¢; US = 20¢; 4¢ → alternate fuel subsidies)
2	Greater use of natural gas
2	Affordable energy
2	Focus on immediate efficiency measures
2	Resume vehicle emissions testing
2	Conservation and solar awareness needs to be increased
2	Public Benefit Fund from gas as well as electric utilities
2	Reward program for users of renewable energy
2	Require higher motor vehicle registration fee for inefficient vehicles
2	Devote state tax dollars to an energy awareness campaign
1	Promote esp. residential
1	Promote alternate energy for heating and transporation
1	Promote alternate fuels
1	Energy star ratings for water heaters/allow FL to establish standard
1	Local decisions to reduce growth
1	Additional funding and support for renewables esp. ocean and wind
1	Better infrastructure for alternate fueled vehicles
1	Require a renewable portfolio standard that is inclusive
0	Pipelines convertible pipelines (gas and hydrogen)
0	Increase FEO resources by Public Benefits Fund
0	Want a more window friendly energy code stricter solar heat gain
0	No offshore drilling for oil
0	15-20% tax on energy use in buildings and dedicate to efficiency and renewables
0	Publish the cornerstone report of clean fuels advisory committee
0	Change the way we insulate ceilings
0	Educate builders on benefits of gutters
0	Sustainable building practices to consume water

WORKSHOP 9

BARTOW, CENTRAL FLORIDA REGIONAL PLANNING COUNCIL

NUMBER OF PARTICIPANTS

14 signed in; 13 completed surveys.

COMPOSITION

Question 1 – Which roles apply to you?* (Point per Response = 1)		% of Respondents	Responses	% of Responses
Civic Leader	0	0.00%	20	0.00%
Local Government Official	2	15.38%	20	10.00%
Citizen Activist	2	15.38%	20	10.00%
Government Employee	5	38.46%	20	25.00%
Energy Professional	4	30.77%	20	20.00%
Planner	1	7.69%	20	5.00%
Concerned Citizen	5	38.46%	20	25.00%
Other	1	7.69%	20	5.00%

*Additional roles can be found below in Comments.

SURVEY RATINGS

Question 2 – Why did you attend this workshop? (Point per Response = 1)		% of Respondents	Responses	Percentage
Learn more about energy	6	46.15%	29	20.69%
Find out more about the Florida Energy Plan	7	53.85%	29	24.14%
Offer comments	4	30.77%	29	13.79%
Monitor for my organization	9	69.23%	29	31.03%
Came for RPC mtg., stayed for energy	2	15.38%	29	6.90%
Other	1	7.69%	29	3.45%
Question 3 - Most important considerations? (Point per Response = 1)		% of Respondents	Responses	Percentage
Saving Energy	5	38.46%	39	12.82%
Reducing fuel imports	4	30.77%	39	10.26%
Providing alternative energy resources	6	46.15%	39	15.38%
Reducing the cost of government	0	0.00%	39	0.00%
Protecting the environment	8	61.54%	39	20.51%
Education the public	9	69.23%	39	23.08%
Creating jobs	0	0.00%	39	0.00%
Stimulating the economy	1	7.69%	39	2.56%
Ensuring affordable energy	2	15.38%	39	5.13%
Empowering people & communities	0	0.00%	39	0.00%
Increasing consumer self reliance	1	7.69%	39	2.56%
Safeguarding the State against emergencies	2	15.38%	39	5.13%

Other	1	7.69%	39	2.56%
Question 4 – Which issues are concern from quality of life standpoint? (High=4, Med=3, Low=2, NC=1, No Response=0)		Mean Score		
Traffic congestion	42	3.23		
Air pollution	41	3.15		
Current energy costs	38	2.92		
Future energy costs	43	3.31		
Dependence on foreign oil	44	3.38		
Water pollution	46	3.54		
Limited access to alternatives	43	3.31		
High cost of alternatives	39	3.00		
Lack of knowledge about alternatives	46	3.54		
Inefficient community design	45	3.46		
Potential disruption of supplies	41	3.15		
Health concerns due to emissions	39	3.00		
Urban sprawl	42	3.23		
Other	4	0.31		
Question 5 – Most important state energy challenges and opportunities? (High=4, Med=3, Low=2, NC=1, No Response=0)		Mean Score		
Expand public transit	46	3.54		
Make transit more convenient	44	3.38		
Provide more bikeways and sidewalks	41	3.15		
Use more solar energy	44	3.38		
Build more energy efficient home	49	3.77		
Plan communities to require less travel	47	3.62		
Educate consumers about energy efficient products	44	3.38		
Build fewer power plants	32	2.46		
Build more power plants	35	2.69		
Bring more sustainable sources into everyday use	46	3.54		
Make energy saving products more readily available	48	3.69		
Have government lead by example	44	3.38		
Establish conservation incentives for building construction	49	3.77		
Establish conservation incentives for community development	47	3.62		
Establish conservation incentives for appliance efficiency	45	3.46		
Establish conservation incentives for pollution control	47	3.62		
Other	4	0.31		
Question 7 – Visited energy project Web site? (Point per Response = 1)		Percentage		
Yes	7	53.85%		
No	6	46.15%	Check	

No Response	0	0.00%	100%	
Question 8 – Like to receive electronic updates? (Point per Response = 1)		Percentage		
Yes	10	76.92%		
No	1	7.69%		
No Response	2	15.38%	Check 100%	
Question 9 – Like to have future involvement? (Point per Response = 1)		Percentage		
Yes	4	30.77%		
No	4	30.77%		
No Response	5	38.46%	Check 100%	

SURVEY COMMENTS

Question 1 – Which roles apply to you?
1. Reporter
Question 2 – Why did you attend this workshop?
1. Cover for <i>New-Sun</i> , Sebring
Question 3 – Most important considerations?
1. Water conservation in energy production.
Question 4 – Which issues are concern from quality of life standpoint?
1. Consumptive water use.
Question 5 – Most important state energy challenges and opportunities?
1. Make energy saving products less expensive. 2. Water conservation in energy production.
Question 6 – Other comments or suggestions?
1. PSC initiate rulemaking to address water demand/ sources information requirements (current lack of) in TYSP process.
Question 9 – Like to have future involvement? Comments?
1. I might offer input to individuals on a one-on-one basis, but my views are not newsworthy for any stories that I may write (<i>News-Sun</i> policy).

PRIORITY ISSUES

Score	
8	Expand alternative sources (FL) -- biomass, solar ocean electric production or alternative fuels
6	Educate public
5	Decisions made on cost effectiveness
3	New living patterns, TRPD neighborhood development

3	Smart cars on smart roads
3	Encourage/investigate/invest in distributed generation
2	Water usage in energy production -- information and conserve
2	High profile hydrogen project in Orlando area
2	Money into alternative transportation means
2	Mix of power plants -- not relying on natural gas -- especially look at nuclear
2	Gain, develop coalition of multiple groups on adoption of state energy policy and plan
2	Efficiencies at existing coal-???? Plants (e.g., incentives/credits equal renewable energy)
2	True cost of various energy sources
1	Government leadership show by example
1	Test/question assumptions -- show data and support
1	Increase capital for new energy technologies from all sources
1	Increase gas/other energy-based taxes and finance alternatives and offsetting tax decreases
1	Regulate merchant plants
1	New homes -- publicize 4-5 simple low cost/no cost changes
1	Trees and landscape energy saving technologies
1	Progressive rate structure for water and energy
0	Capture landfill gas for electric products
0	All utilities should offer energy efficiency programs
0	Technology development
0	Oil depletion leading to higher oil costs
0	Reliability -- assure PSC authority sufficient

WORKSHOP 10

ST. PETERSBURG, TAMPA BAY REGIONAL PLANNING COUNCIL

NUMBER OF PARTICIPANTS

42 signed in; 33 completed surveys.

COMPOSITION

Question 1 – Which roles apply to you?* (Point per Response = 1)		% of Respondents	Responses	% of Responses
Civic Leader	3	9.09%	49	6.12%
Local Government Official	2	6.06%	49	4.08%
Citizen Activist	7	21.21%	49	14.29%
Government Employee	6	18.18%	49	12.24%
Energy Professional	11	33.33%	49	22.45%
Planner	3	9.09%	49	6.12%
Concerned Citizen	12	36.36%	49	24.49%
Other	5	15.15%	49	10.20%

*Additional roles can be found below in Comments.

SURVEY RATINGS

Question 2 – Why did you attend this workshop? (Point per Response = 1)		% of Respondents	Responses	Percentage
Learn more about energy	10	30.30%	69	14.49%
Find out more about the Florida Energy Plan	23	69.70%	69	33.33%
Offer comments	21	63.64%	69	30.43%
Monitor for my organization	13	39.39%	69	18.84%
Came for RPC mtg., stayed for energy	0	0.00%	69	0.00%
Other	2	6.06%	69	2.90%
Question 3 – Most important considerations? (Point per Response = 1)		% of Respondents	Responses	Percentage
Saving Energy	13	39.39%	96	13.54%
Reducing fuel imports	7	21.21%	96	7.29%
Providing alternative energy resources	20	60.61%	96	20.83%
Reducing the cost of government	1	3.03%	96	1.04%
Protecting the environment	14	42.42%	96	14.58%
Education the public	8	24.24%	96	8.33%
Creating jobs	3	9.09%	96	3.13%
Stimulating the economy	5	15.15%	96	5.21%
Ensuring affordable energy	8	24.24%	96	8.33%
Empowering people & communities	5	15.15%	96	5.21%
Increasing consumer self reliance	2	6.06%	96	2.08%
Safeguarding the State against emergencies	1	3.03%	96	1.04%

Other	9	27.27%	96	9.38%
Question 4 – Which issues are concern from quality of life standpoint? (High=4, Med=3, Low=2, NC=1, No Response=0)		Mean Score		
Traffic congestion	123	3.73		
Air pollution	119	3.61		
Current energy costs	101	3.06		
Future energy costs	117	3.55		
Dependence on foreign oil	120	3.64		
Water pollution	124	3.76		
Limited access to alternatives	115	3.48		
High cost of alternatives	111	3.36		
Lack of knowledge about alternatives	116	3.52		
Inefficient community design	116	3.52		
Potential disruption of supplies	107	3.24		
Health concerns due to emissions	111	3.36		
Urban sprawl	113	3.42		
Other	12	0.36		
Question 5 – Most important state energy challenges and opportunities? (High=4, Med=3, Low=2, NC=1, No Response=0)		Mean Score		
Expand public transit	110	3.33		
Make transit more convenient	118	3.58		
Provide more bikeways and sidewalks	99	3.00		
Use more solar energy	112	3.39		
Build more energy efficient home	123	3.73		
Plan communities to require less travel	117	3.55		
Educate consumers about energy efficient products	113	3.42		
Build fewer power plants	84	2.55		
Build more power plants	81	2.45		
Bring more sustainable sources into everyday use	119	3.61		
Make energy saving products more readily available	121	3.67		
Have government lead by example	114	3.45		
Establish conservation incentives for building construction	117	3.55		
Establish conservation incentives for community development	115	3.48		
Establish conservation incentives for appliance efficiency	111	3.36		
Establish conservation incentives for pollution control	122	3.70		
Other	17	0.52		
Question 7 – Visited energy project Web site? (Point per Response = 1)		Percentage		
Yes	15	45.45%		
No	18	54.55%	Check	

No Response	0	0.00%	100.00%	
Question 8 – Like to receive electronic updates? (Point per Response = 1)		Percentage		
Yes	25	75.76%		
No	6	18.18%		
No Response	2	6.06%	Check 100.00%	
Question 9 – Like to have future involvement? (Point per Response = 1)		Percentage		
Yes	20	60.61%		
No	5	15.15%		
No Response	8	24.24%	Check 100.00%	

SURVEY COMMENTS

Question 1 – Which roles apply to you?
1. Local government official
2. Learned to be a planner
3. Academic
4. Consultant
5. Permaculture (sustainable) Design
6. Non-profit
7. Marketing consultant
Question 2 – Why did you attend this workshop?
1. Record workshop. (St.)
2. Co-sponsor workshop (St.)
Question 3 – Most important considerations?
1. Land use concentrate hr density & choices on mass transit corridor
2. Connect these homes to jobs.
3. Promote renewable energy including WTE.
4. Provide solar power.
5. Evaluating energy solutions from financial perspective (payback).
6. Encouraging MSW to Energy
7. built-in system
8. Do "some thing"
9. Increasing the capacity of the States WTE Facilities as a source of renewable energy
10. Coordination
11. Funding support
Question 4 – Which issues are concern from quality of life standpoint?
1. Lack of alternative Energy Fairs showcasing solar house building standards
2. Concerned about using nuclear and solid waste burn plants - hazard to environment
Question 5 – Most important state energy challenges and opportunities?

- | |
|--|
| 1. Changing county comprehensive plans to guide a variety of dense housing and job choices along proposed mass transit |
| 2. Provide incentives to rebuild decaying neighborhoods with above in mind. |
| 3. Create more landscaping with trees for parking lots, business community |
| 4. Stop more development of strip malls. |
| 5. Promote/ encourage telework |

Question 6 – Other comments or suggestions?

- | |
|---|
| 1. Energy efficiency and location of housing for the very poor and low-paying jobs need to be connected so can walk/ bike/ mass transit to jobs. Also, all developments need to have low, very low housing choices scattered near jobs. |
| 2. Florida needs to have legislation that requires solar and high efficiency A/C when these products provide positive cash flow when compared to cost of mortgage. |
| 3. Intelligent solar energy and have it made affordable to the public. All government buildings should reduce, reuse, recycle resources and have solar power, be the model for the community. |
| 4. Making more stringent CAFÉ standards for cars sold in Florida. Stricter enforcement of rates, and stricter language against pollution in any new laws written. |
| 5. Start the workshop with how far we have come. My puto/ suto??? Travels 3X as far on a gallon of gas today. My home & heating costs are 1/2. |

Question 9 – Like to have future involvement? Comments?

- | |
|--|
| 1. If I can squeeze it in my schedule. |
| 2. I have worked in Solar & Air Conditioning field for over 20 years. As elected County Commissioner, I would be available to work with other elected officials. |
| 3. I would like to be involved in any epidemiological studies and in alternative energy issues. |
| 4. Waste to energy as renewable resource. |
| 5. I'm full of good ideas. |
| 6. My experience is with renewable energy resources and energy reduction through landscaping. |

PRIORITY ISSUES

Score	
16	Statewide educational campaign renewables and energy efficiency
14	Whole system perspective to community development (energy, transportation, etc.)
11	Statewide definition and policy on renewables (and what constitutes renewables in Florida)
7	Use of proven technologies and expand existing sites (MSU)
7	Plan should encourage waste to energy as "renewable"
7	Stricter appliance standards
6	Planning (mixed land use and transportation) to improve energy use
6	Stronger pollution controls for coal
6	Increase use of landscaping to increase efficiency
6	Need better CAFÉ standards in Florida
5	Need a measurable goal for percent use of renewables within the state (with partial credit for out-of-state)
5	Implement the plan
5	Energy efficiency has to be turn-key (built-in)
4	Need more implementation of demonstration of renewables and sustainable energy measures
3	PSC implementation of FEECA
3	Hold a renewable energy fair (as in Mid-West)
3	Encourage more coordination of energy policy

3	Government incentive on energy mortgages
3	Cheaper solar power (more cost effective)
2	Bring renewable energy industries to Brownfields (provide incentives)
2	Balance all elements (social, environmental, economy)
2	Need a renewable energy institute (statewide)
2	Consumer rebates and incentives
2	Better utilization of natural resources (air, water, sun)
2	NAFTA Chapter 11 -- consider the impact of Ch 11 when developing regulations
2	Easier accessibility to public agencies for ESCOs (specific products)
1	Clear codes for interconnection of distributed generation
1	Define sustainability (need a new paradigm that takes a systems approach)
1	Provide consumers with an objective assessment of nuclear energy
1	Review reliability and security of Florida's energy delivery system
1	Incentives for employers to provide commute options, specifically van-pools and provide clean fuels in company fleets
1	Promote energy management in commercial and government buildings
1	Passive solar design needs to be promoted
1	Provide more training for energy trades and professionals
1	PSC change regulations so solar can be used
1	Money for solar PV
0	More education
0	More support from state for local government
0	Rebates for solar
0	Legislature that provides clear goals and directives for solar and efficiency
0	Require green building standards in state buildings
0	Need to be proactive
0	Adapt water stakeholder education process
0	Financial support for renewable technology research
0	Enforce existing laws and rules
0	Base electric rates on level of energy efficiency
0	True cost-accounting
0	Trust fund dedicated to renewable energy
0	Mitigate heat island effect
0	Educate public and business about existing programs
0	Look at all fuel sources and diversify
0	Better system of tracking energy usage
0	Encourage performance contracting as retrofit

WORKSHOP 11

VENICE, SOUTHWEST FLORIDA REGIONAL PLANNING COUNCIL

NUMBER OF PARTICIPANTS

57 signed in; 48 completed surveys.

COMPOSITION

Question 1 - Which roles apply to you?* (Point per Response = 1)		% of Respondents	Responses	% of Responses
Civic Leader	4	8.33%	75	5.33%
Local Government Official	3	6.25%	75	4.00%
Citizen Activist	9	18.75%	75	12.00%
Government Employee	6	12.50%	75	8.00%
Energy Professional	6	12.50%	75	8.00%
Planner	3	6.25%	75	4.00%
Concerned Citizen	35	72.92%	75	46.67%
Other	9	18.75%	75	12.00%

*Additional roles can be found below in Comments.

SURVEY RATINGS

Question 2 – Why did you attend this workshop? (Point per Response = 1)		% of Respondents	Responses	Percentage
Learn more about energy	17	35.42%	84	20.24%
Find out more about the Florida Energy Plan	30	62.50%	84	35.71%
Offer comments	17	35.42%	84	20.24%
Monitor for my organization	15	31.25%	84	17.86%
Came for RPC mtg., stayed for energy	1	2.08%	84	1.19%
Other	4	8.33%	84	4.76%
Question 3 – Most important considerations? (Point per Response = 1)		% of Respondents	Responses	Percentage
Saving Energy	23	47.92%	135	17.04%
Reducing fuel imports	21	43.75%	135	15.56%
Providing alternative energy resources	36	75.00%	135	26.67%
Reducing the cost of government	2	4.17%	135	1.48%
Protecting the environment	21	43.75%	135	15.56%
Education the public	8	16.67%	135	5.93%
Creating jobs	2	4.17%	135	1.48%
Stimulating the economy	2	4.17%	135	1.48%
Ensuring affordable energy	7	14.58%	135	5.19%
Empowering people & communities	2	4.17%	135	1.48%
Increasing consumer self reliance	5	10.42%	135	3.70%
Safeguarding the State against emergencies	0	0.00%	135	0.00%

Other	6	12.50%	135	4.44%
Question 4 – Which issues are concern from quality of life standpoint? (High=4, Med=3, Low=2, NC=1, No Response=0)		Mean Score		
Traffic congestion	149	3.10		
Air pollution	155	3.23		
Current energy costs	133	2.77		
Future energy costs	141	2.94		
Dependence on foreign oil	166	3.46		
Water pollution	168	3.50		
Limited access to alternatives	151	3.15		
High cost of alternatives	136	2.83		
Lack of knowledge about alternatives	142	2.96		
Inefficient community design	137	2.85		
Potential disruption of supplies	127	2.65		
Health concerns due to emissions	142	2.96		
Urban sprawl	141	2.94		
Other	12	0.25		
Question 5 – Most important state energy challenges and opportunities? (High=4, Med=3, Low=2, NC=1, No Response=0)		Mean Score		
Expand public transit	130	2.71		
Make transit more convenient	142	2.96		
Provide more bikeways and sidewalks	141	2.94		
Use more solar energy	158	3.29		
Build more energy efficient home	168	3.50		
Plan communities to require less travel	147	3.06		
Educate consumers about energy efficient products	152	3.17		
Build fewer power plants	126	2.63		
Build more power plants	81	1.69		
Bring more sustainable sources into everyday use	161	3.35		
Make energy saving products more readily available	157	3.27		
Have government lead by example	158	3.29		
Establish conservation incentives for building construction	163	3.40		
Establish conservation incentives for community development	150	3.13		
Establish conservation incentives for appliance efficiency	157	3.27		
Establish conservation incentives for pollution control	154	3.21		
Other	12	0.25		
Question 7 – Visited energy project Web site? (Point per Response = 1)		Percentage		
Yes	15	31.25%		
No	28	58.33%	Check	
No Response	5	10.42%	100.00%	

Question 8 – Like to receive electronic updates? (Point per Response = 1)		Percentage		
Yes	26	54.17%		
No	13	27.08%		
No Response	9	18.75%	Check 100.00%	
Question 9 – Like to have future involvement? (Point per Response = 1)		Percentage		
Yes	24	50.00%		
No	9	18.75%		
No Response	15	31.25%	Check 100.00%	

SURVEY COMMENTS

Question 1 – Which roles apply to you?
1. Corporate involvement
2. Consultant (bio-fuels)
3. Private attorney representing Lee & Pasco Counties
4. Solar power homeowner
5. Government volunteer/ intern
6. Columnist for local paper (not reporter)
7. Building materials supplier
8. Marketing representative
9. Volunteer for "sustainable SRQ"
10. Retired engineer
Question 2 – Why did you attend this workshop?
1. Wife dragged me here.
2. Friend
3. What is State of Florida doing to conserve energy?
4. update
Question 3 – Most important considerations?
1. Providing renewable energy mostly as alternative energy resources
2. Enhancing efficient production of energy & enhancing the use of renewable energy sources
3. 55 [mph] saves lives
4. Beefing up building codes to require energy saving
5. Underground utilities
6. Offer incentives & education programs for solar and other energy saving products to builders and individuals.
7. State of Florida needs to follow California example for low emission from cars and cleaner air standards.
8. Implementation of a program that can be used by local communities.
Question 4 – Which issues are concern from quality of life standpoint?
1. Enhancing efficient production of energy & enhancing the use of renewable energy sources
2. Put utilities underground

Question 5 – Most important state energy challenges and opportunities?
1. Net metering in Florida
2. We need to use our railroads more to haul goods, freeing up our roads and less pollution as they do in Europe.
3. Stricter building codes to make more energy efficient homes/ apartments/ schools using currently known available products.
4. Create real jobs rebuilding America
Question 6 – Other comments or suggestions?
1. Remove the "disincentive to incentives" that the rate-impact measure cost-effectiveness test causes. The state and the electric utilities must provide incentives for customers to install their own clean power generators at their homes and businesses (e.g., photovoltaics, solar hot water heaters, solar hydrogen generators, etc.). The short-term, status quo mentality embodied in this rate test only guarantees <u>future</u> rate increases from building unneeded centralized power plants that burn ever more expensive and polluting fossil fuels. This is societal suicide for the short-term benefit of utilities and their stockholders. Furthermore, they rates we pay now for electricity don't take into account all the real costs of that product (global warming, air pollution-health costs, cost of wars to maintain oil supply, cost of security against terrorism of the grid and central power generators, cost of disposing of spent nuclear fuel, etc.). Only with solar, wind and other renewables can we reduce those real costs.
2. Is there an opportunity for communities to use tidal action in estuaries to generate emergency-level power for local consumption?
3. Questions above are more appropriately answered by individual citizens or my client BCCs.
4. I would like to be further informed as a consumer about alternative energy choices offered by my electric authority. Perhaps advertisement campaigns could accomplish this best.
5. Air conditioning set to 80 degrees. Heat in winter set to 70 degrees.
6. Enjoyed the meeting
7. Would like to see natural gas used for buses, especially school buses; use of natural gas as a method of delivering hydrogen to an onsite reformer; using cogeneration for local power.
8. Wind power, NOT nuclear
9. Solar incentives
10. Energy efficiency must be mandated in new construction and made permissible in condos/ d _____ communities. Mass transit (partie trains) must be available to replace cars. With continuing building boom and 2+ cars per house, changes must be mandated--my changing light bulbs is nothing compared to impact of new buildings.
11. Your program today covered many topics that if they could be placed into motion would do very much.
12. We should use sales taxes as carrot and stick human behavior - give subsidies to businesses using energy-saving hybrid vehicles and less or no sales taxes on cars individuals buy - hybrid and using fuel cell technology.
13. We need to make fossil fuels too expensive and give incentives for renewables.
14. Build the high-speed rail line we voted for.
15. Not sure how I can help, but I am very intrigued by this initiative!
16. Rate impact measurement test - must be removed; encourage customers to provide their own energy.
Question 9 – Like to have future involvement? Comments?
1. Currently restricted by time/schedule and might have to move out of state.
2. I have experience and am mentored by leaders & pioneers in the following fields: wind turbines, electronic vehicles, solar (pu & thermal, veggie-diesel, permaculture, etc. I would like to bring this experience to Florida.
3. I would like to see automobile inspections return to FL. Auto emissions are important to regulate air pollution.

4. My time is limited right now, but I would like to help in the future.
5. Difficult as I have no car, only a bicycle
6. Planning councils should include energy matters in their work. The County should NOT have their building so cold!
7. We need leadership in Florida to encourage residents to save energy with renewables like solar, "lon & windows," built into roof radiant barriers; smart water heaters and programmable thermostats, photovoltaics for residential, low energy appliances, county-linked bikeway.
8. If I can, yes.
9. I will keep in contact through Sierra Club reps and newspapers.
10. Volunteer for "Sustainable SRQ"

PRIORITY ISSUES

Score	
19	Net metering implemented in Florida
14	Need for a comprehensive solar policy-design community working with builders and solar industry for integrated solar on buildings
9	Tax gasoline to pay incentives for energy efficiency
8	Strengthen appliance standards and state building codes
7	Feds should strengthen CAFÉ standards for SUVs and light trucks
7	Tax incentives to encourage saving energy
6	Remove conventional fuel subsidies or provide equal subsidies for efficiency and renewables
6	Implement high speed rail
5	Need to look 50 years ahead to deal with diminishing fuel supplies
4	Florida energy policy should look at 5 year, 20 year, and build-out
4	Require the state to work with builders to improve energy efficient construction
4	Any plan should include supply side planning goals
4	Increase rail transport of goods
4	Make solar fashionable so they sell themselves
4	Constitutional amendment to: \$1,000 (15%) rebate; HOA can't prohibit; Builders offer reasonably price solar water heater; builders offer solar lighting
4	Incentivize alternate fuel vehicles
3	Building too many roads -- money should go into mass transit
3	Process solid waste into oil
3	Goal should be to never build another central power plant
2	Emission standards for 2-cycle engines
2	Lead by example -- public buildings should be held to a higher energy standard
2	Hold public fleets to higher standards for efficiency
2	Electric rates should reflect all costs (environmental, security, societal)
2	Incorporate energy education in school curriculum
2	Rental vehicle fleets should be required to contain high efficiency vehicles
2	Leadership to bring Florida to the pinnacle in the use of solar energy
2	Top down approach rather than voluntary
1	Building code enforcement need to be audited by state
1	Florida should join California in efforts to reward efficiency provide financial incentives.
1	Publicize and incentivize energy efficient products
1	Want more safe bike paths
1	Fund building officials from local permit fees as (state employee rather than local) to distance from local politics

1	Need vehicle emission standards
1	RIM test is major impediment to energy efficiency and renewables
1	Recognize losses in generation transmission and distribution
1	Establish revolving loan fund to allow communities to put lines underground
1	Encourage recycled oil and soybean for biodiesel
1	Consider impact of decisions on future generations (CO2)
1	Hold semi's and large trucks to emission standards
0	More natural gas use in Florida for transportation and as H2 conveyer and for co-generation
0	More use of landfill gas
0	Strong, information based website on energy alternative measures: "Consumer Reports of Energy"
0	Add a dollar or two to gasoline tax
0	More aggressive utility DSM programs
0	Bio diesel development should be encouraged and incentivised
0	Tax incentive for high-efficiency vehicles
0	Fund with impact fee on electric water heaters
0	Provide more money for research
0	Improve energy conservation awareness (hotels, public buildings)

WORKSHOP TOTALS

NUMBER OF PARTICIPANTS

286 signed in; 244 completed surveys.

SURVEY RATINGS

Question 1 – Which roles apply to you? (Point per Response = 1)	TOTAL RAW	% of Respondents	Responses	% of Responses
Civic Leader	20	8.20%	365	5.48%
Local Government Official	28	11.48%	365	7.67%
Citizen Activist	49	20.08%	365	13.42%
Government Employee	53	21.72%	365	14.52%
Energy Professional	57	23.36%	365	15.62%
Planner	19	7.79%	365	5.21%
Concerned Citizen	98	40.16%	365	26.85%
Other	41	16.80%	365	11.23%
Question 2 – Why did you attend this workshop? (Point per Response = 1)	TOTAL RAW	% of Respondents	Responses	Percentage
Learn more about energy	74	30.33%	471	15.71%
Find out more about the Florida Energy Plan	161	65.98%	471	34.18%
Offer comments	94	38.52%	471	19.96%
Monitor for my organization	97	39.75%	471	20.59%
Came for RPC mtg., stayed for energy	28	11.48%	471	5.94%
Other	17	6.97%	471	3.61%
Question 3 – Most important considerations? (Point per Response = 1)	TOTAL RAW	% of Respondents	Responses	Percentage
Saving Energy	125	51.23%	741	16.87%
Reducing fuel imports	67	27.46%	741	9.04%
Providing alternative energy resources	149	61.07%	741	20.11%
Reducing the cost of government	17	6.97%	741	2.29%
Protecting the environment	112	45.90%	741	15.11%
Education the public	57	23.36%	741	7.69%
Creating jobs	16	6.56%	741	2.16%
Stimulating the economy	25	10.25%	741	3.37%
Ensuring affordable energy	61	25.00%	741	8.23%
Empowering people & communities	26	10.66%	741	3.51%
Increasing consumer self reliance	22	9.02%	741	2.97%
Safeguarding the State against emergencies	22	9.02%	741	2.97%
Other	42	17.21%	741	5.67%
Question 4 – Which issues are concern from quality of life standpoint? (High=4, Med=3, Low=2, NC=1, No Response=0)	Total Score	Mean Score		
Traffic congestion	820	3.36		
Air pollution	840	3.44		

Current energy costs	714	2.93		
Future energy costs	796	3.26		
Dependence on foreign oil	846	3.47		
Water pollution	857	3.51		
Limited access to alternatives	827	3.39		
High cost of alternatives	757	3.10		
Lack of knowledge about alternatives	806	3.30		
Inefficient community design	774	3.17		
Potential disruption of supplies	747	3.06		
Health concerns due to emissions	780	3.20		
Urban sprawl	759	3.11		
Other	61	0.25		
Question 5 – Most important state energy challenges and opportunities? (High=4, Med=3, Low=2, NC=1, No Response=0)	Total Score	Mean Score		
Expand public transit	741	3.04		
Make transit more convenient	757	3.10		
Provide more bikeways and sidewalks	720	2.95		
Use more solar energy	827	3.39		
Build more energy efficient home	893	3.66		
Plan communities to require less travel	789	3.23		
Educate consumers about energy efficient products	817	3.35		
Build fewer power plants	610	2.50		
Build more power plants	520	2.13		
Bring more sustainable sources into everyday use	847	3.47		
Make energy saving products more readily available	856	3.51		
Have government lead by example	849	3.48		
Establish conservation incentives for building construction	882	3.61		
Establish conservation incentives for community development	829	3.40		
Establish conservation incentives for appliance efficiency	827	3.39		
Establish conservation incentives for pollution control	842	3.45		
Other	128	0.52		
Question 7 – Visited energy project Web site? (Point per Response = 1)	Total Raw	Percentage		
Yes	98	40.16%		
No	138	56.56%		
No Response	8	3.28%		
Not Applicable	0	0.00%	Check 100.00%	
Question 8 – Like to receive electronic updates? (Point per Response = 1)	Total Raw	Percentage		
Yes	160	65.57%		
No	63	25.82%		
No Response	21	8.61%		
Not Applicable	0	0.00%	Check 100.00%	

Question 9 – Like to have future involvement? (Point per Response = 1)	Total Raw	Percentage		
Yes	139	56.97%		
No	61	25.00%		
No Response	44	18.03%	Check 100.00%	
Not Applicable	0	0.00%		

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No	138	56.56%		
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Not Applicable	0	0.00%	Check	

	Total Raw	Percentage	100.00%	
Question 8 – Like to receive electronic updates? (Point per Response = 1)				
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No	61	25.00%		
No Response	44	18.03%	Check 100.00%	
Not Applicable	0	0.00%		

APPENDIX D-4

FLORIDA ENERGY PLAN STAKEHOLDER FORUM

JULY 16, 2003

SUMMARY REPORT

Background on the Florida Energy Plan

Energy resources fuel our businesses, homes, communities and vehicles. Our way of life depends upon energy being available, affordable, clean and reliable. Florida must plan for its energy future to ensure that the many and diverse needs of our economy, environment and people are met, both now and for the long-term.

The State of Florida is developing a State Energy Plan to address these needs. The Plan will contain goals, objectives and a course of action for the near-, mid- and long-term future. It will also serve as a tool for implementing state energy policy.

The Florida Energy Office (FEO) has lead responsibility for this initiative through a collaborative effort of the Departments of Community Affairs and Environmental Protection. The FEO and sponsoring agencies regard input from the public as a vital part of the planning process and welcome public involvement in planning for Florida's energy future. The State Energy Plan will be a valuable guide for the State of Florida and its energy partners throughout the state.

Overview of the July 16 Stakeholder Forum

The first of 4 stakeholder forums was held on July 16, 2003 from 9:30 to 4:30 at the Tallahassee City Commission Chambers. The objectives of the forum were:

- To build a shared understanding of Florida energy conditions, needs and issues
- To present the Energy Plan purposes and principles
- To obtain input on the questions and topics the plan needs to address to be successful
- To engage diverse interests in assisting with Plan development
- To discuss the stakeholder forum schedule and additional opportunities for input

After the opening and an explanation of the Florida Energy Plan development process there was a presentation on energy conditions, trends, activities and current policy. Then a stakeholder panel shared their perspectives on energy in Florida and answered questions from the audience. After lunch breakout groups clarified the planning topics and considerations that the energy plan should address. The forum wrap-up included presentations from the small groups and a discussion of next steps in the energy planning process. The full agenda is in Appendix A. The main power point presentation is available at

www.floridaenergyplan.net. The following is a summary of the workshop presentations and input. It does not capture every comment or exactly what was said by participants but does reflect a solid recap of the discussions. Draft documents were presented for stakeholder input as part of the forum and provided on the project Web site in advance of the meeting.

Introduction

Jim Tatum of the Florida Energy Office provided the forum welcome and opening remarks. The forum purpose and project team introductions were done by Marcia Elder, a project consultant. Bob Jones went over the forum agenda and ground rules and Tom Taylor had the group introduce themselves. An overview of the planning & public participation process was provided by Marcia Elder.

Energy in Florida

Presentations on energy related trends and conditions, highlights of energy activities and opportunities, and a summary of state energy policy were given by Philip Fairey, Interim Director, Florida Solar Energy Center and Colleen Kettles, energy consultant, both of whom are part of the project team. . Mr. Fairey's power point presentation can be viewed at www.floridaenergyplan.net.

Stakeholder Panelist Perspectives

The panel included:

- *Billy Stiles, Consultant; Former Executive Director, Governor's Energy 2020 Commission; Former Senior Aide to Chair, Florida Public Service Commission*
- *Dominic Calabro, President & CEO, Florida TaxWatch*
- *Doug Calloway, President, Floridians for Better Transportation*

Panelists each made remarks about energy in Florida from their perspectives.

They were then asked several questions by the panel moderator, Marcia Elder, and each offered responses on the subjects. The questions included:

1. How do you think Florida can benefit from a statewide energy plan ... and what kinds of challenges and opportunities do you think will be most important to address in the planning process?
2. How can diverse interests work together to find viable energy options and solutions for Florida's future?
3. What are some of the ways that the state's economic and environmental goals can work together when it comes to energy?

At the end of the presentations the audience asked these questions of panelists and presenters:

- I have a plan for how renewable energy sources can be done profitably in FL. How can I develop my system and get PSC approval and not give away my trade secrets?
- How will you address the serious impacts of energy decisions on health?
- I am concerned about the limited time for the planning process to take into account all the concerns and views and develop an acceptable, workable plan.
- How does this policy development link to the Department of Management Services plan?
- What about timelines and how will the state bureaucracy be involved (including who is responsible for approving and implementing the plan)?
- I am concerned about how plan recommendations will be implemented into policy.

Stakeholder Input for Plan Development

Tom Taylor, a forum facilitator, explained the input, consensus building and decision making process for the stakeholder forums. He emphasized that stakeholders will at times be asked to generate lists and these will include all perspectives where not everyone may agree on any one particular item. At other times the stakeholders will be encouraged to seek consensus on recommendations and these items will be noted. When there is not consensus, stakeholders will help identify or clarify the available options and provide their perspectives. Input received through this process will be considered in development of the proposed State Energy Plan. A drafting team assigned by the State is developing planning recommendations for this purpose.

Planning Outcomes

Marcia Elder briefly described the purpose of defined planning outcomes and an initial draft on same. Tom Taylor asked everyone to individually review the draft outcomes and provide feedback, including any suggested additions, deletions or refinements. The draft was as follows:

1. **Transitioning Florida to a sustainable energy future**, including: increased energy efficiency, reduced dependence on fuel imports, increased diversity of energy sources and greater use of renewable energy resources.
2. **Enhancing the Florida economy** through energy choices in all end-use sectors that emphasize energy efficiency, resource diversification and energy independence, and by positioning Florida as a leader in the development and deployment of new and emerging energy technologies.

3. **Preserving and protecting environmental resources** by way of judicious decision making in energy matters.
4. **Informing and empowering the Florida public** and constituents in all end-use sectors to play a meaningful role in achieving the energy goals of the state.
5. **Actively engaging governmental agencies** at the state, regional and local levels in ensuring successful implementation of the State Energy Plan.
6. **Safeguarding the welfare** of Florida's citizens and business community against domestic security incidents and other forms of energy emergencies.

The facilitator solicited participant suggestions for refinements to be used in the plan drafting, which included these:

- Why use "environmental resources"? Protecting environment? We should drop "resources"-add "air, water, and land".
- I am concerned about affordability and its relationship to economic development. Add availability and affordability to #2.
- 3rd sentence in 2nd introduction, paragraph needs to be added as an outcome, "funding, organizational capacity".
- Acknowledge energy conservation as a funding source. Utilize cost savings as a source of funding.
- Add "health" to #6.
- Add, "cost effectiveness" to #1-depending on definition.
- Do we need a market driven piece? Does "cost effectiveness" address it? Or add to #4 "market based approach".
- If we consider the supply side:
 - #1-increase efficiency of supply and demand side.
 - #1-optimize FL's energy supply system and infrastructure.
 - #2-Adding "and supply" after end-use.
- Consider outside costs – externalities - in #1.
- Does adding "supply" take plan in a new direction? Outside of original scope?
- We need to distinguish marketing from market driven.
- #6 already are state and federal mandates. Does the plan need to address contingency plans?

Planning Topics & Considerations

Marcia Elder gave an overview of initial draft topics for the energy plan as put forth by the project team and referred to a series of related planning considerations included in participant packets. Facilitators then divided the participants into three groups for discussion purposes: Transportation, Buildings and Energy Providers. Each group was asked to review and refine the list of topics to be covered in the plan and seek consensus on additions, refinements and any deletions to the draft list of considerations for their issue area. These are the notes from the small groups. The comments refer to the Planning Topics and Planning Considerations sections of the working draft for the energy plan in Appendices B and C.

Buildings Group Input

Suggested Revisions to the Topics

Suggested revisions to the topic lists from the working draft of the energy plan in Appendix B:

- B. Residential: add - new or renovations. Energy audit, information/education.
- C. Commercial: Add to E. Energy audits and Co-generation.
- E#4 and #5 don't belong here, move them to Transportation.
- Performance based funding.
- Incentive based breaks from utilities to end-users. Outside uses to improve efficiency.

General Considerations (Appendix C)

- Identify impacts and benefits.

Government Operations and Program Considerations (Appendix C)

- Too wordy, be more up-front and open to new ideas.
- Lead by example.

Government Policies (Appendix C)

- Statutory or regulatory policies. Need guidance for government as well.

Marketplace/Economy (Appendix C)

- Need to acknowledge subsidy issue-relative to term-marketplace; i.e., fossil fuel subsidies are long-term.
- Tax structures/subsidies affect market price-success.
- Incentives for conservation sustainability.
- Market incentive not there to build infrastructure for alternatives.
- Marketing of programs needs to be key piece.

Local Communities (Appendix C)

- Builders, developers need central location for information on energy policies/programs.
- Unless government entity own utilities-no influence.
- Incentives and education inconsistent across state.
- Different cost structures/markets.
- Need coordination between regional public/private utilities and WMDs.
- Diversity of state conditions needs to be considered.
- Overarching-comprehensive coordination of education/message, incentives/programs.
- Delivery system for education addressed.
- Link existing resources.
- Stable funding mechanism to implement-educational linking programs, policies, incentives, subsidies, etc.

Education (Appendix C)

- Public schools
- Private sector
- Utilities
- Community workshops

General (Appendix C)

- Externalities: i.e., public health, environment-how to consider in decision-making process (indirect costs).

- How can externalities be considered in decision-making?

Plenary Comments on the Small Group Report

- Linking existing resources-education.
- Stable funding plan.
- Implementation.
- Overarching impacts and benefits.
- Long-term sustainability.
- How to address externalities.
- Incentives, infrastructure, subsidy-support market-viability.
- Marketing.
- Factor flexibility-diversity of state.

Transportation Group Input

Transportation Topics (See Appendix B Topics from a working draft for the energy plan)

- I am concerned with #2 - technology is still uncertain, futuristic.
- We should broaden #2 to look at wider field of all clean alternative fuels.
- #1 does it include hybrids? Hybrid gas/electric should be a new topic.
- #4 should address sprawl and love affair with the car.
- Need to look at ratio of expenditures between transit and highways-touches several, but treat separately for now.

Transportation Considerations (Comments on Planning Considerations in Appendix C)

- Government policies #5 - change "establish" to "continue." The Clean Fuels Advisory Board exists and its recommendation should be considered.
- The implementation of good plans and studies needs to be addressed.
- The plan should consider safeguards from health impacts of energy policies.
- Under each consideration I prefer "how can" phrasing as a more active voice.
- Government Policies: Considerations - What are the appropriate things that states can do; consider that cafe studies are set nationally?

- General #6--needs to be reworded to apply to transportation, if at all.

Additional Concerns

- Need to look at sources for a "hydrogen economy".

Providers/ Utilities Group Input*

This group engaged in a lengthy discussion of whether the energy plan should address energy supply side issues or demand side issues only. Some felt that certain regulatory matters under the jurisdiction of the Public Service Commission should not be tackled in this process nor issues revisited that had been dealt with by the Energy 2020 Study Commission. Others felt that both supply and demand concerns should be a part of the plan. It was suggested by one participant that if the supply side is not addressed the product should be called the Florida Energy Efficiency Plan. The group was asked to provide whatever input they had for the content of the plan. They then brainstormed a list of topics that could possibly be addressed in the plan. To get a sense of the support for addressing these topics the group was asked to evaluate each possible topic and indicate:

Yes — if they think the topic should be addressed in the plan

No — if they were opposed to including the topic

Nothing — if they don't care if the topic is addressed in the plan.

Possible utility related topics to include in the FL Energy Plan	Yes	No
Energy efficiency on supply side	5	8
What sources will future energy come from? Research and development	13	0
Energy infrastructure siting	12	0
Renewable portfolio standards	5	7
Barriers to entry for renewable generation and means of encouraging the development and use of renewable energy including electricity generated from renewable sources.	11	0
Land planning for agricultural renewables	4	0
Green pricing – creating a market	8	0
Energy efficiency standard	9	0
Air pollution comparison	3	8
Optimizing the transmission grid	5	0
Managing price volatility and energy dependency	4	0
Use of state lands and state generated waste for renewable energy	1	0
Cap and trade – environmental attributes – tradable credits	4	1
Optimizing the natural gas supply systems	5	3

Plenary Comments on the Utility Group Presentation

- The plan should address utility energy efficiency programs.
- Look at the utilities role in demand side energy efficiency.
- Consider the public benefits and funds under the broader funding heading.

NOTE: Feedback was received on this section of the Meeting Notes at the August 5 Stakeholder Forum, to the following effect:

The July 16 summary should clarify the significance of straw votes in provider/utility small group last meeting. The assumption that group made was to look initially at the broadest set of opportunities and issues that a state energy plan could address. The ranks related to group member views as to which should be addressed in the context of this effort. In addition, the ranks need a column that indicates that the remaining people not voting “didn’t care one way or the other.”

Future Stakeholder Meetings & Participation

Marcia Elder announced the dates of the next Stakeholder Forums:

- August 5th
- September 2nd
- September 16th

It was also noted that there will be regional meetings in all eleven planning council regions. The times and dates will be posted on the web site at www.floridaenergyplan.net as announced through the Regional Planning Councils.

Closing

The facilitators reviewed the Forum activities and products and asked for concluding comments from participants. The project team leaders thanked everyone for coming and encouraged their continued involvement.

NOTE: The Project Team is identified on the referenced web site. CPI is coordinating the Stakeholder Forum series. FSEC is coordinating the public workshop series. Further information about upcoming meetings is being regularly posted to the Web site.

Appendix A

FLORIDA ENERGY PLAN STAKEHOLDERS FORUM

JULY 16, 2003

9:30 AM – 4:30 PM

TALLAHASSEE

CITY COMMISSION CHAMBERS

FORUM OBJECTIVES

- To build a shared understanding of Florida energy conditions, needs and issues
- To present the Energy Plan purposes and principles
- To obtain input on the questions and topics the plan needs to address to be successful
- To engage diverse interests in assisting with Plan development
- To discuss the stakeholder forum schedule and additional opportunities for input

FORUM AGENDA

9:30 AM INTRODUCTION

- Forum welcome and opening remarks — *Alexander Mack, Director, Florida Energy Office*
- Forum purpose and Team introductions — *Marcia Elder, Project Consultant*
- Forum agenda and ground rules — *Bob Jones, Director, Florida Conflict Resolution Consortium*
- Group introductions and expectations — *Tom Taylor, Associate Director, Florida Conflict Resolution Consortium*

9:50 AM FLORIDA ENERGY PLAN

- Summary of purposes of Energy Plan — *Alexander Mack*
- Overview of planning & public participation process — *Marcia Elder*

10:10 AM ENERGY IN FLORIDA

- Presentations on energy related trends and conditions, highlights of energy activities and opportunities, summary of state energy policy — *Philip Fairey, Interim Director, Florida Solar Energy Center; Colleen Kettles, Project Consultant*

11:00 AM STRETCH BREAK

11:10 AM PANELIST PERSPECTIVES

Panelist statements and responses to questions

- *Billy Stiles, Consultant, Radey Thomas Yon & Clark, P.A.; Former Executive Director, Governor's Energy 2020 Commission; Former Senior Aide to Chair, Florida Public Service Commission*

- *Dominic Calabro, President & CEO, Florida TaxWatch*
- *Doug Callaway, President, Floridians for Better Transportation*
- Audience questions of panelists and presenters from prior session

12:30 – 1:30 PM LUNCH

1:30 PM STAKEHOLDER INPUT FOR PLAN DEVELOPMENT

Input process, consensus building and decision making — *Tom Taylor*

1:35 PM PLANNING OUTCOMES

- Review of draft & purposes — *Marcia Elder*
- Individual review of the proposed outcomes
- Solicitation of input and consensus on refinements — *Tom Taylor*
- Determination of next steps for any issues where there is not consensus

1:50 PM PLANNING TOPICS & CONSIDERATIONS

- Review of draft topics — *Marcia Elder*
- Review process/ breakout groups — *Tom Taylor*

Divide into (3) groups: Transportation; Buildings, Facilities & Equipment; Energy Providers. Each group will undertake two major tasks:

1. Plan Topics

- Individually review topics related to breakout group theme
- Identify and seek consensus on additions, refinements and any deletions

2. Planning Considerations

- Overview and individual review of planning considerations document
- Feedback on considerations and suggested refinements
- Identification of any overarching or other planning needs and opportunities for consideration

2:50 PM BRIEF GROUP REPORTS TO PLENARY GROUP

3:20 PM OTHER SUGGESTED TOPICS & CONSIDERATIONS

- Solicit general group feedback on topics that need to be addressed in the plan — *Tom Taylor*
- Solicit general group feedback on planning considerations — *Bob Jones*

4:00 P.M. FUTURE STAKEHOLDER MEETINGS & PARTICIPATION

- Present alternatives — *Marcia Elder*
- Solicit feedback on dates, times, locations — *Tom Taylor*
- Seek consensus on the meeting process — *Bob Jones*
- Recap other opportunities for input and discuss next steps — *Tom Taylor & Marcia Elder*

4:20 PM CLOSING

- Review of meeting activities and products — *Bob Jones*
- Concluding comments from participants

- Wrap-up from Energy Office & Project Team
- Complete Forum evaluation forms

4:30 PM ADJOURN

Appendix B **Planning Topics**

From the Florida Energy Plan: 7-16-03 Working Draft for Discussion

The Florida Energy Plan will address a broad range of topics of significance to Florida's energy future. Following is an initial list of possible topics to address in the Plan. The list is not all-inclusive and is intended to be built upon and otherwise modified through the planning process.

A. Transportation

1. Alternative Fueled Vehicles (AFVs)
2. The "hydrogen economy"
3. Public transit systems
4. Land use planning and zoning
5. Traffic planning and optimization
6. Fuel efficiency standards
7. Carpools/Vanpools
8. Fleet standards
9. Congestion pricing
10. Pedestrian & bicycle ways
11. Speed limit enforcement
12. Roadway weight limits
13. Highway preservation & maintenance
14. Telecommuting
15. Transportation Demand Management (TDM)/Transportation System Management (TSM) Measures
16. Other

B. Residential

1. Building energy codes and standards
2. Appliance standards
3. Green building and development standards
4. "Beyond codes" programs (e.g., Energy Star)
5. Community and subdivision development standards
6. Land use planning and zoning
7. Community redevelopment

8. Low-income housing (e.g., HUD)
9. Home energy rating systems
10. Home mortgage programs (e.g., Energy Efficient Mortgages)
11. Tax incentive programs
12. Life cycle costing
13. Consumer and builder education programs
14. Other

C. Commercial

1. Building energy codes and standards
2. Green buildings programs
3. Equipment standards
4. Building commissioning
5. Design and construction best practice
6. Government and public buildings
7. Tax incentive programs
8. O&M best practices
9. Life cycle costing
10. Energy education
11. Building energy rating systems
12. Other

D. Industrial

1. Building energy codes and standards
2. Equipment standards
3. Process efficiency
4. Advanced controls
5. Green Industrial Parks
6. Industrial Ecology
7. Brownfield redevelopment
8. Green venture capital
9. Other

E. Governmental & Institutional

1. Building energy codes and standards
2. Equipment standards

3. Facilities O&M
4. Fleet standards
5. Alternative fueled vehicles
6. Administrative processes
7. Employee awareness & practices
8. Agency education
9. Other

F. Multi-Sector

1. Recycling & reuse
2. Emergency preparedness & response
3. Dual use facilities
4. Historic & other preservation
5. Land use planning
 - a) Mixed use development
 - b) Infill & redevelopment
 - c) Compact development & clustering
 - d) Greenspace & trails
 - e) Landscaping
 - f) Revitalization
 - g) Adaptive reuse
 - h) Zoning & land development regulations
6. Other

Appendix C

Planning Considerations

From the Florida Energy Plan: 7-16-03 Working Draft for Discussion

General questions for consideration in the energy planning process include:

How can Florida save energy through efficiency improvements, conservation and renewable and alternative energy resources?

- What is the technical potential?
- What is the economic potential?
- What barriers stand in the way?
- What incentives are available?
- Which resources have the greatest potential for Florida?

Other related considerations are many and varied. Among them are the following:

Governmental Operations & Programs

- Are energy-related programs and activities of governmental agencies sufficiently targeted and coordinated, and are implementing agencies accountable for achieving results?
- Are state agencies encouraged to address energy concerns in their operations and agency long-range program plans?
- Are local governments encouraged to include energy elements in their local comprehensive plans?
- Are there incentives for governments to lead by example?
- Can public buildings set the example for private entities by being more efficient than minimum code requirements?
- What opportunities exist for improvement in government vehicle fleets?
- Is the state investing in sustainable energy improvements to facilities and operations?
- Have energy saving opportunities within state government been documented? Is there a waiting list for desired improvements?
- What role are regional agencies, school boards and the university system playing?

- Are government building construction policies based on life cycle costs as opposed to lowest initial cost investments?

Government Policies

- How well are existing energy policies being implemented?
- Can existing Florida statutes be more effectively used to encourage energy efficiency and sustainable energy resources?
- Are there periodic evaluations of local, state and federal policies and actions to identify energy threats and opportunities for Florida?
- Is information available on the effects of state policies, programs and infrastructure investments on energy use in Florida?
- Should a statewide energy policy advisory body be established?
- How aggressively is federal funding being pursued for the demonstration and deployment of sustainable energy systems?
- Do plans exist to adopt and implement regional sustainable energy policies?
- Are there mechanisms available to inform state policy makers (legislators and high-level executive officials) on energy facts and opportunities?
- Are additional statutory policies needed to achieve sustainable energy goals for Florida?

Marketplace & Economy

- Do government policies support a market-based approach toward consumer awareness of energy efficiency and renewable energy?
- How can markets be transformed to create more opportunities for energy efficiency and a transition to renewable energy sources?
- How can lending practices be utilized to increase opportunities for sustainable energy sources and systems?
- How can efficiency and renewable technologies be used to capitalize on a region's economic base and advance economic development?
- Can public/private partnerships and business incubators be developed that will help guide energy research and development and accelerate technology deployment in the market?
- Are there current examples of energy efficiency and renewable energy success that can be widely replicated to increase the rate of adoption of such measures?

Local Communities

- Can local and regional governments influence community residents in making more informed decisions related to energy use, energy efficiency and energy conservation?
- How will the state ensure that essential energy services are accessible and affordable to low-income populations?
- Can local and regional governments offer tools to encourage and support community efforts to reduce energy consumption through community organizations and other means?
- Can land planning incentives and approaches be devised for real estate development and redevelopment that reduces auto dependence?
- How can local governments be encouraged to include energy elements in their local government comprehensive plans?
- How can the State and Regional Planning Councils assist local communities in becoming more energy efficient and sustainable?
- How can local and regional agencies be supported in achieving greater energy efficiency in their operations?

Education

- How can government increase public awareness of the benefits of sustainable energy choices?
- How can the education system be used as a vehicle to deliver balanced educational information about energy concerns and sustainable energy choices in Florida?

General

- How are the environment, energy and economic development related?
- How can a “systems approach” be used to more effectively address energy efficiency and renewable energy alternatives?
- How can strategies be identified or developed to make a transition to new energy technologies more viable in the future?
- What kinds of incentives can be created to address the transition to future energy use scenarios?
- How much can the existing built environment be improved upon and upgraded through renovation and best practices in operation and management?

- How can energy codes and building energy rating systems be used as an effective tool for encouraging more energy efficiency in new residential and commercial buildings?
- How can the state enhance domestic security through energy planning and preparedness?

2nd State Energy Plan Stakeholder Forum
August 5, 2003
Tallahassee, Florida
9:00 AM - 4:30 PM

I. Introductory Remarks

Jim Tatum from the Florida Energy Office welcomed the stakeholder workshop participants and introduced Marcia Elder, project consultant. The over 40 participants introduced themselves and the organizations and interests they were representing. Included were energy suppliers and other industries, environmental and public interest groups, state agencies and other varied interests.

II. Planning Update and Participation Process

Marcia Elder provided an update on the status of the energy planning process and of public participation in that process. The floor was then open to questions and comments from stakeholders. Participants in the meeting offered the following comments on the process:

- ◆ The July 16 summary should clarify the significance of straw votes in provider/utility small group last meeting. The assumption that group made was to look initially at the broadest set of opportunities and issues that a state energy plan could address. The ranks related to group member views as to which should be addressed in the context of this effort. In addition, the ranks need a column that indicates that the remaining people not voting "didn't care one way or the other."
- ◆ What is being done with the comments, survey responses and other input that the planning team is collecting? Is it being filtered? Is it being posted on the Web? *Response: The input is being organized and categorized for ongoing use by the planning team. A record of all public input will be provided to the State. Results of the first survey are posted on the project Web site.*
- ◆ For those answering the Survey regarding draft Principles, how do you define "energy" and "renewables" (so that people know what is being proposed and can reflect that in their ranks/comments)? Differences will likely arise over what is included under renewables.
- ◆ How will the plan be formulated? How will judgments be made by the planning team on what to include or not? What will be the deciding factor on differences? *Response: the planning team for the State consists of a diverse mix of experts in energy, planning and government. They have been called on to provide recommendations based on their extensive knowledge and experience and on the input that they are collecting from other experts and the public. Their report will contain recommendations along with the data and information upon which*

those recommendations are founded. The State will decide on the ultimate content of the State Energy Plan.

- ◆ Will the plan contain concepts or recommendations that differ with stated positions of the Governor? *Response: The Administration has called on a team of experts to offer professional recommendations. The Administration is seeking all facts on the subject and welcomes varied ideas and viewpoints. The public input process encourages candid feedback, and all input received will be reported to the State.*
- ◆ Where are the project team qualifications? *Response: Information about the project team is on the Web site. Additional information is available on request.*
- ◆ Will the plan reflect just stakeholder workshop input? How is the information being offered being checked for accuracy? How can you ensure balance where there are competing views of the meaning of trends, conditions etc? *Response: Public input is being solicited, and received, through multiple means: the stakeholder forums, eleven statewide public workshops, on-line surveys and participation forms, email requests and other public queries. Representatives of state agencies are also providing data and information. Factual data on trends, conditions and other pertinent information is being compiled and documented. Judgment calls are a part of any planning process, and the planning team is providing the information sources upon which its observations and recommendations will be based. The State will make all final decisions on balancing of varied facts and considerations.*

III. Review and Discussion of Planning Drafts

A. Planning Outcomes and Principles

Results of the survey input on these two documents appear on the Web site. Additional comments were invited. No discussion followed.

B. State Energy Plan Outline

Marcia Elder presented an overview of the draft plan outline and solicited comments and input from the workshop participants. See *attached copy, as also provided on the project Web site.*

- ◆ Major demand side programs like waste-to-energy need to be included. Don't want the energy plan to be inconsistent with WTE track record of success.
- ◆ Focus looks like it is on electric utilities? I don't see any references to alternative programs to electric, geothermal power for example. Gulf Power has done work on this.
- ◆ Industry has found ways to save energy and has the economic motivation to do so. "Economic survival motivated initiatives" are lacking. People will do things on their own for economic reasons.

- ◆ If this is to be called a State Energy Plan it needs to include the supply side of the picture. I offered specific language last time in the utility subgroup. Both supply and demand has to be considered. Supply refers to all end use sectors, not just utilities. How do we make comments to address including supply?
- ◆ Part IV should be renamed “Assets, Opportunities and Challenges”.
- ◆ Natural gas is an important issue and should be emphasized in Parts IV and V.
- ◆ The supply side is being ignored in the energy plan to-date. We need to address demand as part of conservation. The state uses roughly 12 billion gallons of gasoline each year. These products are essential for the future. Availability of port and transportation facilities is essential to supply. Regulations need to be adequate and fair as affect the importing of these products. Example of channel widening in Tampa Bay; 3rd largest port in US. State needs to support widening as local government has.
- ◆ LNG (Liquefied Natural Gas) is growing in importance for US and Florida. Permitting process for pipelines is key; assist facilities by removing barriers.
- ◆ State needs to re-examine its position about state and federal waters. Huge quantities of natural gas are there and Florida has been unwilling to participate. We also need additional exploration and development of oil resources.
- ◆ Demand side-discriminatory pricing policies should be removed. We need to be “energy source neutral.” This applies to appliance standards, the energy code and the building code.
- ◆ The energy plan needs to look at supply side. Add supply under #5 to the working draft on the web. When you convert energy to electricity, only 35% is actually converted and the rest is wasted. We could get more bang for the buck.
- ◆ Page 5 on Working Draft on website, need to add "energy, supply, price, cogeneration".
- ◆ Page 5 industrial processes are case-by-case --too detailed ;stay with more general economic trends.
- ◆ Try to call on different groups through specific request for evaluating opportunities-particularly from providers on costs of regulation on decisions; also manufacturers as energy users and impact on their decisions.
- ◆ Also review recent policy efforts (e.g., 2020 Commission) where different groups offered information and provided perspectives.
- ◆ Natural gas is currently the fuel of choice for electric power production. The State needs to look at, is this the best position to be in. Push toward natural gas as environmentally friendly may lead to economic strains in the shorter term.
- ◆ Need also to look at energy conversion/conservation.

- ◆ What appliance standards are you considering? FPIRG recently published a report on appliance standards that can save energy (State Appliance Standards- www.floridapirg.org).
- ◆ FL assets and opportunities should include reference to the existing institutions for research including those in the universities.

IV. Open Forum

Comments, suggestions and other input were invited from all attendees interested in speaking. Following is a synopsis of the input received.

- ◆ Experts from the business sector should be called on for input as part of the planning process. For ex., producers of energy, regulated public utilities and their forecasting professionals, industries that are making money producing products for energy. Also include the manufacturing community and information about their use of energy.
- ◆ Energy supply and price should be added to the Plan document. In the case of natural gas, it's not just a source of energy but also a raw material for industry. It also represents an irony as it's pushed for by being environmentally good. But it can be pushed so far as to make some industries no longer viable.

V. Presentations

- ◆ Robin Vieira, Board Member, Green Building Coalition (PowerPoint slides in Appendix)
- ◆ Dr. Thomas Tim Lynch, Director, Center for Economic Forecasting & Analysis. Summary

LUNCH

VI. Transportation Sector Review of Opportunities, Obstacles and Strategies

A. Panel Presentations on Transportation & Land Use

- ◆ Wes Watson, Executive Director, Florida Public Transportation Association
- ◆ Charles Pattison, Executive Director, 1000 Friends of Florida
- ◆ Alexander Mack, FEO, for Clean Fuel Florida Advisory Board

B. Introduction of the Transportation Sector Topics

The facilitators provided the following overview of proposed transportation sector topics. The participants then reviewed each of the topics adding to or offering concerns on the opportunities/ benefits, obstacles/challenges and strategies that were listed. The topics included:

- ◆ Conservation Purchases and Practices
- ◆ Multi-modalism
- ◆ Compact Development
- ◆ Facility Improvements
- ◆ Fleet Efficiency
- ◆ Alternatives to Travel
- ◆ Alternative Fuels

VII. Stakeholder Comments on the Topics:

1. Need for education was referenced in each of the presentations. Comes up in each of the topics. May need to be a topic or may be a formatting question that is addressed in each of the topics. E.g., green pricing, efficiency and conservation, etc.
2. Serious public education campaign needed- FEO might lead or facilitate this.

Conservation Purchases and Practices

Stakeholder Comments:

- ◆ What is the rationale for breaking out this topic? Conservation is the primary focus here.
- ◆ Economics and \$\$ seem always to be in the middle of the energy discussion. How will issues of real world feasibility and practicality be dealt with in the plan?
- ◆ Tim Lynch's comments regarding measuring and creating quantitative standards to measure progress is one that should be addressed throughout the plan. Need to weave these through here. This is an opportunity
- ◆ Consider different way to organize the topics- e.g. 1) strategies to reduce miles traveled; 2) strategies for alternative fuel vehicles; 3) strategies for saving energy.

Draft Opportunities/Benefits

- ◆ Energy savings
- ◆ Cost savings
- ◆ Reduced pollution

Stakeholder Comments:

- ◆ Note both air, water and noise pollution

- ◆ Consider health benefits (asthma, coronary problems etc.)
- ◆ Affordability issues could be a benefit depending on how its done.
- ◆ Economic development through emerging industries
- ◆ **B-G are very specific. A is more general. There is some overlap.**

Draft Obstacles

- ◆ People choose vehicles for multiple reasons and efficiency is often not a priority.
- ◆ Consumers often lack knowledge about the extent of dollar and energy savings they could see through efficiency choices.
- ◆ Inefficient vehicles are often more popular and readily available.
- ◆ More fuel efficient vehicles tend to be lighter weight vehicles and safety concerns?
- ◆ Traditional work schedules end simultaneously whereby employees encounter traffic congestion due to peak travel times.
- ◆ Employers fail to train staff on efficiency measures.

Stakeholder Comments:

- ◆ Clarify? E.g. Employer has vehicles but don't inform of conservation practices that would save energy. High speed and energy use.
- ◆ Efficient driving behavior?
- ◆ E.g. car pool incentives?
- ◆ Socio-economic status- cleaner vehicles are newer vehicles, maintenance issues etc.
- ◆ Perception problems- clean vehicle as "sexy"
- ◆ People tend to view carpools and vanpools as a reduction of personal freedom.

Draft Strategies

Stakeholder Comments:

- ◆ These strategies are very vague
1. Increase the use of energy efficient vehicles.

Stakeholder Comments:

- ◆ Low emission/zero emission vehicles programs.
- ◆ Tactics/activities needed- need measurables.

2. Encourage employers to initiate work schedules that will help alleviate congestion at peak hours.
3. Reduce congestion and improve traffic flow.
4. Inform motorists about energy-wise driving practices.

Stakeholder Comments:

- ◆ Is there a legal ability to set emission standards? E.g. California's experience with this? Way to encourage technology?
- 5. Encourage carpools and vanpools.

Stakeholder Comments:

- ◆ **Strategy:** "encourage employer "guarantee ride home" programs
- 6. Reduce speeding on Interstate and other major highways.
- 7. Encourage the use of multi-occupant vehicles.
- 8. Implement additional Transportation Demand Management strategies.
- 9. Facilitate multiple uses of publicly owned and public access buildings.

Stakeholder Comments:

- ◆ Large employers-help to give incentives for reducing the #'s of employees coming to work in single occupancy vehicles. On site champion to give awards etc.
- ◆ Need large education effort here and elsewhere on much of this.

Multi-modality

Stakeholder Comments:

- ◆ Clarify what the term "multi-modality means? Outside of transportation not well known. Is this really transit?

Draft Opportunities/Benefits

- ◆ Energy savings
- ◆ Reduced pollution
- ◆ Land use efficiency
- ◆ Great consumer choice
- ◆ Productive time gained for transit riders

Stakeholder Comments:

- ◆ Savings in vehicle costs into economy and ripple effects.

- ◆ (document) Bike riders potential health benefits/savings.

Draft Obstacles

- ◆ Alternatives to car travel are not provided.
- ◆ Regulations and land use practices do not encourage integration of alternative modes of transportation.
- ◆ Pedestrian and bicycle ways are often not convenient, safe or inviting.
- ◆ Streets are primarily designed for vehicular travel and do not adequately accommodate other modes of travel.
- ◆ Little or no connectivity of pedestrian and bicycle ways.
- ◆ Transit supportive development is not effectively addressed.
- ◆ Access to transit is often difficult and dangerous.

Stakeholder Comments:

- ◆ Public transit- often is not user friendly (e.g. route numbers, schedule, etc.)
- ◆ Comparative costs of roads are not taken into account in transit funding decisions.

Stakeholder Comments:

- ◆ This is not addressed under strategies. Need to put numbers.

Additional obstacles or concerns identified August 5:

- ◆ The full costs of building a road are hard to find. How much of gas and other taxes are paying for roads?
- ◆ Opposition to retrofitting connections re alternatives to existing neighborhoods

Draft Strategies

Stakeholder Comments:

- ◆ Strategies and tactic are mixed here.

 1. Expand the use of public transportation.
 2. Increase ridership on transit systems.

Stakeholder Comments:

- ◆ Be clearer on how this can get done? Perhaps some of the following strategies address this.
- ◆ Make these transit stops more appealing and attractive and practical.
- ◆ Convenient scheduling should be a strategy

3. Provide more bicycle and pedestrian ways.
4. Encourage or require integration of alternative modes of transportation in new developments.
5. Include provisions for safe, convenient and attractive pedestrian and bicycle paths that connect to existing developments.
6. Encourage or require new developments to include pedestrian and bicycle ways that connect to existing developments.
7. Encourage or require transit-oriented development near transit stops and stations.
8. Encourage or require new developments to provide safe and convenient access to transit where needed.

August 5 input — Additional strategies or concerns with draft strategies:

- ◆ How do strategies related to parking fit here? Facilities for parking to make alternatives work.
- ◆ Increase traffic law enforcement- addressing safety issue re alternatives.

Compact Development

Stakeholder Comments:

- ◆ How can this practically be done in U.S. society? Need examples of where this has worked.

Draft Opportunities/Benefits

- ◆ Energy savings
- ◆ Other resource efficiencies
- ◆ Reduced travel time
- ◆ Increased productivity

Stakeholder Comments:

- ◆ This can create a sense of belonging and community and might be more committed to other improvement initiatives- create ownership.

Draft Obstacles

- ◆ People choose vehicles for multiple reasons and efficiency is often not a priority.
- ◆ Consumers often lack knowledge about the extent of dollar and energy savings they could see through efficiency choices.
- ◆ Inefficient vehicles are often more popular and readily available.
- ◆ Traditional work schedules end simultaneously whereby employees encounter traffic congestion due to peak travel times.

- ◆ Employers fail to train staff on efficiency measures.
- ◆ People tend to view carpools and vanpools as a reduction of personal freedom.

Stakeholder Comments:

- ◆ Once neighborhood established it is hard to produce future mixed development as a retrofit.
- ◆ Local govt. ordinances and zoning may prevent a new “green” compact smart development. Have to sometimes also fight the banking/financing of such development
- ◆ Concurrency requirements may promote sprawl.
- ◆ Concern with inappropriate “infill” that doesn’t fit with the neighborhood.
- ◆ Affordability can be an obstacle

Draft Strategies

1. Undertake effective urban and regional planning.

Stakeholder Comments:

- ◆ Obstacles- does the development community understand this planning as it is implemented.
1. Provide incentives to developers and local governments for urban infill.
 2. Provide technical assistance to local governments on planning and development strategies.
 3. Design communities for walkability and easy transit access.
 4. Increase clustering of employment centers.

Stakeholder Comments:

- ◆ Need to encourage more on campus housing to cut down on unnecessary driving. This can be a large impact in a University community.
- ◆ Encourage redevelopment of brownfields

Facility Improvements

Stakeholder Comments:

- ◆ Define facilities to include roadways
- ◆ Call this transportation facilities

Draft Opportunities/Benefits

- ◆ Energy savings
- ◆ Reduced pollution
- ◆ Reduced congestion

- ◆ Saved time
- ◆ Increased convenience
- ◆ Reduced stress
- ◆ Reduced government expenditures.

Draft Obstacles

- ◆ Need for greater funding.
- ◆ Right-of-way limitations in some areas.
- ◆ Commerce and other mobility needs place heavy demand on transportation infrastructure.
- ◆ Road expansion often given priority due to growth demands.

Stakeholder Comments:

- ◆ Does this mean you are justifying road demands based on growth. Delete “due to growth demands”
- ◆ With more lanes you have more water quality runoff issues
- ◆ Funding? Opportunities for energy savings expenditures may not be taken.

Draft Strategies

1. Expand traffic operations improvements on state and local roads.
2. Invest in highway preservation as an alternative to new construction.
3. Reduce wear on public roadways from high load traffic.
4. Employ advance Intelligent Transportation Systems.
5. Implement additional Transportation System Management strategies.
6. Select low maintenance materials and landscaping.

Stakeholder suggestions for additional strategies or concerns

- ◆ Highway (solar) lighting and signage lighting should be considered in energy savings.
- ◆ More through-streets instead of more lanes on arteries to facilitate less driving around.
- ◆ Install dedicated transit lanes for buses
- ◆ Law enforcement- using cameras to issue tickets?
- ◆ Traffic calming designs that affect traffic behavior (e.g. speeding)

Fleet Efficiency

Stakeholder Comments:

- ◆ Looks similar to A?
- ◆ Should be enough data on the use of alternative fleet vehicles to support this approach.

Draft Opportunities/Benefits

- ◆ Energy savings
- ◆ Budget savings for government agencies (and corporations)
- ◆ Reduced pollution

Draft Obstacles

- ◆ Lack of data on fleet energy use.
- ◆ Fleet energy use not well monitored.
- ◆ Many fleet vehicles are not energy-efficient.
- ◆ Maintenance schedules are sometimes inadequate.
- ◆ Vehicles are often not selected for use based on energy efficiency.
- ◆ Fleet maintenance staff are often not trained in energy conservation procedures.

Draft Strategies

1. Implement a fleet management information system.
2. Automate fueling stations.
3. Centralize fleet operations.
4. Replace older vehicles with more energy-efficient models.
5. Provide regular maintenance for vehicles.
6. Assign vehicles appropriate to the task.
7. Train maintenance staff in procedures that will save energy.
8. Train personnel in fuel efficient driving techniques.
9. Incorporate the use of alternative fuels with the fleet where feasible.

Stakeholder suggestions for additional strategies or concerns

- ◆ Don't overlook school buses in terms of fleets. Find some ways to get cleaner burning engines. Reduced absenteeism at schools.
- ◆ Discourage use of bi-fuel vehicles- purchased to meet requirements but only using 1 fuel.

Alternatives to Travel

Draft Opportunities/Benefits

- ◆ Energy savings
- ◆ Reduced pollution
- ◆ Land use efficiency
- ◆ Greater convenience to public
- ◆ Saved travel time

Draft Obstacles

- ◆ Zoning often prevents or discourages home occupations or telecommuting.
- ◆ Lack of teleconferencing facilities.
- ◆ State coffers suffer from remote sales (e.g., Internet).

Strategies

1. Revise regulations to encourage telecommuting and home occupations.
2. Develop partnerships to build teleconferencing facilities available for use by public and private entities.

Stakeholder input on additional strategies or concerns:

- ◆ Office /Residential zoning should be enforced regarding home occupation. Device to get into a market. Not achieving the purposes.

Alternative Fuels

Draft Opportunities/Benefits

- ◆ Increased energy security
- ◆ Reduced pollution
- ◆ Great consumer choice
- ◆ Economic stimulation for emerging industries

Stakeholder input on additional benefits, opportunities or concerns

- ◆ Look at increasing natural gas use as an opportunity with benefits to the environment- in Argentina (1 mil) and Brazil-(1/2 mil) on the road. Conversion is reasonable (\$800). Natural gas as clean fuel should be considered in the plan.

Draft Obstacles

- ◆ Alternative fuel sources are not readily available.
- ◆ The public lacks familiarity about the use and benefits of such fuels.
- ◆ Alternative fuels are sometimes more expensive than conventional fuels.

Draft Strategies

- ◆ Incorporate the use of alternative fuels into government and institutional operations.
- ◆ Provide adequate fueling capabilities and infrastructure.
- ◆ Work with industry, civic groups and government to promote the use of alternative fuels and to educate the public on the availability and benefits of alternative fuels.
- ◆ Provide funding for incentive programs.

Stakeholder input on additional strategies or concerns

- ◆ Look at case of natural gas adoption- in Argentina (1 mil) and Brazil-(1/2 mil) on the road. Conversion is reasonable (\$800). Natural gas as clean fuel should be considered in the plan. Priced identically with other fuels. It's the infrastructure that is the issue.
- ◆ Promote the hybrid vehicles as low emission vehicles.

Transportation Sector Review of Goals

Goal # 1

Reduce energy used for transportation

Stakeholder Comments:

- ◆ Is this too broad a goal statement?
- ◆ Possible reorganization of goals and objectives: Look at reduced vehicle miles traveled and the Transportation Infrastructure outside of alternative fuels
- ◆ Shouldn't we do a better job of manufacturing that is more energy efficient? Importing fewer materials reduces transportation
- ◆ Florida imports huge amounts (500 tons a day) of liquid carbon dioxide- if this is manufactured here and not shipped in will result in energy savings.

Possible Topics dealt with under this goal

- ◆ **A Conservation Purchases and Practices**
- ◆ **Multi-modalism**
- ◆ **Compact Development**
- ◆ **Facility Improvements**

- ◆ **Fleet Efficiency**
- ◆ **Alternatives to Travel**
- ◆ **Alternative Fuels**

Possible Objectives and Strategies

Goal # 2

Develop and Utilize alternative fuels

Possible Topics dealt with under this goal

- ◆ **Alternative Fuels**
- ◆ **Facility Improvements**
- ◆ **Fleet Efficiency**
- ◆ **Conservation Purchases and Practices**

VIII. Closing Remarks and Next Steps

FLORIDA ENERGY PLAN STAKEHOLDERS FORUM
SEPTEMBER 2, 2003
TALLAHASSEE, FLORIDA

SUMMARY REPORT

Forum Overview

The third stakeholder forum was held on September 2, 2003 from 9:30 to 4:30 at the R.A. Gray Building. The objectives of the forum were:

- To build a shared understanding of Florida energy conditions, needs and issues
- To obtain input on energy use in the built environment
- To obtain input on energy topics pertinent to utilities and other providers of energy services and technologies
- To engage diverse interests in providing input on Florida's energy future
- To discuss additional opportunities for input

After the opening remarks and brief presentations about the energy project, a stakeholder panel shared their perspectives on energy topics in Florida and answered questions from the audience. After lunch breakout groups offered input on energy use in the built environment and on energy topics pertinent to utilities and other energy providers. The forum wrap-up included presentations from the small groups and a discussion of next steps in the energy planning process. The full agenda is in Appendix A.

The following is a summary of the workshop presentations and input. It does not capture every comment or exactly what was said by participants but does reflect a solid recap of the discussions.

Introduction

Jim Tatum of the Florida Energy Office provided the forum welcome and opening remarks. The forum purpose and project team introductions were done by Marcia Elder, a project consultant. Tom Taylor, forum facilitator, went over the forum agenda and the ground rules. An overview of the planning & public participation process was provided by Marcia Elder.

Open Forum for Stakeholders

Tom Taylor explained the input and consensus building process for the stakeholder forum. He emphasized that stakeholders will at times be asked to generate lists and these will include all perspectives where not everyone may agree on any one particular item. At other times the stakeholders will be encouraged to seek consensus on recommendations and these items will be noted. When there is not consensus, stakeholders will help identify or clarify the available options and provide their perspectives. Input received through this process will be considered in development of the project report. A drafting team assigned by the State is developing planning recommendations for this purpose.

As part of having participants introduce themselves, Tom Taylor asked each participant to offer an outcome they wanted to see from the project. They offered the following comments:

Outcomes

- ◆ Economics is basis for everything we do- need to be economically feasible- Do not see that here
- ◆ Need to prioritize in case something needs to be cut
- ◆ For informed consumer need informed professionals
- ◆ Need to think of sustainability and the long term
- ◆ Ability to capitalize on innovation
- ◆ Florida needs more natural gas or other acceptable alternative to electricity- for economic and environmental purposes
- ◆ Clean and efficient power generation sources to get us there

Marcia Elder then made a brief presentation summarizing possible topics and questions regarding Florida's energy future. Next, participants were asked to offer broad policy concerns they felt should be addressed in actions on Florida's energy future.

Broad Policy

- Need clean power generating sources
- Clean and efficient
- ◆ Recognize inherent conflict in utility regulation and encouraging renewables though the same agency
- ◆ Gulf power program- Geothermal heating and air conditioning, need to promote geothermal opportunities in Florida
- ◆ What is the next step in enforcing or implementing existing policies? Accountability needed
- ◆ Dovetailed with Gov.'s 2020 Study? Where do the studies recommendations fit into plan?
- ◆ 2020 Study called for invigorating the Florida Energy Office- this and other recommendations are being used, but looking more at efficiency
- ◆ 2020 was about electricity. Do we really need to build that many new plants?
- ◆ There is a lack of political leadership – need support from the Governor and Legislature
- ◆ PSC needs to be strengthened to provide leadership-deregulation doesn't always address the needs. Do separate regulation of electric and natural gas.
- ◆ PSC needs to be more independent- already strong
- ◆ Planning should be done to optimize whole energy cycle- all uses, all sources
- ◆ Need policy to prioritize fuels- what fuel mix should we be using
- ◆ Don't have all eggs in one basket

The facilitator asked members to indicate which statements could be combined and then, by a show of hands, indicate which policies they would most like to take up for further discussion as time permitted. The following are listed, as combined, in the order receiving the most votes for purposes of discussion only:

1. Planning should be done to optimize whole energy cycle- all uses, all sources
 - ◆ Need policy to prioritize fuels- what fuel mix should we be using (10 votes)
2. PSC needs to be strengthened to provide leadership. Deregulation doesn't satisfy needs; separate regulation of electric and natural gas (8 votes)
 - ◆ PSC needs to be more independent- already strong

- ◆ Recognize inherent conflict in utility regulation and encouraging renewables through the same agency
3. What is the next step in enforcing or implementing existing policies? Accountability (6 votes)
 4. There is a lack of political leadership – need support from the Governor and Legislature (3 votes)
 5. Need to promote geothermal opportunities in Florida. Gulf Power program for example utilizes geothermal for heating and air conditioning (1 vote)

With the time available, the facilitator guided participants through a discussion of possible policies or recommendations under the first two categories above. The participants offered the following ideas, with the (*) denoting those opportunities on which there was consensus support.

- Optimize the Whole Energy Cycle
10. Cuts across several agencies
 11. Those generating energy want to direct
 12. (*) Each agency needs to be addressing its responsibilities to optimize the whole cycle- production and uses and impacts
 13. (*) Need independent energy commission with professionals overseeing input from multiple agencies- may be related to FEO. - with adequate representation of all interests including rate payers
 14. (*) Need to determine how we will measure progress
 15. Former state energy council? Effort in 1980's to coordinate the agencies- focused on energy crisis
 16. (*) This will not work today-need clear legislation to specify agency tasks & responsibilities
 17. Must address economic realities that producers have to have a return
 18. (*) Need to separate production using electric and natural gas companies- should be different
 19. (*) Advantages to keeping them together to stabilize prices
 20. (*) Want to encourage competition but assure appropriate fuel mix- balance economic competition

Public Service Commission

- ◆ (*) Need to look at criteria for evaluating efficiency and conservation value- R.I.M.
- ◆ (*) Find ways to correct imbalance between supply and demand side
- ◆ (*) PSC should review economic and other impact of technologies and use this to determine fuel mix
- ◆ (*) We should look at new sources of funding for energy conservation in addition to utilities
- ◆ (*) Review concept of distributed energy

Stakeholder Panelist Perspectives

A stakeholder panel shared their perspectives on energy topics in Florida and answered questions from the audience. The panel included:

- Jack Glenn, *Director of Technical Services, Florida Home Builders Association*
- Barry Moline, *Executive Director, Florida Municipal Electric Association*
- Ann Stanton, *Housing & Community Development, Building Code Compliance & Hazard Mitigation, Department of Community Affairs*
- Rich Zambo, *Executive Director, Florida Industrial Cogeneration Association*

Panelists each made remarks about energy in Florida from their perspectives. The following are some of the topics and highlights each speaker touched on:

Rich Zambo, *Executive Director, Florida Industrial Cogeneration Association*

The importance of Florida's geography, geology, topography

Florida's unique sources

Fertilizer sources

Indigenous

Large scale

Encourage the plan to offer definitions, exempt siting, and address market needs

This presentation is on the project Web site.

Barry Moline, Executive Director, Florida Municipal Electric Association

Represents 32 municipal utilities with 1.2 million customers

From 1998-2000, natural gas accounted for 10-14% in the U.S. and 18-23% in Florida

In Florida, renewable sources accounted for 3%

Natural gas use is growing with price volatility

Balance fuels and costs – economics and reliability

Switch to green power – land fill gas, solar, JEA, bio mass, hydro

Green pricing alternative – in Tallahassee is about 1.5¢ more

Future?

This presentation is on the project Web site.

Ann Stanton, Housing & Community Development Building Code Compliance & Hazard Mitigation, Department of Community Affairs

Florida Code – developed an uniform building code

Chapter 13 on conservation

No minimum R value – means you pay elsewhere

It is easier to address at construction

Florida Energy Program outsourced to FSEC

Tax credits and other incentives

Consumer awareness

Florida can regulate at point of sale, e.g. shower head, refrigerator, etc.

Jack Glenn, Director of Technical Services, Florida Home Builders Association

State and Federal standards drive building costs up – even if it saves \$ in the long run

Promised incentives, e.g. tax breaks, did not work

Energy efficient land planning can drive cost up – no incentive for availability of buses

More contractors interested in green building- consumers need to demand and pay for it

Minimum energy codes are not enforced

FME looks at risk analysis

Not opposed to TAG's, just want to promote local and Florida projects

At the end of the presentations the audience asked questions of panelists. The responses are included in the notes above.

Breakout Group Input and Discussion

Following lunch, Marcia Elder gave a brief overview of background information for two topics: energy supply, and energy use in the built environment. Tom Taylor then divided the participants into two self-selected groups for purposes of discussing each topic. Each group was asked to review and refine the list of topics to be covered and seek consensus on additions, refinements and any deletions to the draft list of considerations for their issue area. The following are the notes from the small groups.

Built Environment Group Input

- ◆ Need a state wide effort to educate builders, inspectors, building professions (including mortgage Industry)
 - ◆ Educate sales people
 - ◆ Educate home buyers and owners
- ◆ Make education a priority for state agencies and include leadership/politicians
- ◆ We underestimate overall value of energy efficiency as compared to the initial first cost. We need to provide education on how this gets done
- ◆ Need to overcome the Inertia of experience and time
- ◆ Consider it a thinking fee- make change to all the houses as a standard. Make energy efficiency the standard for all homes
- ◆ Educate on true impacts in the environment and health
- ◆ Educate on whole value of the building as a system and on the consequences of not following through on whole system. Partial system may be worse or at least fail to address the problem
- ◆ Incentives such as decreased building fees or fast tracking permits
- ◆ Review impact of concurrency on energy efficiency - transportation
- ◆ Review institutional barriers: Building codes and different jurisdiction requirements or interpretations
- ◆ Consumer marketing- more than just information- emotion

- ◆ Energy efficiency is invisible
- ◆ Goal is to standardize. Once incentives are removed then consumer goes with cheaper model
- ◆ Increase home rating required for each home - increase by 30%, make "Energy Star" the minimum
- ◆ Energy impact fee for any home below the energy star
- ◆ Have to get buyer in the door with incentives such as a tax break
- ◆ If you own an Energy Star home then get increased homestead exemption (\$10,000). However, that may undermine local government and tax base. Make it state wide benefit
- ◆ Need a combination of carrots and sticks Review which are currently working or not- use tools for valuing economic value and impacts- look at public benefit
- ◆ Need to establish what your goal is. Is it 30%?
- ◆ Use energy code less as a technical tool and more as an opportunity for public policy
- ◆ Give \$ value to the savings potential to sell some audiences - the analytical buyer
- ◆ Also unquantified value can be sold
- ◆ Appliance and product efficiency standards- use them
- ◆ PSC (or other agency) evaluate impact of new plants reliance on natural gas
- ◆ Need funding for evaluating the various carrots and sticks and their effectiveness
- ◆ Raise efficiency standards as a whole, not just those tied to products alone. Let the builder determine how to get to the overall standard
- ◆ Need a methodology for creative funding for education, evaluation, etc.
- ◆ Need leadership to support innovation to change culture
- ◆ Efficiency has to be built-in rather than offered piece meal
- ◆ Ratchet up building code requirement over time with increased enforcement of the requirements
- ◆ Educate buyers on what to ask for, to look for certification and the value of certification
- ◆ Add information on overall value of energy efficiency to education process and the overall public benefit

- ◆ Review studies to assist in evaluating the benefits of various effectiveness of programs
- ◆ Obstacle of immigrants into the state from around the country who are unaware of the environment here

The following three themes were utilized to organize and present the small groups' ideas (recorded above) during the plenary report:

- ◆ Education
- ◆ Carrots & Sticks
- ◆ Leadership and Funding

Energy Supply Group Input

The small group began by reviewing a list of possible discussion topics and indicating, through a show of hands, the order in which they preferred to discuss them. For each topic participants were asked to list considerations and then possible recommendations. The following topics are listed in the order receiving the most votes for purposes of discussion only:

- ◆ Energy reliability & availability (9 votes)
- ◆ Transportation alternative fuels (5 votes)
- ◆ Distributed electric energy (3 votes)
- ◆ New generation technologies (1 vote)
- ◆ Supply side efficiency (1 vote)
- ◆ Industrial processes & operations (0 votes)

Energy Reliability – Considerations

- Reducing vulnerability of our economy to supply disruption and price volatility, acts of God; sustainability - way to support way of life (short term) (long term) self-sufficiency
- Discussion of meaning of sustainability
- LNG, stranded gas, methane
- Reduce dependency on fuels with high price vulnerability
- Identify additional supplies and how to get

- Remove obstacles to timely and logical siting of infrastructure
- Vulnerability of transmission system because of dependence on large decentralized generation or & transmission
- Discussion of reliability issues
- Consider cost effectiveness- trade offs – reliability and sustainability at what costs?
- Who decides on the trade-offs? Market and/or public (incentives or restrictions, legislation), PSC has a small part, 85% of decisions are in marketplace.
- Some areas put utility lines underground.

Recommendations

- Don't penalize non-utility generators when system down or through stand-by rates for distributed generation
- Fair and equitable stand-by rates
- Use power plants to expand natural gas supply for other generators
- Offer incentives for generators, e.g. rebate programs
- Greater use of energy efficiency and demand response programs
- Promote the use of indigenous Florida renewables (may not be agreement on term "renewables")
- Explore other sources of natural gas under contract e.g. LNG from the Caribbean (siting facilities is a problem) (potential security risks) Need public risk education. Consider environment impacts
- Provide storage for natural gas possibly in pumped out oil fields in Everglades
- Do rate design to send signal and influence what people use; Value or cost people's use of energy so it's reflected in rates. Adjust user rates by demand/elements. e.g. CO system with customer choice of rate
- Review siting legislation to allow facilities. Fully reveal cost of electric service.
- When new generation comes on, utilities want compensation. Need ways for industry/ others to better contribute power. How DG defined also important; it's not just small systems as people tend to think.

Transportation Alternative Fuels

- Supply infrastructure available. Storage & distribution

- Develop “clean” alternative fuels not just alternative fuels. Plus make current fuels clean, like low sulfur diesel. Consider pollution associated with fuels.
- El Paso has good program on NG and CNG, for buses and trains.
- Policies often lead to unintended consequences. Dangerous for state to do - need national approach
- Will manufacturers design vehicles for them?
- Consider impact on NG supply, concern about over-reliance
- There is federal pre-emption; has transition but no-one enforcing

Recommendations

- Consider use of LNG in buses and trains (compare to how sulfur diesel) esp. for smaller operations
- Consider legislation with teeth and enforcement
- Provide incentives for clean fuels
- Encourage state & local government use for fleets

Distributed Electric Energy

- Good for greater reliability, and also consider environment impacts.
- Consider permit exemptions for generators primarily for internal use. Refer to the FL Power Plant Siting Act
- Address barriers to Dist. Gen., legal and other
- Consider DG as an alternative to transmission and distribution investments.

Supply Side Efficiency

- Need efficiency in conversion of fuel to electricity
- As the Governor has said, the cheapest btu you can buy is the one you don’t burn.
- Maybe take funding for conservation out of the hands of utilities. Utilities are in the position of being in charge of promoting conservation of a product that they’re in the business to promote the sale of.
- The bulk of current conservation programs is actually load management, interruptible power. You can’t even monitor the conservation programs. It’s voodoo economics. We end up having to rely on the numbers of the utilities.

- We need to correct the disincentives to efficiency. In other areas of the country, utility sales and revenues are decoupled.
- Consider giving utilities an incentive to work with merchant plants . . . or take merchant plants out from under PSC.

Closing

The facilitators reviewed the Forum activities and products and asked for concluding comments from participants. The project team leaders thanked everyone for coming and encouraged their continued involvement.

Appendix A

PRELIMINARY AGENDA
FLORIDA ENERGY PLAN STAKEHOLDERS FORUM
SEPTEMBER 2, 2003
9:00 AM – 4:30 PM
TALLAHASSEE
R. A. GRAY BUILDING

- 9:00 AM I. INTRODUCTORY REMARKS**
Welcome, introductions and project update
- 9:20 AM III. PARTICIPATION PROCESS**
Facilitated process and open forum for stakeholder feedback on energy topics.
- 11:15 AM IV. PANEL PRESENTATIONS**
Remarks by invited experts followed by questions and comments by stakeholder participants.
Jack Glenn, Director of Technical services, Florida Home Builders Association
Barry Moline, Executive Director, Florida municipal Electric Association
Ann Stanton, Department of Community Affairs
Rich Zambo, Executive Director, Florida Industrial Cogeneration Association
- 12:15 AM V. LUNCH**
Meal on your own at nearby restaurant.
- 1:15 PM VI. PARTICIPATION PROCESS**
Explanation of process for afternoon session.
- 1:25 PM VII. BREAKOUT GROUPS**
Facilitated process for stakeholder input on identified energy topics. To include groups on Buildings (energy use in the built environment) and Energy Providers (energy topics pertinent to utilities and other providers of energy services and technologies).
- 3:15 PM VIII. STRETCH BREAK**

3:25 PM IX. PLENARY SESSION

Breakout group reports with questions and feedback from stakeholders

4:15 PM X. CLOSING REMARKS

Discussion of next steps including further opportunities for stakeholder input.

4:30 PM IX. ADJOURN

APPENDIX D-5

NATIONAL PERSPECTIVE INSIGHTS

WRITTEN COMMENTS FROM PUBLIC

Following is a synopsis of written comments received by email and mail including by way of the project email address. Also included are comments filed by way of the Web site. Comments submitted by or on behalf of state associations are noted in a separate section.

GENERAL INPUT

BUILDINGS

1. Emphasis on **lowest cost and lowest bid** as determinance of **building construction** is diametrically opposed to the long-term goals of conservation and efficiency. The ethos of lowest cost is **inherently faulty** as it will always be the cheapest route to design/ build with less efficient mechanical systems, lighting and insulation. Government is one of the worst offenders. The State could require architects and building engineers to rate their design specifications of energy consuming building systems on a scale that measured long-term operating costs in terms of energy consumption. This would introduce consideration of a second parameter (long-term efficiency) in the decision where the first parameter (lowest price) now holds too dominant a focus.
2. **Building codes** should require reduction of distances between hot water heaters to all hot water outlets and, where impractical, require “under the sink” units. (5/22/03)
3. “When designing a new home, it is very easy and cost effective to **recover the waste heat from the AC system** that is normally discharged outside to be used to make a home’s hot water or heat a home’s swimming pool.”

ALTERNATIVE ENERGY

1. Conceptual proposal submitted for development of an “energy corridor to development a **wind-hydrogen fuel farm**” for a 200-mile stretch off the Gulf coast off Port Manatee “following the path of the recently installed Duke energy natural gas pipeline from Mississippi.” Through this proposal “Port Manatee would become a windmill manufacturing, hydrogen storage and distribution center . . . offshore windmill development is growing rapidly in Europe and the technology has been satisfactorily and economically developed.” “Locating this at a port that is zoned for

industrial use would generate thousands of jobs . . ." Note: Submitted by Ringling School instructor who offers to help further with the proposal; see 5/27/03.

2. We are working on a grant involving **wind and solar energy under sea breeze conditions**. "There may be coastal energy that could subsidize (offset) air conditioning peak loads to reduce the need for other fossil fuel plants."
3. Inquiry about **solar** information. Referred to FSEC and FlaSEIA.
4. Interest in **wind resources**, especially as they relate to **coastal areas** and the sea breeze. Respondent and colleagues are working on renewable energy topics through the university setting.
4. Responding university is working on "**experimental ocean current energy studies**" and experiments. The Gulf Stream currents east of Ft. Lauderdale are considered to be very conducive to this emerging technology." Offered to present further information on the subject, as an environmentally friendly and sustainable energy source. (6/25/03)
5. Colleague of earlier respondent expressing shared support for "the potential of **sea breeze energy** as a source to offset or subsidize the midday air conditioning power peaks that otherwise would be supplied by conventional energy plants."
6. Illustration of how a single **subdivision** that desires to **use solar** could provide a critical mass of participation and enable volume pricing as well as the avoidance of conflicting jurisdictions and conflicting neighbors. A coordinated solar energy effort is needed. "You really do not need any more studies. You need to target, organize and market." (6/27/03)
7. "I would like to leave this planet is as good as shape as I found it." **Solar and wind** energy sources need to be explored. "For once I would like to see our state on the cutting edge of technology . . . surely we can come up with a plan that can maintain or possibly enhance our economy while improving our methods of providing energy." (7/17/03)
8. Detailed comments submitted from a Florida professor of **renewable energy** on a Working Draft posted on the project Web site for public comments . . . (7/18/03)
9. Detailed comments submitted on concept of "**Green Preserves**" whereby agricultural lands are used for growing crops as an indigenous renewable energy resource. Rather than being burned, the biomass is then used to produce a form of natural gas (methane) for direct use as a fuel or use in the production of electricity. Regions of development could be defined for this purpose. "Under July 2003 Market Conditions, the value of the methane is equivalent to the value of the daily production of petroleum." Local labor could be used and new jobs will be created. Crop residues would be put to use and greenhouse effects would be curbed as would pollution runoff. The E 2020 Commission was biased toward the utility

industry without equal consideration of methods other than electric power generation (natural gas, geothermal, biomass not confined to direct burning). (7/28/03)

10. Article forwarded on “**Geothermal** Conserves Water in California.” (7/31/03)
11. “Swiftly flowing **ocean current** represent a significant untapped renewable energy resource for the United States. The steady currents of the Gulf Stream off the southeastern U.S., and the east coast of Florida, carry with them enormous potentials for electric power generation.” The Department of Ocean Engineering at Florida Atlantic University is investigating generating base load electric power from the Gulf Stream offshore South Florida. This is part of a larger project aimed to install a large array of ocean current turbines. (8/8/03)
12. “Tests have shown there is enough **wind** in the Keys of Florida to use for energy production. What is preventing the development of this resource?” (8/14/03)
13. Detailed comments submitted on **energy crop biomass**, including Florida-specific considerations in electricity production, economic development, emission reductions and sustainability. (8/15/03) (See www.treepower.org/quickfacts.html)
14. “It astounds me that we in the Sunshine State don’t even mention **solar options** (passive, active, PV) . . . How can you consider hydrogen (which is tens of years away, with the exception of a fuel cell) and NOT consider solar which is here today? . . . We have all the sunshine a person could wish for. Why not USE IT? Also, what about **wind farms and tidal systems**? We should be the solar capital of the USA, developing technology and demonstrating it to the world. We have few if any incentives compared to NY, CA, etc. If Florida is truly serious, we need more aggressive leaders to create realistic and demonstrable plans. The idea that we are dependent on third world resources (who have no love for the USA) makes us third world pawns . . . Independence should be a state goal as well as a national one.” (8/19/03)
15. “All we need to do in order to ‘green’ Florida is to utilize existing technology. **Aquatic plants** can do the same job as elaborate sewage treatment facilities. **Solar panels** can power homes, traffic lights, street lights, what have you. Throw fiber optic lights into the mix and you don’t even need to tie up traffic or purchase personnel lists to change municipal light bulbs . . . **Tankless water heaters**, **xeriscaping**, **passive cooling**; we know so much, and do so little. We’re putting our socks on over our shoes and acting like it’s normal, then seeking public approval for being obviously backwards. Let’s skip the baby steps and start making some giant strides.” (8/19/03)
16. Article forwarded noting that “when the northeast power grid crashed last Thursday, one building in New York City remained lighted: with the use of **fuel cell technology**.” Note included about fuel cells could be future energy source for Florida. (8/21/03)

17. Article forwarded on US Department of Energy Strategic Plan regarding **non-hydro renewable energy** resources for the future and the doubling of the nation's goal for their use. The plan refers to "efforts to develop zero emission fossil generation technology, hydrogen, renewable energy, advanced nuclear power and fusion . . ." It is in draft form and was disseminated for public comment. It is entitled "Protecting National, Energy & Economic Security with Advanced Science & Technology and Ensuring Environmental Cleanup." In addition to the article, the writer describes a **liquid and solid fertilizer** manufactured through his company which would "meaningfully reduce the energy needed to produce and import standard fertilizers into Florida" among other environmental and economic benefits. (8/22/03)
18. Article forwarded on "Federal Agencies Nearing Half-way Mark to **Federal Renewable Energy Goal**" for renewable energy use within the federal government. (8/22.03)
19. Article forwarded about agricultural considerations regarding **Everglades Restoration**; and how the writer's company and its **solid fertilizer** product could be beneficial. (8/22/02)
20. Florida's plans should empower the generation of **solar power and wind power**. R&D is needed along with experimentation with subdivisions, small industries and businesses. Some state parks could be almost fully run on solar. Start-up capital funds would help schools, religious institutions and other entities. (8/31/03)
21. Information forwarded on **light wheel storage and sun tracking**. (9/1/03)
22. Article forwarded on "**Saving Forests** Best Way to Cheap, **Clean Water**". (9/1/03)
23. Proposed Constitutional amendment ballots forwarded on increasing **fuel efficiency** and the use of **solar energy**. Includes tax rebate for solar water heaters, restrictions on homeowner association prohibitions and solar related requirements of builders, along with sales tax exemption for energy efficient automobiles. Individuals submitting them also call for working with Habitat for Humanity to install solar water heaters in their new homes if they can get quantity pricing from solar contractors and rebates from FPL. (9/3/03)
24. Questions submitted on the status of statutorily **required plans and actions** regarding **solar** energy [where certain of the requirements have not been met]. (9/3/03)
25. Article (9/02) forwarded on **renewable use** in California noting "Renewable energy resources as much as 23% of southern California Edison's total monthly power sales this summer, with electricity coming from purchases of wind, solar biomass and geothermal energy, as well as power from small hydroelectric facilities." The article goes on to cite the SCE Chair's comments that "we have surpassed the state's new 20% standard for utility renewable procurement fourteen years early." According to the article, legislation adopted in the fall of the 2002 required California's three investor-owned utilities to increase their procurement of electricity generated from

renewable resources annually by 1% of retail sales with the target of 20% to be reached by the year 2017. The article goes on to say that the utility is seeking to add cost effective resources to its renewable power portfolio and has just released a Request for Offers toward that end. (9/4/03)

26. In this state full of sunshine, a woefully number of homes use **solar and net metering**. Dirty oil-fired plants are common, the mercury from which settles in fish and the food chain. We need renewable, cleaner combined cycle **natural gas power** plants and rapid phase out of our dirtiest power plants. Clean technologies need public subsidies, not contaminating nuclear or oil plants. It is 2003 but the mindset of our bureaucracy is stuck in the 19th century. (9/9/03)
27. Referral to article on “**Garbage into Oil**” regarding processes for converting waste materials into crude oil. (9/13/03)
28. **Solar steam engines** can be used to produce **hydrogen** from water. We'd like to meet to discuss the subject. (9/15/03)
29. Congratulations to the City of Venice for taking energy saving steps, including **banning prohibitions on solar clothes dryers** (clotheslines). Gave Web site for information on an all **solar home** in Desoto County: www.chasepower.net (9/16/03)
30. Article provided on **geo-thermal** power and its use in Europe, with reference to this approach being useful for Florida for both air conditioning and heating. (9/17/03)
31. Definition of **bio-mass** as used by FPRIG provided for purposes of clean, renewable energy policies. Includes cellulosic, organic material from plants as well as non-hazardous plant matter waste material. Excludes municipal solid waste, recyclable post consumer waste paper, pressurized or treated wood, construction debris, tires and contaminated wood. Includes landfill methane. Calls for any bio-mass combustion to meet the best available control technologies for transmissions and for preference to be given to gasified bio-mass technologies. (9/23/03)
32. Recap of prior input including several major areas of concern:
 - Florida based **anaerobic fermentation** technology, renewable energy, **methane** carbon dioxide, compost fertilizer and **liquid fertilizer**
 - Non-electric energy and electric savings applications
 - **Distributed generation**
 - DG reference to “tiny ants working as a highly orchestrated unit constitute a **strong and non-political PSC** to protect the citizens from energy related impacts and ever powerful force of nature. So it is with DG.” In addition, Florida needs a strong, increasing prices of energy. (9/26/03)

34. The project should include investigation of using **hydrogen** for government vehicle, requiring hydrogen injection for large trucks and using **Light Emitting Diodes** (LEDs) at all traffic signals in the state as well as LEDs for interior and street lighting. (9/30/03)
35. The Florida plan should include energy **efficiency**, rapid deployment of **solar**; support and development of **bio-fuels**; research and development of **ocean based** energy resources; and support for **hydrogen** research and deployment. Solar, biomass and ocean energy are Florida's three energy resources that will allow for energy independence. Copies provided of comments submitted to PSC for 2002 Renewable Technologies workshop (focused on photovoltaics) and June report, "Energy Efficient Florida: Smart Energy Policy that Benefits Florida's Economy and Environment", focused on **appliance standards**. (10/02/03)
36. **Solar steam engines**, along with wind, can be used to generate electric current needed to decompose water. These clean energy sources will keep the **hydrogen** economy carbon free and Florida above sea level. The distributed generation of having a **fuel cell** in every home will provide reliability and save the energy lost in transmission. The byproduct of fresh water should give this energy plan top priority. (10/02/03)

Utility Policy & Issues

1. **What authority does such a Plan and planning process have** with regard to utility matters? These issues are already governed by the PSC. ". . . the Public Service Commission has determined that their authority overrides basic free enterprise and that natural market driven principles of what should be a competitive industry and that private industry has no standing in the State's plan's and objectives . . ." (6/30/03)
2. "It has been my belief for many years that the **power companies were never the right venue for public energy conservation programs**. It seems they are mostly used as tools in high bill complaints, and the general public never gets the use of the public monies collected on their behalf from the power companies (non-fuel energy charge, FPL; energy charge, Progress Energy). (8/17/03)
3. "The Florida Energy Plan should be based on a **strong Florida Public Service Commission** and the Commission's continued regulation of natural gas, electric power and telephone. Only bad things seem to follow utility deregulation." (8/21/03)
4. *Wall Street Journal* article forwarded (8/28): **A Lesson from the Blackout, Free Markets Often Need Rules**. Comments noted that **impartiality of the PSC** needs to be assured and strengthened; separate independent corporate structures are needed for electric and natural gas utilities and **LNG** should be imported to Florida under long-term contract. "Two separately viable, competitive energy sources will ensure Florida's economic health. (8/28/03)

5. Article provided on State of **Illinois** participation in power company program for **reducing power demand.** (9/17/03)

Conventional Energy

1. Information forwarded about **LNG (liquefied natural gas)** as a “potentially important, environmentally significant and widely transportation applicable use fuel. LNG from Trinidad, Venezuela and Mexico can be imported into Florida under long-term contract for somewhere between \$3 and \$4 per thousand cubic feet. Compared to higher prices for distributed natural gas.” **Natural gas** “could dramatically affect the engine fueling, from vehicles all the way to ‘off-road use’ in diesel-electric locomotives, beyond firing distributed power systems.” . . . **Methane** (through the process of our company) and imported LNG “should be the answer, at least in the long run, to the US’s thirst for energy, but now with minimum effect on the environment . . . ” (8/20/03)
2. “Florida needs to complete **natural gas pipelines and delivery.**” Data provided on natural gas consumption in California and a call made to contrast this with that for Florida. “It is important that Florida . . . change its energy consumption ways by importing **LNG** and natural gas . . . As a bonus, natural gas pipelines are buried and out of the way of potential hurricane damage.” (8/25/03)
3. Information forwarded on **demand water heaters** (tankless, instantaneous) with comments that natural gas works well with this system. Comments reiterated about need for **natural gas** delivery for Florida. (8/29/03)
4. Substitute electricity with **direct use of natural gas**. Article provided on ways to reduce power plant needs with energy efficiency rules (**appliance standards**). (9/12/03)
5. Article provided on Pacific Gas & Electric Company **rebate program to cut heating costs** in 2003 given the impact of natural gas prices, including through the direct use of natural gas. (9/23/03)
6. Article forwarded from August 2000 issue of *Power Engineering* on “the virtues of distributed generation and how one major utility, **Detroit Edison**, is incorporating it . . . ” The individual submitting comments reiterates from prior comments his support for **natural gas**: “Distributed natural gas pipelines and corresponding hookups should be a central feature of the Energy Plan with tight Public Service Commission control of natural gas companies.”
6. Article forwarded on problems with natural gas. Individual writing reiterates support for **LNG and natural gas** pipelines and electric power production.

7. **Automatic Meter Reading** was a “cheap pricing option”, can help with energy conservation and reduce the need for more power plants plus save money. Article provided on subject. (9/16/03) [Verify comments]
8. *Washington Post* article provided on **Michigan power plant** visited by President Bush and lauded regarding **clean air policy**. (9/16/03)

ENVIRONMENT

1. *New York Times* article sent regarding federal action on **Clean Air Act** regulations. Comment noted that “the Energy Plan must clearly point out that this type of exemption threatens the health of Florida and the entire nation.” (8/22/03)
2. “Whatever we do, we need to **LOWER THE POLLUTION LEVELS**. I have asthma and COPD (Chronic Obstructive Pulmonary Disease) and I really suffer from the air pollution. So do many other people I know. We MUST DO SOMETHING ABOUT THIS AS THERE ARE MORE AND MORE DISEASES RELATED TO OUR ENVIRONMENT. MONEY CAN NO LONGER BE THE DRIVING FORCE, CLEAN AIR MUST BE.” (8/27/03)
3. Resolution on **Climate Change** provided as adopted by Audubon of Florida and its Chapters. The Resolution calls for development of a Florida Global Warming Action Plan that set specific greenhouse gas emission reduction goals and identifies strategies to minimize risks posed by rising seas and other warming effects; supports implementation of a sustainable portfolio standard and a public benefits fund within the electric utility sector; and supports state laws on air emission controls and the use of best available technologies. (8/26/03)

INFORMATION & EDUCATION

1. **Public education** on the issues is very important.
2. The State should “develop and integrate as part of the contemporary **K-12 science education** curriculum an *Effective Energy Understanding Program*” . . . I envision a high impact, integrated energy education program for the K-12 level that includes parent interactions as well as community interactions as part of the core program.” Florida could become the national leader in “energy-literate citizens.” Because of our high tourism population, we could also become the “world’s **showcase on 21st century energy technology**.” Note: Submitted by a college professor and former gubernatorial appointee who offers his assistance in developing such a program. (6/17/03.)

Transportation

1. **Bicycling and walking** should be an integrated part of all transportation planning and projects in Florida. **Adding wider shoulders** when roads are resurfaced has

already made a huge difference but more needs to be done. Such shoulders should be designated as official **bike lanes**, especially in urban areas. The more multi-modal access people have the more they will ride their bikes. **Light rail** opportunities should also be looked at. (9/30/03)

2. Safe, handicap accessible **sidewalks** are needed to enable children to walk to school (in recognition of cutbacks in bus service and school operating costs). Safe and accessible **bike paths** are also needed that interconnect cities and areas within them where sidewalks are not available or are very narrow. This would encourage more people to park their cars and get more exercise thus reducing energy consumption. (10/04/03)

EFFICIENCY/ OTHER

1. Article forwarded on **energy efficient lighting** systems. (8/26/03)
2. Information forwarded on **absorption refrigeration** with comments noted that this would be an excellent cogeneration component for a large building's **natural gas** powered distributed energy system. (8/29/03)
3. Air conditioning is, most assuredly, Florida's current most ubiquitous use of electric power. Article provided on **propane-fueled air conditioning systems**. This application can significantly reduce power consumption in Florida through natural gas. (9/12/03)
4. Florida could set an example for the rest of the nation by increasing **energy efficiency standards** and investing in **solar technologies** and other **renewables**. There should be state incentives, strong building codes, use of green building materials and Energy Star appliances, incentives for retrofits, discouragement of sprawl and encouragement of **walkable communities, public transportation**, lower electricity rates for conservation minded consumers, tax incentives for high **efficiency cars** and hybrids, incentives for "green fleets", efficiency standards for the rental car market, public incentives for bio-diesel fuel and other actions to protect the environment, the pocket books and livelihoods of Floridians as well as providing more jobs and avoiding the threat of offshore drilling. (9/14/03)
5. "When I first moved to Europe in 1980 I would think nothing about leaving on a few lights in the apartment when I would go out for the evening. For the first month people kidded me about being able to pick out the floor where the American lived. After receiving my first huge bill, and several taunts from French friends, I took a cue from their frugality with energy...I don't think we want to raise the rates so much that it punishes people into economizing. It would nice to educate them about the ways to save and then reward them well for the efforts." I'm not an expert on energy planning or fiscal management but I do know a bit about saving... in order to prevent more nuclear plants we have to **Maintain or reduce our energy use** for producing electrical energy. (9/13/03)

6. US DOE draft provided on **LED Traffic Light Replacement** program for increased efficiency. (9/19/03)
7. Article provided on “smart meters” for **automatic meter reading** to enhance energy efficiency and **distributed generation** use. Includes discussion on Georgia Power as having the world’s largest real-time pricing program. (9/25/03)
8. Article provided on **Combined Heat & Power** as a form of “recycling energy”. (9/30/03)
9. Article provided on Chicago Museum and its use of **co-generation** to provide up to 80% of the Museum’s heat, hot water and electricity. (10/01/03)
10. **State agencies should be setting the example** in using sustainable energy sources, including day lighting, geo-thermal and photovoltaic.

GOVERNMENT

1. **Restrictions are needed on the percent of profit that can be made by ESCO's and Performance Contractors** when supplying goods already available to state agencies at a guaranteed price under the SNAPS program. Coordination is needed between the State’s regulatory agencies on various energy related codes and regulations. Building code departments need greater familiarity with energy/solar technologies. Water management districts and environmental agencies are imposing barriers on geo-thermal through permitting requirements. We need implementation and demonstration, not research and development. Many sustainable and alternative energy **technologies are available and there is no reason to study them** any longer. (10/01/03)
2. **Local governments and schools** should be involved in this process. Their energy expenditures likely rival the state’s. Have any surveys been done on their energy use? Some school districts have energy managers whose salaries are paid from the savings they generate. Others don’t have such programs, but our schools need all the money they can get.

General

3. The State plan should include “**fast results projects**” in addition to the longer-term activities. These will provide **tangible, quick and obvious payoffs**. The results should be heavily promoted and publicized to gain public support and momentum. Specific commercial and industrial activities should be targeted for action, such as pumps and motors for irrigation and water/waste water facilities. Southeast Florida is rapidly approaching a severe imbalance between local electrical and demand, which provides an excellent opportunity to implement “non-standard” solution. **Wind** generation opportunities should be reexamined; early studies were based on

outdated approaches with measuring at relatively low heights. Updating of the Plan should be a part of the process and it should include quantifiable parameters not just broad aspirations. The State should act as “**enablers, champions and visionaries**”, and, on a limited basis, implementers. Generally, implementation should be accomplished by relevant stakeholders.” The State plan should be a “living document” that guides the evolution of existing organizations, technologies and lifestyles. (9/24/03)

4. “Florida does not support a **viable, funded energy program** at this time. If one ranked Florida by state spending for projects and support activities for energy research and development, demonstration and deployment, Florida would rank near the bottom, perhaps 50 out of 50”. We need on the order of \$100 million per year as the fourth largest state. The State’s Energy Plan must recognize transportation fuels, electricity for buildings and industry and fuels for building and industry. **Climate change** cannot be ignored. Petroleum must yield to **alternative fuels**. “At this time, transportation fuel infrastructure is totally decoupled from the supply and distribution structure used by the other energy sectors”...“Technology and market forces will converge to create demand for non-petroleum sources of energy in the transportation fuel sector. R&D are needed. Innovation and risk taking must be encouraged. State matching funds must be available. Changes can be made as **energy systems** are **modernized** over the next ten years. A small user fee could be placed on consumption of energy in order to generate funding. The situation in the Middle East may be creating a one-time, short lived opportunity for Florida to act”. (10/01/03)
5. Detailed comments offered on Energy Efficiency and Renewable Energy Policy Options as related to electric and natural gas utilities. Rationale presented for policies that favor such options. **Contrasting tradeoffs** identified and caution expressed. The point made that there are **consequences** of each action, including cost, all of which must be considered. For instance, with wind energy, the benefit is the use of a renewable resource and reduced dependence on foreign sources but there is also an impact on the value of the environment for tourism and turbines become a danger for migratory bird species. Intermittent resources are a concern in terms of reliability. Liquefied natural gas is cleaner energy but may not provide the desired domestic energy security. It’s also hard to implement energy efficiency once a large capital investment has been made, in terms of the economics of replacing it with a more efficient version. For some consumers, it is also more valuable to have upfront dollars than long-term savings. It is dubious to assume that consumers of energy are not already making economically rational decisions when it comes to measures like appliance efficiency standards. Tax breaks can help achieve established goals but also reduce general fund revenues. Florida is not well endowed with wind or hydroelectric resources and photovoltaics are very expensive. Energy Efficiency Credit Training is in its infancy as a means to engage in more energy efficiency activities. Monitoring and verifying actual gains in efficiency could be highly problematic and costly.

Miscellaneous

1. Study available on relationship between saving energy and **indoor air quality** (mold and dust mites in particular) and new school construction specifically (www.Mold-Free.org, www.Indoor-AQ.org) (5/17/03)
2. Will **energy security** be part of the plan?
3. Inquiry about FPL and Florida programs.
4. Comments offered on varied topics (examples follow). The public needs to be scared into action, otherwise they won't change. The same applies with elected officials. "Set up a prize for a single package solar powered room air conditioner . . . It's probably an ammonia-water-hydrogen type, but there are Sterling Cycle possibilities. If all state and local government buildings, including schools, were retrofitted, there would be a big demand . . . Show state inflow and outflow of all forms of energy and the same for costs . . . Adopt mandatory recycling." In implementing plans and referring to goals, "use the test: is this action necessary to reach the goal, are these actions sufficient and are these actions possible?" (8/22/03)
5. Detailed comments submitted on Working Draft posted on Web site for public input. The comments are a variation of earlier comments submitted by the same individual.
6. Varied comments offered on: need for mass transit system based on solar, natural gas derived from renewable sources such as landfill methane, wind power, coal and gasoline. Encourage building energy efficiency, moving away from fossil fuels, using ocean and tidal power, taking "a new direction towards the light of the sun. "It's high time that we lead our country in solar research and sustainable sources of efficient energy." (8/26/03)
7. Information forwarded on sustainability and sustainable development. (9/3/03)
9. We support several of the guiding principals for the project but suggest caution on others. The State's energy plan "must represent a realistic and appropriate balance of resources and requirements of every sector of the stakeholder community and be sufficiently robust to accommodate certain change to ensure a secure and sustainable energy future for Florida". Stakeholders should have the opportunity to comment on the project report and recommendations and any subsequent reports or proposed legislative changes as may result from this process. We have been disappointed at the lack of materials made available for review and comment. (10/03/03)

ORGANIZATIONAL INPUT

STAKEHOLDER ORGANIZATIONS

In addition to the above, emailed comments were received as the official input on behalf of several stakeholder organizations.

Palm Beach County, Solid Waste Authority

Specific comments with regard to electricity production via waste-to-energy, landfill gas, and/or digester gas facilities, along with more general concerns about state level energy actions for the future. Comments called for: highest/best use of fuel resources; concern about indiscriminate expansion of natural gas for electricity generation given other important uses for that fuel; concern about inefficiency of electric generation using fossil fuels; need for appropriate diversified electric generation fuel portfolio; need for definition of green, renewable fuels and encouragement of their use; the value of a Renewable Portfolio Standard; importance of removal of artificial barriers to renewable resources and concern that the PSC has ignored legislative directives to promote them; concerns to local governments about energy prices and the ultimate impact on the public; suggestion that responsibility for renewables be removed from the PSC or that the Legislature mandate more specific action of the PSC to ensure than renewable/alternative resources are encouraged in accordance with the Legislature's intent and state policy.

Lee, Pasco & Hillsborough Counties

Call for State energy plan to include supply side issues in addition to consideration of demand side issues. As part thereof, enhanced supply side efficiency is needed (efficiency in the production and delivery of energy) along with enhanced use of renewable energy resources. The amount of energy input, especially non-renewable energy input, used to produce energy for end purposes should be reduced. The current law (FEECA) calls for this (specific statutes cited). Indigenous renewable resources should be tapped. A Renewable Portfolio Standard for future electricity generation should be developed along with the expressed recognition of waste-to-energy as a renewable energy resource. “Generating a kilowatt-hour of electricity more efficiently can and does save primary energy, and therefore reduces Florida’s total energy bill in the exactly the same way as using electricity more efficiently.” The principles and concepts in these comments “apply and will serve Florida well in any growth scenario, be it high growth, slow growth or even no growth. The more efficient supply of energy means that more energy will be available, that Florida’s energy self-sufficiency will be enhanced and that Florida’s total energy supply costs will be less, regardless of the status of the overall Florida economy”.

Florida Minerals and Chemistry Council

“Florida uses a tremendous amount of energy, but public policy in Florida has taken a ‘not in my backyard’ approach to producing energy. “ Significant energy reserves lie in the

Gulf of Mexico and should be tapped. The gross receipts tax should not be applied to natural gas imported into Florida (a currently controversial issue), which would put Florida businesses at a distinct disadvantage with competitors. Larger businesses tend to be more efficient: consumers and smaller businesses would benefit greatly from government-endorsed programs that offer technical assistance. Florida's energy plan "must address supply and demand issues... Florida should look at being more self-sufficient in producing its energy supply".

"Many of our members produce a significant amount of waste heat from their industrial processes. They place this waste heat on the electricity grid to be utilized by other consumers and are paid a minimal price. When they choose to purchase it back, they pay more for it than when they sold it. This is a disincentive for businesses to contribute to Florida's energy grid." Incentives should be offered to companies for sharing the power they generate rather than encouraging them to do so.

"With the often limited supplies and unusually high prices of natural gas, using natural gas for electricity generation may jeopardize the reliability of electricity for the home owner or small business, while driving the price of natural gas up for the industrial customer relying on natural gas for raw materials...or to meet environmental permit requirements. An alternative for utilities would be to use more co-generated electricity produced from waste heat in manufacturing."

Florida must" plan for a future that is rich in alternatives so that reliability, stability and highest use of resources is accomplished".

Florida's Industrial Cogeneration Association/ Florida Phosphate Council

"In many cases, industry (especially the phosphate fertilizer industry) has implemented, directly or indirectly, energy plans suited to the particular needs/characteristics of the industry and its customers. Any statewide energy plan developed or recommended as a result of this proceeding should strive to be consistent with and complementary to energy plans of industry and incorporate lessons learned from such plans. Moreover, a Florida Energy Plan should be careful not to intrude into highly technical industrial processing or manufacturing operations by recommending, or attempting to develop, industrial energy efficiency standards, operating practices, equipment standards, etc."

"Industry strives to use energy efficiently with the objective of maintaining its competitive position in a global commodity business by controlling variable operating costs. Many industrial operations produce electricity via cogeneration which produces electricity at high efficiency using waste heat recovered in the fertilizer manufacturing process; and have implemented energy conservation measures in process equipment, process design, operations and similar activities. The experience and body of information available from industrial energy plans program would be invaluable to the Florida Energy Plan team".

"...Plan must be all-encompassing and comprehensive, addressing all supply and demand issues, including but not limited to: energy supply reliability; efficiency of electricity generation and supply; adequacy of electric utility regulation; electric power

plant siting; obstacles to competition in electricity markets; barriers to renewable/alternative energy resources and cogeneration; energy security; economic impacts; fuel-use; fuel-mix; and increasing utilization of Florida's renewable/alternative indigenous resources."

"...must address the questions of highest/best use for certain fuel resources...The indiscriminate expansion of the use of fuels such as natural gas for electricity generation – as now appears to be the case among Florida's electric utilities - may increase the risk of electric supply interruption, reduce the security of our generation assets, and decrease the availability while increasing the cost of natural gas when other alternatives are available. Alternatives would include electricity produced by cogeneration and electricity produced using renewable/alternative fuels such as waste heat from fertilizer manufacturing."

"...give heavy weighting to the inefficiency of electric generation using fossil fuels. Generating technologies, such as traditional "fossil steam" plants, typically operate at efficiencies of 30% - meaning that fully 70% of the fuel consumed is wasted. Offsetting the poor efficiency, however, is the ability of such plants to be designed to operate on gaseous (natural gas), liquid (oil) and solid fuel (coal), thereby reducing the risk of supply interruptions and price instability."

The electric generation "fuel-mix" situation today is in some ways reminiscent of the 1970s when the state was heavily reliant on oil and natural gas for electric generation.

...an effective plan would require an appropriate diversified electric generation fuel portfolio, including significant amounts of Florida renewable/alternative resources, and would strictly limit the utilities' discretion in such matters.

6.0 Florida's unique geology and geography attract tourists from around the globe. However, that same geology and geography work together to create a somewhat less attractive environment for electricity supply. Florida has few traditional indigenous energy resources, with the vast majority of fuels being imported from out of state and with a corresponding export of dollars out of Florida. Generation of electricity by Florida indigenous industrial cogeneration and renewable/alternative fuels such as waste heat from fertilizer manufacturing will reduce the amounts of fuel imported and the number of dollars exported from the Florida economy. In addition, Florida will benefit from increased reliability, fuel supply diversity and security of electricity supply.

...any Florida energy plan should assess the adequacy of transmission capacity into Florida with respect to the importation of electricity into Florida.

...the price or cost of renewable/alternative energy is to a significant extent "definition" and "assumption" dependent. The responsibility for evaluating/determining the price/cost and benefits of renewable/alternative energy should be removed from the FPSC and either specifically articulated by the legislature, or moved to another agency, to assure that such renewable/alternative resources are adequately encouraged in accordance with legislative directives.

...should focus on the encouragement of reliable, mature, proven, measurable renewable/alternative fuel technologies such as cogeneration and generation by waste heat from fertilizer manufacturing. To the extent a less mature or reliable, but very promising technology may require subsidies to develop to the point where it would be self-sustaining, such subsidies should be carefully restricted, available only for specified limited periods of time, and have minimal impact on electric prices.

The encouragement of electric generation by waste heat clearly falls within the mandate of the Florida Energy Efficiency and Conservation Act, also known as FEECA... It should be clarified, by Statute or Executive Order of both, that industrial cogeneration and electric generation by waste heat from fertilizer manufacturing are green, renewable energy resources. Electric generation by these resources should be encouraged and given preference over electric generation by fossil fuel resources.

...a Renewable Portfolio Standard (RPS) – limited to Florida indigenous renewable resources - should be adopted to provide adequate encouragement to the Florida electric utilities to include Florida indigenous renewable fuels in the energy mix. Purchases of Transferable Renewable Energy Credits (so-called TREC's) from resources located outside of Florida should not be permitted for purposes of achieving the RPS requirements.

Artificial barriers – both legal and institutional - to the development of renewable/alternative resources must be identified and removed. There currently exist a number of Florida statutes announcing the State's policy to encourage renewable/alternative energy resources. Much of the responsibility of implementing this policy lies with the FPSC. Unfortunately, after a promising start in the 1980s, the FPSC has largely ignored the Legislative directives opting instead for a policy that seems biased toward the interests of the electric utilities that it regulates. This has worked to defeat the legislative intent and has had a chilling effect on the development of renewable/alternative energy resources. At the same time, the FPSC is overseeing utility construction of thousands of megawatts of new or re-powered natural gas fueled generating plants, while renewable/alternative energy resources, such as electric generation by waste heat from fertilizer manufacturing is ignored.

Miami-Dade Solid Waste Management

Supply side issues are critical to energy planning in Florida and should not be excluded from the analysis and discussion. Renewable energy sources such as waste-to-energy technology must be included. State law calls for “increasing the overall efficiency and cost effectiveness of electricity...production and use”. The Miami-Dade Resource Recovery Facility processes 1.2 million tons of garbage and trash each year and converts this waste into refused-derived fuel, which is enough to power the plant and supply the average power needs of 40 thousand homes, and reduces waste volumes by 90%. It is an alternative to

landfill disposable and displaces the use of imported (to the State) fossil fuels. Other opportunities for energy production from waste include utilization of landfill gas (which is already captured at every municipal solid waste landfill in Florida) to generate power and use of bio-mass or wood waste as a fuel in dedicated facilities. These technologies are readily available as local, sustainable sources of renewable energy. State efforts should include goals and policies to favor the use and expansion of all of Florida's renewable energy sources as part of the State's energy supply. This could be accomplished through a Renewable Portfolio Standard.

Workshop Written Comments

In addition to comments received verbally at the workshops, several individuals provided written materials for consideration as part of the energy project.

Maitland

Comments from concerned citizens:

1. The need to "launch an aggressive solar energy program" plus energy efficiency.
2. Curbing global warming which threatens our life and economy.
3. Considering population growth as the major factor in driving up demand for energy.
4. The effect of increasing population on the environment.
5. Concerns about the economy's continued reliance on the construction industry.
6. Literature provided on Florida's population growth from Floridians for a Sustainable Population.

Jacksonville

Sierra Club provided document on "12 Key Benchmarks for Achieving a Sound Energy Plan. Each was summarized with narrative comments and included:

1. Increasing fuel economy
3. Introducing greater efficiency measures
4. Providing tax incentives for efficient new buildings and equipment for strengthening efficiency standards for appliances and buildings
5. Renewable energy measures including wind power, solar power, geo-thermal energy and bio-mass power; and calling for a Renewable Portfolio Standard

6. Replace old power plants with efficient plants
7. Maximize production from existing oil and gas wells
8. Improving transmission lines – As one example, 3M Corporation has begun marketing a new transmission line that carries 1.5 to 3 times as much power as conventional transmission lines and significantly reducing line losses.

Several papers provided on history of gasoline taxes including:

1. Its uses with major emphasize on highways
3. “The Real Cost of the Federal Tax on Gasoline”, including the impact on federal transportation revenues as more efficient vehicles are used
4. “The Real Price of Gas”, including external costs of using motor vehicles and internal combustion engines that are not reflected in the retail price (with notation added that this also includes the “massive costs of the War on Terrorism as a direct offshoot of our dependence on oil”. The paper notes that “the majority of people paying just over a dollar for a gallon of gasoline at the pump have no idea that through increased taxes, excessive insurance premiums, and inflated prices in other retail sectors, that the same gallon of fuel is actually costing them between \$5.60 and \$15.14. When the price of gasoline is drastically underestimated in the minds of drivers, it becomes difficult if not impossible to convince them to change their driving habits, accept alternative fuel vehicles, support mass transit or consider progressive residential and urban development strategies.”
5. Eliminating government tax subsidies, program subsidies and protection subsidies for petroleum companies and users, plus then internalizing the external environmental, health and social costs associated with gasoline use, are needed for consumers to see the entire cost of burning gasoline reflected in the price they pay at the pump. “Drivers faced with the cost of their gasoline usage upfront may have a more difficult time ignoring the harmful effects that their addiction to automobiles and the internal combustion engine have on national security, the environment, their health and their quality of life.” (Quoted from International Center for Technology Assessment)
6. Comparative States’ tax rates on motor fuel (table of rates) and legislative summary of gas tax laws
7. Paper on “Economic Impact of a Federal Gas Tax Increase”

Venice

1. Paper presented from Manatee-Sarasota group of the Sierra Club on various energy alternatives. *Note: same paper presented via email comments.*
3. Proposed Constitutional amendments presented to create a tax rebate for the purchase of solar water heaters and to create a tax exemption for automobile fuel efficiency.

4. **Proposal presented to create a revolving fund to support the upgrade of Florida's utility infrastructure.**
5. **Proposed as a joint initiative of DCA and PSC to “support citizen based efforts to upgrade their neighborhood utility infrastructure” including community initiated utility improvement projects, such as placing older above-ground distribution systems underground.**
6. **Article provided on how to convert garbage into oil.**
7. **Sierra Club brochure provided on “Clean Power Comes on Strong”, dealing with how renewable energy and energy efficiency can fuel our future.**
8. **Literature from Sierra Club “Automaker Accountability Campaign” calling on Ford Motor Company to use its technologies to create a “Freedom Option Package” for consumers.**
9. **Brochure provided on “Clean Energy in the 21st Century”**

Unspecified Region

1. **Paper presented on “A Market Driven Solution” for the Federal Energy Bill. Calls for use of an approach that stores surplus off-peak energy for use during the peak. Calls for reduced dependence on foreign fuels, improved environmental quality, higher energy efficiency, lower energy rates, emergency power for home and national security, enhanced system reliability, and job creation.**

APPENDIX E NATIONAL PERSPECTIVE INSIGHTS

APPENDIX E-1 POWERING THE SOUTH, RNEWABLE ENERGY POLICY PROJECTS

POLICIES TO ADVANCE RENEWABLE ENERGY

Introduction

- Establishing the Renewable Portfolio Standard
- Creating a Renewable Energy Fund
- Making the Market More Fair for Renewables With Tax Incentives
- Adopting Fair Transmission Policies
- Enabling Customers to Benefit From Distributed Power
- Transforming the Private Market
- Bringing Green Power Choices to All

Policies to Advance Renewable Energy

Renewable energy can play a much more prominent role in the South. According to the Clean Power Plan, renewables can meet up to 10% of the South's power needs in 2020. State legislatures, public utility regulators, utilities, and local governments all have a role to play in advancing renewable energy in the six states covered in *Powering the South*. This section highlights the key policies required if renewable energy is to help clean the environment, contribute to a diversified energy portfolio, and meet energy needs effectively now and in the future.

Establishing the Renewable Portfolio Standard

Each state in the South should pass a Renewable Portfolio Standard (RPS) that requires all retail electricity suppliers to include renewable energy as a specified portion of the overall power mix. Legislators or public utility regulators should require private retail power suppliers to install renewables so that the region as a whole meets 4% of in-state power production in 2010 with renewable energy, moving up to 10% in 2020. (Data on renewable energy potential in specific states, which serve as a basis for individual states' RPSs, are provided in Chapter 5.)

Suppliers covered by the RPS would trade renewable energy credits among themselves. Each credit would represent a unit of renewable energy generation. Suppliers that install and generate more renewable energy than they require can sell credits representing the "excess" renewable energy to those that do not meet their requirement. Thus a supplier in North Carolina who exceeds its requirement can sell excess credits to another supplier in that state who has not yet met its requirement.

The credit system would make the renewable energy market in the South flexible, fluid, and cost-effective, since development occurs where the resources are the best. The system would also require a tracking system to verify that the credits represent actual renewable energy production, thereby helping all states ensure compliance with their RPSs.

If the cost of the RPS is in question, a cost cap for credits can be established in each state. The cost cap must be high enough to allow for genuine competition among renewable energy developers. An analysis by the National Association of Regulatory Utility Commissioners mentions a price of 2.5¢ per kWh (the price difference between renewable power and the remaining mix of nonrenewable power) as a reasonable price cap, but each state must evaluate its renewable energy technology options to arrive at a reasonable cap. When credits exceed this price on the market, the state RPS administrator can offer regulated suppliers "proxy credits" at the capped price to regulated suppliers.

If citizens and policymakers are concerned that their local suppliers will rely too much on buying credits from out-of-state suppliers rather than developing in-state renewable energy, the RPS policy can state that only the renewable energy projects that provide clear benefits to the state—be it through direct displacement of dirty power or clear financial benefits to in-state consumers due to resource diversity and price stability from fuel-free renewables—can qualify under the RPS. This will ensure that communities in all states will benefit from the environmental, energy, and economic development strengths of renewables. Explicit requirements for projects to be in the state may not pass constitutional scrutiny.

So far, 11 states in the country—including those that have deregulated and others that have not—have adopted RPSs. In Texas, the legislature has required that in-state suppliers develop 2,000 MW of renewable energy by 2009. The result has been a rush of wind power development—bringing jobs, tax revenues, and, most important, the foundation of a vibrant local clean energy industry that can contribute to environmental quality and resource diversity for years to come.

Creating a Renewable Energy Fund

Each state should create a Public Benefits Fund that supports renewable energy development. As with the fund on efficiency, this would be based on a small surcharge of 0.2¢ per kWh on electricity delivered to customers. The purpose of the fund is to channel public support to financing for specific renewable energy projects and

programs.

The fund is a complement to the renewable portfolio standard since, unlike the RPS, the fund:

- Supports renewable energy technologies such as solar photovoltaics (PV) that would not prevail under an RPS but that are close to commercialization, require additional development, and face barriers due to their location close to the user;
- Leverages private investment for renewable energy development;
- Supports essential efforts such as consumer education and supplier education (such as training installers of solar PV, farmers supplying biomass to power plants, or farmers who host wind turbines on their property); and
- Targets technologies that have significant long-term potential for particular states.

So far 14 states have established \$3.5 billion in funds across the United States. These funds have contributed to almost 1,200 MW of new renewable energy capacity, with more to follow. (The funds also support energy efficiency and low-income energy programs, so the ratio of funds to megawatts is lower than it appears.) In California alone, the state "buydown" program supported by surcharges supported 549 MW of new renewable energy projects over a three-year period, covering solar PV, geothermal, biomass, and wind projects that were the few to offer stable prices during the state's recent energy crisis.

As in the efficiency fund, a third-party, independent, and highly capable administrator should manage the renewable energy fund—a nonprofit organization, foundation, or appropriate public agency. The board should include environmental and consumer organization members, state energy officials, and renewable energy industry representatives.

Third-party administrators must avoid overriding influence from utilities that might be resistant to innovative renewable energy technologies. Their central mission and main business objective should be the successful development and implementation of aggressive renewable energy programs.

The administrator must establish and follow prudent criteria that targets the most promising technologies for the market in ways that genuinely develop markets.

Making the Market More Fair for Renewables With Tax Incentives

Tax incentives are an important component to renewable energy development. Southern states should design tax policies that support both producers and consumers of renewable energy.

Tax Incentives for Producers

Producers of renewable energy face a higher tax burden than owners of gas-based power plants. The burden is primarily due to the fact that many renewables do not use fuel. Instead, taxes focusing on capital investments and neglecting fuel purchases translate into tax payments, particularly by wind and solar producers.⁵⁹ Fortunately, it is clear that certain tax policies can play a crucial role in attracting investment to renewable energy development.

State governments should pass a Production Tax Credit (PTC) for renewable energy. The federal production tax credit has helped catalyze affordable renewable energy development. Established by the Tax Policy Act of 1978, this provides 1.5¢ per kWh of power produced by renewable energy such as wind and certain forms of biomass. While the PTC alone has not spurred renewable energy, in concert with other policies it has attracted private investment. A good example of its impact is found in Texas, where the RPS has led to wind energy development, but the federal PTC that was to expire at the end of 2001 encouraged a "wind rush" that will help Texas meet its 2009 goals well before the deadline.

It is important for southern states to understand the timing and coverage of the federal PTC. Up to 2001, coverage did not include key technologies such as biomass co-firing or biomass energy sourced from urban wood waste screened for toxics. Southern governments can complement federal efforts by passing legislation that offers state production tax credits for all renewable energy technologies with a promising future in their state. Further, state governments can time their PTCs to complement the federal PTC. For example, if a federal PTC expires at a given year, the state PTC can come into effect thereafter for technologies that qualify for the federal PTC. State officials should make sure the PTC lasts long enough to give producers time to site, design, and install projects without fear of elimination of tax credits. Short-term tax credits will have little value in catalyzing smart projects with community support.

Local governments can play an important role in spurring local economic development by reducing local property taxes to renewable energy producers. Some level of property tax should benefit the host community, but the tax burden for renewables should not exceed that for fossil fuel plants on a per-kWh basis.

Tax Incentives for Consumers

State governments should offer consumer tax credits for small-scale technologies such as solar PV. Small-scale renewables often are more akin to appliances than to large industrial operations. Credits should offer buyers incentives that reduce the "up-front" cost of the product. For example, block rebates (based on a dollar amount per installed watt of capacity) can go to the consumer upon purchase of a renewable energy system.

There should be little red tape for the consumer, who should be able to learn about the incentive, apply for it, roll it into the financing of the product, and realize its value with little hassle. Otherwise, the value of the incentive will be low—several states have

witnessed severely undersubscribed incentive programs, partly due to lack of publicity, among other issues.

Finally, state legislatures can pass legislation featuring accelerated depreciation measures that reduce the tax burden of efficient biomass combined heat and power (CHP) systems in the short term, thereby making CHP economics more attractive to financiers. Biomass CHP systems require fuel storage and fuel handling facilities compared to CHP based on fossil fuels. They may also require unique boilers. Thus their short-term payback (that is, their ability to pay for themselves in two to four years) may be less attractive.

Adopting Fair Transmission Policies

Renewable energy faces two challenges when it comes to transmission. First, renewables such as wind and solar are intermittent—they run when the resource is available. Second, renewables must go where the resource is, which is not necessarily always where the demand for power is. This means that the distance between the renewable power plant (for example, wind turbines in the Blue Ridge mountains of North Carolina) and the consumer (residents of the Raleigh-Durham metropolitan area) can be longer than for other power plants.

Fortunately, apart from technical solutions there are a number of policies that can address these challenges:

States should ensure affordable transport of power across different transmission territories. A new regional transmission organization (RTO), or its regional equivalent, should require "postage stamp pricing" in the South. The six states covered by this study represent integrated electricity markets. Access to these markets through access to transmission lines should be available for one price. The practice of individual utilities levying fees on power traveling through their lines ("pancaking") inhibits commerce, particularly when power crosses two or more utility transmission territories. Texas's ERCOT transmission organization and the California Independent System Operator are two transmission organizations that have adopted postage stamp pricing.

Wind and solar producers should not be penalized for producing less power than expected, yet receive no reward for producing more power than expected, particularly during a period of high power demand. Accordingly, an RTO or equivalent authority should create "real-time balancing markets"—markets where power generators can buy and sell firm transmission capacity based on fluctuations in power.

New renewable energy facilities may face barriers to transmission access while existing plants get priority access. An RTO or equivalent authority should allow renewable energy operators to bid for congested transmission capacity alongside all other power plant operators.

An RTO or equivalent authority should guarantee that ancillary services for renewable energy are reasonable—that is, services that provide higher value to each unit of power generated by complementing the power with services that ensures its value to the electricity system should be priced fairly.

For these changes to take place, the RTO or equivalent authority must include representatives from renewable energy generators and environmental groups that support renewables. The authority should not be guided solely by owners of fossil fuel power plants or transmission lines, both of whom have interests that may be too narrow to consider the importance of expanded clean energy markets.

Enabling Customers to Benefit From Distributed Power

Uniform Safety and Quality Standards

Public utility regulators must adopt uniform product and service standards for technologies such as solar photovoltaics. As with any industry, manufacturers and installers of small-scale, distributed power systems such as PVs must face consistent standards. Such standards must address safety concerns—for example, fire safety and safety for power line workers—as well as ensure quality so customers get what they reasonably expect.

Standards that differ from state to state make it very difficult for an industry to offer affordable, standard products and services. Instead, custom products and services will increase costs of projects, making distributed energy unnecessarily out of reach for many customers.

Fortunately, a number of nationally recognized standards have emerged to address these issues—for example, Underwriters Laboratories (UL) standard 1741 and Institute of Electrical and Electronic Engineers (IEEE) standard 929 on safe interconnection of a PV system to the grid, and National Electric Code (NEC) guidelines on fire safety.

All that is required is for public utility regulators to officially adopt these standards, and actively enforce adherence to them by utilities within the state. Texas has moved in this direction, so that the reasonable interests of the renewable energy supplier, customer, and utility are all met.

Standard and Simple Interconnection Procedures

In addition to the adoption of standards, public utility regulators should require that utilities develop and rely on simple procedures for reviewing and approving applications by customers to connect their distributed power systems to the grid. Several studies have shown that many utilities impose unnecessarily complicated, inefficient procedures that result in excess paperwork, needless lawyer fees, and frequent discouragement on the part of the homeowner or small business interested in innovative, workable technologies. Standard procedures should efficiently address insurance,

indemnification, and siting issues. The best way to do this is to merely require the applicant to adhere to the safety and quality standards discussed above. For example, Rhode Island has a simple, one-page application form that specifically refers to UL, IEEE, and NEC standards.

Net Metering

Public utility regulators should reward owners of grid-connected distributed power systems for supplying power to the grid, which can occur whenever the power system produces power above the owner's requirements. Net metering, a policy adopted by over 30 states, allows customers to subtract from their utility bill the power sent to the grid. Ideally, the utility should pay the customer the same rate as the customer pays the utility for power. Georgia is the first state in the region to adopt a form of net metering that includes simplified interconnection standards (see Box 3.1).

Public utility regulators should make sure that net metering limits do not unfairly exclude worthy candidates. States that have adopted net metering have established limits on the size of a qualifying distributed system and the total size of distributed power systems in the state that can qualify for net metering. As positive examples, Minnesota has passed legislation allowing systems up to 10 MW to qualify for net metering. California recently lifted an overall cap of 50 MW that could qualify throughout the state for net metering, primarily to encourage more distributed generation as a way to address its power crisis.

Utility Charges

Finally, public utility regulators should ensure that utilities do not impose needless charges on owners of distributed power. Utilities frequently impose exit fees (fees for leaving the grid and therefore reallocating grid maintenance costs to the remaining grid-connected customers) and standby fees (fees that cover the cost to the utility to maintain back-up power in case the distributed power system fails). Minimizing such fees is essential to maximize the benefits of distributed power to both the owner and the entire grid.

Transforming the Private Market

As with energy efficiency, state legislatures and utilities should channel funds toward enabling consumers to buy and suppliers to sell renewable energy products and services. Market transformation entails changing the behavior of consumers and producers in order to make clean energy technologies more mainstream in the private marketplace. Unlike the renewable portfolio standard, which requires installation of renewable energy by law, market transformation involves strategic actions that provide incentives and educate private actors to install renewable energy.

For renewables, market transformation is most relevant for distributed generation technologies such as solar and small wind. State governments, including state energy offices, state agriculture agencies, state commerce agencies, and even business

schools at state universities, should work with renewable energy suppliers to make renewables well-understood, mainstream products.

State governments should also create a Market Development Fund (MDF). The appropriate Fund Administrator within the government can select a private firm (including an industry consortium, public relations firms, or a combination) to implement the fund based on transparent performance criteria. The MDF could perform several essential market-building tasks, including:

- Marketing products to relevant retail customer segments (such as farmers for solar or wind water pumping systems, and individual homeowners) as well as key suppliers, such as Home Depot, that have strong reach to retail consumers;
- Assuring customers and vendors that renewable energy products are reliable by providing information on standards such as Underwriters Laboratories and by showing real-life, local examples of successful projects; and
- Providing easy-to-understand information on funds and incentives that are available to consumers.

Ideally, an MDF can create Web sites and telephone hotlines that can help customers integrate rebate programs, tax credits, and net metering opportunities into their purchase of a renewable energy product. Renewable energy firms and advocates should integrate these informational resources within their own marketing efforts to ensure broad reach throughout the state.

Bringing Green Power Choices to All

The Clean Power Plan requires substantial public policies to advance renewable energy. Even with these policies in place, southern consumers should still have the option to support more renewable energy development voluntarily. Green power purchasing gives consumers this option, whether in a regulated electric system or a deregulated one.

All utilities should offer green power options to their consumers. The Tennessee Valley Authority (TVA) has led the South in green power offerings. Working with distribution utilities in Tennessee and Alabama, as of July 2001 TVA's program had attracted over 4,100 business and residential customers who want to do more for renewables. As a result, a new 2-MW wind farm, 11 new solar PV installations, and one new landfill gas power plant are now in place. The TVA program is in essentially a regulated utility environment, showing that other utilities throughout the South can achieve the same success with or without deregulation.

For states such as Florida that are moving toward deregulation, state legislatures must craft market structures that allow for new competitors, rather than protecting the incumbent utility and squelching competition. In Pennsylvania, deregulation effectively encouraged customer switching. Now over 2% of all residential consumers have moved to green power providers. In contrast, California's deregulation effectively precluded

new competition. The "default" price of electricity was set at the wholesale price, so that new retail competitors could not make a profit from their sales. While some green power marketers fared decently due to state financial incentives, the poor competitive market squandered a promising opportunity for burgeoning green power markets and consumer activism.

Any green power program in the South should meet Green-e standards at a minimum, and preferably exceed these standards by supporting as much new renewable energy as possible. For any green power effort to be meaningful, it must meet minimum standards for product content. Green power products should not mislabel fossil fuel or overly polluting technologies as "green." They must support new renewable energy installations, rather than sell power from existing plants only at a premium. The Green-e label is one program that establishes minimum standards for green power programs. These are minimum standards, however, and thus earnest green power efforts should exceed them primarily by including new renewable energy as a bigger portion of its supply portfolio.

From *Powering the South*, www.poweringthesouth.org/

POLICIES TO ADVANCE ENERGY EFFICIENCY

Introduction

- Creating an Energy Efficiency Fund
- Promoting Education and Market Transformation
- Rewarding Efficiency Through Tax Incentives
- Tightening Buildings Codes and Appliance Standards
- Requiring Better Utility Planning
- Making Government More Efficient
- Establishing Demand-Adjusted Pricing

The South has tremendous opportunities to realize the environmental and economic benefits of the Clean Power Plan by using policy and market-based measures at the federal, state, and local level. This chapter outlines these opportunities as they relate to energy efficiency and renewable energy.

Policies to Advance Energy Efficiency

As the results of the Clean Energy Plan show, energy efficiency will save money, improve the environment, and eliminate the need for at least 112 fossil fuel plants between now and 2020.

Creating an Energy Efficiency Fund

Each state should create a Public Benefits Fund (PBF) that supports expanded markets for energy-efficient products and services. The fund is based on a small surcharge of 0.2¢ per kilowatt-hour (kWh) on electricity delivered to customers—that is, a charge per kilowatt-hour that shows up on a customer's electricity bill, just as other utility charges do. The surcharge would cover half of the investment costs for energy efficiency up to 2010.⁴⁹ If the fund is adopted by the state public utility regulators, it would apply to customers in territories originally served by investor-owned utilities. Funds passed by the state legislature may also include territories served by rural electric co-operatives and municipal utilities.

As of August 2001, 14 states had already established \$3.5 billion in PBFs for efficiency, as well as renewables and low-income energy support, across the United States.

The fund should leverage private funds on at least a 2:1 ratio, so that most participants benefiting directly from it (homeowners, businesses, and homebuilders, for example) all contribute financially to their own energy efficiency efforts.

A third-party, independent, highly capable administrator should manage the fund. The administrator can be a not-for-profit organization, a foundation, or an appropriate public agency. A board including environmental and consumer organization representatives, state energy officials, and energy efficiency industry representatives should oversee the Energy Efficiency Administrator.

Third-party administrators avoid the conflicting incentives that utilities and power generators face. They can consider the successful development and implementation of aggressive efficiency programs to be the central mission and overriding business objective. Although some utilities have implemented energy efficiency programs in the past, financial incentives for reducing energy consumption through sufficient energy efficiency measures are currently lacking. In fact, many utilities still have a strong financial incentive to maximize electricity sales at almost all times other than peak.

That is why, for example, Wisconsin is transferring the management of energy efficiency and renewable initiatives from the utilities to public agencies and organizations. The Vermont Public Service Board also recently approved the creation of an Energy Efficiency Utility that would provide uniform energy efficiency programs throughout the state, using a single delivery mechanism.

The Public Benefits Fund can support many of the efforts outlined here.

Promoting Education and Market Transformation

State legislatures and utilities should channel funds toward enabling consumers to buy and suppliers to sell energy-efficient products and services. One of the primary barriers to energy efficiency is lack of information among both consumers and producers.

For example, homeowners looking for an affordable purchase may choose a home with low "up-front" costs, but with hidden high running costs due to energy-inefficient features—uninsulated walls, windows that are not properly sealed, poor natural lighting, and inefficient washers and dryers, among other features.

And homebuilders may be uninterested in supplying energy-efficient homes because they do not believe consumers value efficiency, because it is complicated to work with buildings trades and contractors to design efficient homes, or because efficient homes are new products whose economics and technical features can initially elicit confusion from buildings codes inspectors and realtors.

Educating both consumers and suppliers is a daunting task that, so far, has not attracted private capital alone. For consumers, public funds are required to educate consumers and producers about the economic benefits of energy efficiency, existing products and services, and financial options that support efficiency, such as federal Energy Star mortgages that roll efficiency features of a home into a low-interest financing package.

For suppliers, funds are required to educate the different parts of an industry's value-chain (such as architects, contractors, building code inspectors, and realtors within the housing industry) about best practices and about case studies featuring energy efficiency.

The building industry in the South should support education, training, and stronger certification and testing programs from members of the buildings trades. For buildings, the focus should be on duct sealing, HVAC (heating, ventilation, and air conditioning) installation and maintenance, insulation, and house sealing—all areas with large opportunities for energy use reductions.

State energy offices and state industrial and agricultural extensions should invest more in educating industries on near- and medium-term opportunities to cut energy use and improve performance. A number of studies clearly show that better technologies and practices provide multiple benefits to firms. State agencies should provide relevant information specific to sectors (metals, textiles, semiconductors, and so on) on best practices and technologies, as well as financial incentives and information on possible suppliers and designers.

Federal agencies such as the U.S. Environmental Protection Agency (EPA) and the U.S. Department of Energy should expand their education efforts in the South. Both agencies should expand the Energy Star buildings program to include a greater emphasis on training builders and contractors in the full range of efficiency technologies and practices available.

Rewarding Efficiency Through Tax Incentives

State governments should support tax incentives that reduce the financial barriers that many customers face when purchasing equipment, as well as stimulate the development of advanced technologies that have not yet reached commercialization. To be effective, incentives need to have several qualities:

- Tax incentives should be big enough to influence the decisions of residential and commercial customers.
- Tax incentives should complement other efforts such as the federal Energy Star program and state market transformation efforts.
- Tax incentives should target opportunities that have a high potential market in the South, have some private-sector interest, and are cost-effective once they are adopted widely.

Tightening Buildings Codes and Appliance Standards

State governments should apply more-stringent energy efficiency standards, while state and local governments should apply more-stringent buildings codes throughout the South. Commercial lighting improvements, more energy-efficient windows, day-lighting, and HVAC efficiency are some of the most cost-effective opportunities for better

environmental performance in the South. Each of the southern states should evaluate its current efficiency standards and building codes, upgrade outdated codes and standards, and establish monitoring and enforcement practices to ensure that revised standards and codes are implemented.

States should coordinate their efforts to provide regional consistency, which is essential to enable the mass production of energy-efficient products and services rather than products custom-made to meet the requirements of each state.

Efficiency standards are essential for new appliances and other electricity-consuming equipment bought on a mass basis. Ratcheting up the efficiency of refrigerators and air conditioners, for example, can produce huge overall energy savings. Similarly, building code reforms that set minimum efficiency standards for the design and construction of new and renovated buildings target some of the biggest opportunities for energy savings.

A recent study estimated that the six states in this study can achieve electricity savings of roughly 7,700 megawatts (MW) of peak generation by 2010 and 23,000 MW by 2020 by updating the federal efficiency standards for seven key electricity end-uses: clothes washers, fluorescent ballasts, central air conditioning and heating pumps, water heaters, transformers, commercial air conditioners and heat pumps, and commercial furnaces and boilers. Upgrading these efficiency standards would create a net economic savings of \$3.6 billion in 2010 and \$8.2 billion in 2020 for the six states.

Efficiency standards and building codes directly transform the market for energy-efficient products, designs, and services. Over time, they can permanently remove certain inefficient products and practices from the market. They encourage all manufacturers, designers, architects, and builders equally and simultaneously. They also encourage all customers, not just those who are better informed, more motivated, or more concerned about energy consumption and environmental impacts. They create a technology pull on the market for more-efficient products, and they immediately overcome many of the market barriers to energy efficiency.

There are significant opportunities to improve existing efficiency standards and building codes in the South. While the federal government has already established efficiency standards for some appliances and products through the National Appliance Energy Conservation Act of 1987 (NAECA) and the 1992 Energy Policy Act, these standards can often become out-of-date as technologies improve.

Similarly, many states have efficiency-related building codes on the books, but most are behind the times. The Energy Policy Act requires all states to adopt at least a "good practice" commercial building code, and to consider upgrading their residential building code to meet or exceed the "good practice" code. Nevertheless, not all states have complied with the act's requirements and suggestions. Furthermore, these codes do not always incorporate the best efficiency practices, and often officials do not adequately monitor or enforce them.

Efficiency standards and codes are most effective when they cover a broad region, thus applying consistent requirements to manufacturers and easing the education and training of designers, builders, and building code officials. That is why it is preferable, and likely to be more cost-effective, for the southern states to coordinate their efforts. Still, individual states can adopt more aggressive standards and codes on their own. California's groundbreaking 1974 efficiency standards paved the way for other states to adopt similar requirements, and eventually for today's national standards.

Efficiency standards and building codes are cost-effective means of achieving energy savings. They increase the economies of scale for producing efficiency measures by making efficient products and designs the norm. One study found that by 2015, the U.S. efficiency standards required by NAECA and the Energy Policy Act would reduce U.S. annual energy use by 4.3%, save energy consumers approximately \$140 billion (in 1993 dollars), and eliminate the need for roughly 80,000 MW of new generation capacity. The benefit-cost ratio of these standards is more than 3:1—that is, \$3 of energy savings are produced for every \$1 spent on more-efficient measures. The energy savings from the federal efficiency standards are among the highest of any conservation policy pursued in the United States.

Requiring Better Utility Planning

In regulated states, public utility regulators should require utilities to perform integrated resource planning (IRP) before deciding on new infrastructure investments such as power plants and power lines. Under IRP, utilities determine the most cost-effective source of new electricity service. For example, when utilities propose building a new power plant, they must determine whether that plant truly represents the cheapest, cleanest way to offer reliable power service. To do so, they must compare the plant to cutting demand elsewhere through energy efficiency, which can free up a similar amount of power as the plant would produce, plus save money on new power lines. While the IRP process makes financial and environmental sense, it has not been standard practice in the South or elsewhere.

Making Government More Efficient

Federal, state and local government agencies should implement smart and sensible energy efficiency technologies and practices to save electricity. Government as a whole is the largest single consumer of energy and electricity in the nation. While the federal government is the largest power consumer overall, state governments appear to consume more power per resident in their respective states than the federal government, and therefore they may be prime candidates for more efficient operations.

Public agency investments in energy efficiency can catalyze industry development in the South, including the early infrastructure for manufacturing, distributing, installing, and operating efficiency products. Government investments in energy efficiency can save taxpayers money by reducing energy bills and can produce environmental benefits that are enjoyed by all citizens but that tend to be undervalued in the electricity market.

Establishing Demand-Adjusted Pricing

In addition to the measures just described, public utility regulators should design power pricing so that it recognizes changes in supply and demand and therefore reflects the cost of supplying power for different times of the day and the year. Currently, many pricing schemes charge less for each kilowatt-hour consumed after a certain threshold, even though higher consumption can strain power supplies and require more power plants. Pricing does tend to charge more in the summer months, when demand strains supply, than in the winter months, when demand is lower.

Public utility regulators need to extend this concept from a seasonal basis to a daily and even hourly basis, so that customers who consume more energy pay the right price at the right time. Accurate prices will transmit accurate price signals. Once consumers receive these signals, they will have a greater incentive to make their daily operations more energy-efficient. Utilities will also face pressure to either increase supply or reduce demand. With these measures in place, efficiency should be the preferred option in many cases.

Public utility regulators should exempt low-income customers from demand-adjusted pricing. On average, low-income households consume less electricity than other households. At the same time, energy bills represent a larger portion of household income, making price increases particularly difficult for this customer class.

From *Powering the South*, www.poweringthesouth.org/

APPENDIX E-2

NRDC ENERGY RECOMMENDATIONS FOR FLORIDA

Comments of the Natural Resources Defense Council on Creating a Florida Energy Plan

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August 28, 2003

Introduction

The Natural Resources Defense Council (NRDC) is a national environmental advocacy organization with over 550,000 members nationwide. NRDC has been involved in state and regional level energy planning for almost 30 years. We have also worked closely with states on the design, development, and implementation of building codes and code-related incentive programs since the early 1970's, and have worked extensively with states on utility regulation and smart growth policy.

The preliminary planning documents concerning the Florida Energy Plan are on track with overall goals and specific policies that can move Florida towards a more sustainable future. What is missing is a strategic vision of how these policies work together and what specific actions the state of Florida can take to make sure they are implemented.

This paper attempts to fill in the gaps. Section II lays out a broad strategic framework of setting up a process for satisfying Florida's energy service needs at the lowest possible cost. Section III elaborates on how to do this within the building sector, identified as by far the largest part of Florida's energy consumption, and undoubtedly even a larger share of that of Florida's energy costs. Section IV discusses improvements in transportation efficiency, following on but intensifying the discussion in the preliminary planning document.

Strategic Framework

Good strategic planning – whether for the state of Florida or for a private business – requires that one first set a clear mission statement and overarching goals, and then develop objectives and policies that can implement the goals. One of the factors preventing a thoughtful debate on the subject of energy strategy is that, on the national level in particular, we've jumped to the detailed steps before first discussing goals.

What is the goal of a state energy policy? Much of the current energy debate seems to be based on the overarching but unstated premise that it is the goal of state policy to balance energy supplies with projected energy demands. This was the view of many in the 1970's, as well.

The problem with this approach is that it requires top-down, central planning that stifles innovation: government is assumed to be responsible for assuring adequate supplies and, if necessary, doing something about demand. Since the 70's we have altered American energy policy to rely more and more on markets. Building supply to match demand is no longer a federal government function, if it ever was.

So what should be the purpose of state energy policy? NRDC submits that the purpose of a state energy policy should be to develop mechanisms and market incentives that satisfy growing demands for energy services and environmental protection at the least cost to the state. Energy services are those valuable things that energy is used to produce, such as comfortable buildings, ways of getting to and from places we want to go, providing lighting systems and computers, and, in businesses, producing products that we can sell.

Fundamentally, most people don't care much about global issues of energy supply and demand. But they do care a lot about reliable electric service and what they pay for utility bills and for gasoline. And they also care about clean air and water, preserving wild environments from industrialization, and protecting the planet from the effects of accelerating global warming.

Energy services can be produced at a variety of different levels of efficiency, and with a variety of choices of fuel. Some of the choices are more environmentally damaging than others. As a matter of policy, we should pick the cleaner choices. Some of these choices are more expensive than others. As a matter of policy, we should get the cheaper ones first. Some of the choices are riskier than others. As a matter of national policy, we should balance risks and construct a portfolio of choices that minimizes risk.

If we accept the goal of societal cost minimization – which is strikingly similar to the goals Congress chose when it established DOE¹ – then the next step should be to produce an actual least-cost energy plan. This sounds like a daunting activity, but in fact has been undertaken successfully, at least for the electricity sector, for over 15 years. The Northwest Power Planning Council, beginning in the mid-1980's, developed a Northwest Power Plan which compared a range of choices on energy efficiency with all of the available options that could be identified on the supply side and ranked them in least-cost order. In calculating costs, risk and

¹ The Department of Energy was established by Congress, (42 USC § 7112) among other things, to:

- "Promote maximum energy conservation measures..."
- Provide for a mechanism through which a coordinated national energy policy can be formulated and implemented to deal with the short-, mid- and long-term energy problems of the nation; and to develop plans and programs for dealing with domestic energy production and import [sic] shortages.
- Create and implement a comprehensive energy conservation strategy that will receive the highest priority in the national energy program.
- Place major emphasis on the development and commercial use of solar, geothermal, recycling and other technologies utilizing renewable energy resources.
- Promote the interests of consumers through the provision of an adequate and reliable supply of energy at the lowest reasonable cost.
- Assure incorporation of national environmental protection goals in the formulation and implementation of energy programs, and to advance the goals of restoring, protecting, and enhancing environmental quality and ensuring public health and safety."

environmental cleanliness were taken into account. This was less difficult than might be imagined, because in general the cheaper options also turned out to be cleaner and lower risk. And all this was done in an open public process.

The results were good, in two respects. First, the Plan lessened the degree of political controversy over energy and replaced it with wide, if not total, consensus. Second, the region avoided some really bad investments and moved into a position of leadership on energy efficiency.

From analyses that have already been done at the state and regional level, as well as at the federal level, it is already clear that energy efficiency will be the cornerstone of any least-cost energy strategy, whether it is done for the state of Florida, the Southwest region, or the U.S. as a whole.

Once the measures that we are trying to implement have been identified, the next step is to look at markets and determine whether policy interventions are feasible and what sorts of policy actions would be most effective in achieving the objectives identified in the least-cost plan.

Looking at markets is critical because energy and most energy services are produced in markets. Many of these markets are global, and simple-minded interventions in such markets don't always have the desired effect.

Analysis of markets and policies for promoting least-cost energy investments demonstrates that there are four generic types of federal and state policies that are the most effective and the most economical at achieving their objectives. They are:

- Efficiency standards for major users of energy, such as buildings, appliances, equipment, and automobiles.
- Targeted incentives for more efficient technologies based on performance. These incentives have been administered primarily by utilities, although the state of Oregon has run a successful tax incentive program as well.
- Education and outreach on energy efficiency, although educational programs have worked best when performed in the context of financial incentive programs.
- Research on energy efficiency technologies and systems. The three policies noted above only work when there are economically attractive options available. Federally funded research has led to new opportunities for these other policies to work.

Within each of these four categories, there are significant roles that can be undertaken by the State of Florida.

In addition, there are special considerations relation to smart growth and its actual implementation through policy. Recent research allows planners to quantify how "smart" smart

growth is² and use these results for a number of state planning functions: land use planning, transportation planning, air quality compliance planning, energy planning, and planning for economic development. The average family in the United States spends more of its income – about 18%-20% – for transportation than for any other expenditure but housing. Smart growth development can reduce transportation expenditures by a third to two-thirds, a result with huge impacts for state economic development planning since a large fraction of transportation costs are sent out-of-state and thus do nothing to contribute to local economies in Florida.

Improving Efficiency of Buildings and Appliances

Florida has two major policy options for improving the efficiency of buildings and of equipment used in buildings. Both are complementary.

The first policy is to set increasingly stringent standards for buildings and appliances. Florida is well positioned to do this, since it has one of the best-implemented as well as most stringent state energy codes in the country. However, the stringency of this standard can be increased in a cost-effective way, building on the remarkable progress Florida has already made on implementing its standards through a performance-based calculation rather than rigid prescriptions. Florida was also one of the few states to adopt statewide appliance efficiency standards in the 1980's and numerous opportunities remain for the state to take action in the future.

The second policy relates to regulation of utilities. Standards, while the foundation of energy efficiency policy, work best when complemented by incentives and education, as noted in the introduction. The best funding source for such programs is through the utility system, since the costs are being borne by energy users to whom the services are being provided. If Florida develops an improved system of utility regulation that aligns state interests with private profit, it can provide the sources of funding for incentive programs and incentive mechanisms that motivates utilities (or other providers if the state so chooses) to offer the most cost-effective energy efficiency programs; and through these incentive mechanisms, it offers consumers of all sectors – residential, commercial, industrial, agricultural, and municipal – the opportunity to have lower electric and gas bills. These are discussed in more detail as follows:

A. Improving Building Energy Efficiency Standards

Florida has the opportunity to set more advanced standards for both residential and commercial buildings, since other state standards and voluntary guidelines have already advanced significantly beyond the levels of efficiency required in Florida.

For residential standards, the options are particularly wide because of Florida's history of establishing an effective performance-based standard. When standards are

² John Holtzclaw. *Using Residential Patterns and Transit To Decrease Auto Dependence and Costs*. Natural Resources Defense Council, San Francisco, and California Home Energy Efficiency Rating Systems, Costa Mesa, California, 1994.

complied with using fixed prescriptions, the state must be very careful that all of the required new measures are feasible and cost-effective to all users in all parts of the state at all income levels. But with a performance-based compliance approach, builders may choose to delete difficult or expensive efficiency measures by doing something else instead. The something else can be as simple and low-tech as orienting the house to exclude unwanted solar heat gains in summer and (for the northern part of the state) use them to reduce or eliminate heating needs in winter.

Upgrades in the Florida Residential Energy Code can be achieved by requiring improvements in the thermal performance of windows, particularly in terms of eliminating unwanted solar heat gain, through requiring the virtual elimination of air losses through ducts, through requiring thermal expansion valves and correct-sizing of air conditioners, as well as increasing insulation levels. Most of these measures will also substantially reduce peak power demands. They should be evaluated in terms of their economics at both saving energy and saving peak power.

For commercial buildings, several new standards and guidelines for reducing lighting energy use, the biggest single contributor to energy use in a commercial building, have already been developed and can be adopted by Florida. These include the mandatory revisions to the Seattle Energy Code (already in effect) and the proposed revisions to ASHRAE “90.1-2004” (Addendum g for lighting power density), and the proposed 2005 improvements to California Title 24. There’s also a voluntary standard soon to be available from the New Buildings Institute (www.newbuildings.org) called the E-Benchmark, which can provide guidance to the development of a revised Florida code. Florida could also consider whether additional requirements on cooling system demand for residential or commercial buildings could be developed that are optimized for a humid climate.

Additional standards for appliance and equipment efficiency can be adopted by Florida as well. These fall into two categories: equipment for which there are no federal standards and thus no limits on state authority, and equipment for which state standards are nominally preempted by the federal government and thus Florida would have to seek exemption from federal preemption to adopt these standards.

Perhaps surprisingly, there are numerous opportunities within the former category of options available to Florida without any legal complications. These include standards for almost a dozen products adopted by California in 2002, as well as standards for well over a dozen products that are currently being considered for adoption by California late in 2003. While none of these products individually consumes tremendous amounts of energy, collectively, the savings from standards can be impressive. California, for example, will save over 100 megawatts *for every year of implementation* of its 2002 standards. The savings for Florida would be of comparable magnitude for adopting the same standards.

B. Regulation of Utilities

Florida utilities have not been very active in promoting energy efficiency because the regulatory structure rewards them for inefficiency. Regardless of the degree of

deregulation in wholesale power markets, regulatory regimes can be constructed easily for Florida in which distribution utilities make more money to the extent that they reduce the cost of energy services to their customers. There are three very simple principles that allow this result:

- Regulation by revenue caps rather than rate caps. In other words, a rate case establishes maximum revenue that the utility can collect rather than a maximum rate per kilowatt-hour that it can charge. The most common implementation of this principle is a system in which utility profits are entirely decoupled from sales: the utility makes exactly the same amount of money whether kilowatt hour sales go up, stay the same, or go down. Revenue requirements are estimated based on forecast sales, not actual sales: and to the extent that actual sales depart from forecast, revenue requirements are “trued up” to maintain utility profits at a constant level.
- Funding for energy efficiency programs. Utilities should be allowed to recover the costs of energy efficiency programs based on a public benefits charge that applies to all kilowatt-hour sales to all customers, regardless of who the ultimate supplier of the energy is. In most states, the public benefits fund is spent by utilities, but it is also possible to have other entities administer this funding. The first regulatory reform, revenue caps in place of rate caps – must be implemented in any event to prevent utilities from having a motivation to undercut the administrator if it is not the utility itself.
- Shared savings incentives. Under these proposals, which have been implemented in several states, the utility or other implementor receives a percentage of the societal present value savings for investments it makes in customer energy efficiency. This provides a strong motivation for utilities or administrators not only to find more and more creative ways of saving energy, but also to encourage them to do it in the most cost-effective manner. While some programs, such as market transformation efforts cannot easily be rewarded using this mechanism, it works well for the majority of utility energy efficiency programs.

Utilities with proper regulation can produce immense, cost-effective energy savings. The California Energy Commission had estimated even before the extraordinary savings from Summer 2001, that by 2013, 8,000 megawatts of peak power would be reduced by utility-sponsored energy efficiency programs. Rigorous evaluation by the California Public Utilities Commission has found that the ratio of benefits of these programs to total societal costs, including money spent by the customer as well as the utility, exceeds 2:1.

An additional area of utility regulatory reform could be the introduction of responsibility for “portfolio management” to utilities. This addresses not only the problem of utilities investing in supply-side options that are more expensive than equally effective demand-side options but also helps to overcome the problems of utility system unreliability that have become so apparent in the last month.

The basic policy issue is to assure that some entity has the legal and financial responsibility for keeping the lights on, meaning that they are charged with making cost-effective investments to do so. The utility with portfolio management responsibilities will invest in system operational improvements such as those that might have averted the recent blackout, as well as load relief measures such as energy efficiency, demand responsive technologies and distributed generation, while also entering into an appropriate mix of long-term power contracts and short-term power purchases in order to provide acceptable levels of reliability at the minimum costs.

Portfolio management responsibility provides another channel for utilities to invest in and make money in improvements on energy efficiency, on flexible systems that allow customer demand reductions when the system is stressed, on renewable and distributed energy resources, as well as on transmission and distribution system upgrades.

Energy Efficiency in Transportation

Florida is one of the fastest growing states, so the question of whether this growth is “smart” or falls into conventional patterns of urban sprawl is particularly important for Florida.

The consequences of policies to promote smart growth (or of the failure to implement them) may be far larger than had been expected. To show why, we summarize the research paper cited above. This study analyzed nearly 3,000 neighborhoods, with densities ranging from sprawl up to 500 households per residential acre, and various levels of transit service. This study found that variations of as much as 5:1 in the need to drive could be explained by neighborhood infrastructure characteristics.

The statistical reliability was extremely high, with the equations predicting car ownership having an r^2 of as much as 90%, a far more robust correlation than is almost ever found in social science research.

The two most important explanatory variables for the “smartness” of growth were net residential density (housing units per acre) and the level of transit service (number of buses stopping within a quarter mile walking distance of a house every hour). Observed variations in density were correlated with reductions in driving of over half; proximity to the best levels of transit service provided reductions in driving of some 30%. Pedestrians and bicycle friendliness and proximity of housing to jobs were also statistically significant in explaining reduced need to drive.

In particular, this study suggests that traditional models may underestimate the benefits of expanded transit service by a factor of 5 or more. Such a finding, if validated for Florida, would substantially alter the economics of transit expansions, either compared to a no-action alternative or compared to the alternative of highway expansions.

What are the policy implications of such a finding? First, Florida should consider revising its transportation planning models and the planning processes to account for the new information. Decisions on investments on highway and transit infrastructure should be based on the most accurate scientific information in order to avoid large misappropriations of state funds.

Second, the state should develop concrete policies that encourage smart growth, particularly as measured by the two most important parameters, namely neighborhood housing density and transit services. Obviously, combining development patterns so that high density is focused on high transit availability maximizes energy and transportation cost savings. Suitable incentives should be provided for such development.

Perhaps the most concrete action that could be taken is the removal of barriers to this type of development. One such barrier in many parts of the country has been the fact that attractive transit-oriented smart growth development includes homes that are considered unaffordable by the current lending system. This quasi-regulatory judgment by lenders is made based on totally ignoring differences in transportation cost for a potential homeowner, which can be as large as \$600/month. The Location Efficient Mortgage® is a product designed to replace the overly restrictive consideration of only housing expenses for a determining mortgage qualification with a broader and more accurate picture that includes both transportation expenses and housing expenses. The concept is exactly the same as the energy efficient mortgage, except that location efficiency savings can be ten times larger than home energy efficiency savings.

The Location Efficient Mortgage® could be offered in Florida if the database for implementing it is developed and lenders can be persuaded to offer Location Efficient Mortgages®. Assembling such a database is not very expensive, and at any rate it would be needed by state energy and transportation partners in order to evaluate the consequences of transit planning decisions.

Location Efficient Mortgages® address a number of societal issues, including the affordability of housing to moderate-income residents, the differential home ownership rates between European Americans and citizens of other origins, and in general they can increase Florida residents' economic well-being by allowing them voluntarily to invest more in appreciating theirs assets (homes in smart growth neighborhoods) at the expense of their depreciating assets (automobiles).

APPENDIX E-3

U.S. APPLIANCE STANDARDS

The Senate version of the pending federal energy bill includes six efficiency standards and requirements for DOE to conduct rulemakings to consider standards for another five products. Because the standards section of the energy bill has the agreement of broad interests, including manufacturers and energy efficiency supporters alike, it is expected that this section will emerge intact from the Conference Committee. However, many unrelated issues addressed in the federal energy bill are controversial, so final enactment of these standards and rulemaking requirements remains uncertain.

Several new standards have now been completed under DOE's new process: new standards for residential clothes washers, residential central air conditioners and heat pumps, residential water heaters and fluorescent lamp ballasts were published in early 2001. Completed under the Clinton Administration, these rules were put on hold by the Bush Administration along with all other end-of-term actions. After a review, the Bush Administration approved three of the four standards. However, DOE took issue with the residential central air conditioner standard, which would improve efficiency by 23 percent, arguing that it was not cost-effective for northern climates. DOE withdrew the air conditioner standard and issued a new, weaker standard in 2002. Ten states, joined by the National Association of Regulatory Utility Commissioners, consumer groups and environmental groups, challenged the legality of the weaker standard in court and a decision from the Second Circuit Court of Appeals is pending. Moreover, one state, California, has established a more stringent residential central air conditioner standard and will request a waiver from federal preemption to implement its more rigorous standard.

In addition to these most recent standards, DOE completed upgraded room air conditioner and refrigerator standards in 1997. These standards became effective in 2000 and 2001, respectively. The benefits to Florida from each of these recent federal standards are summarized in the table below.

Florida Savings from Recent National Appliance Standards

PRODUCT CATEGORY	Year implemented	Savings in 2010	Savings in 2020	Peak Electricity Savings (2010)	Peak Electricity Savings (2020)
Refrigerators & Freezers	2001	761 GWh	1,600 GWh	100 MW	210 MW

Flourescent lamp ballasts	2005	311 GWh	1,068 GWh	162 MW	556 MW
Clothes washers – electricity, natural gas and water savings	2004 and 2007 ³	1,086 GWh, 610 million cubic feet, 13.7 million gallons	3,366 GWh, 1.9 billion cubic feet, 42.6 million gallons	163 MW	505 MW
Water heaters - electric	2004	577 GWh	1,074 GWh	61 MW	113 MW
Water heaters – natural gas	2004	510 million cubic feet	950 million cubic feet	NA	NA
Room A/Cs	2000	181 GWh	292 GWh	106 MW	173 MW
Residential central A/Cs and heat pumps ⁴	2006	1,547 GWh	5,061 GWh	1,196 MW	3,912 MW
TOTAL		4,463 GWh	12,461 GWh	1,788 MW	5,469 MW

Sources: "Opportunity Knocks: Capturing Pollution Reductions and Consumer Savings from Updated Appliance Standards." March 2000; "Staying Cool: How Energy Efficient Air Conditioners Can Prevent Blackouts, Cut Pollution and Save Money," July 2000; and "Overall Savings from Appliance Standards," February 2001. American Council for an Energy-Efficiency Economy, Washington DC, and Appliance Standards Awareness Project, Boston, MA.

In the Bush Administration's National Energy Policy published in 2001, the administration highlighted standards in its energy efficiency chapter. The National Energy Policy called on DOE to "Support (the) appliance standards program for covered products, setting higher standards where technologically feasible and economically justified." DOE has begun to carry out this directive from the national Energy Plan scheduling three crucial standards – those for commercial air conditioners and heat pumps, electric distribution transformers, and residential furnaces and boilers – for completion by fall 2004. DOE has initiated the analyses for these three new standards

and will issue initial proposed standards in late 2003 or early 2004. The table below summarizes the potential benefits from these three standards for the state of Florida.

Potential Florida Savings from Pending National Standards

PRODUCT CATEGORY	Affected Sales in 2001 ⁵	Likely year of adoption	Annual Savings per unit	1st year savings	Savings in 2020	Savings in 2030	Peak Electricity Savings in 2020	Peak Electricity Savings in 2030
Commercial air conditioners and heat pumps	7,500	2009	5,273 kWh	40,000 Mwh	457 GWh	596 GWh	533 MW	700 MW
Electric distribution transformers	5,200,000 kVa	2008	8.1 kWh/kV a	47,300 Mwh	665 GWh	1,138 Gwh	104 MW	180 MW
Residential air handlers (central air conditioners and furnaces)	135,000 air handlers ⁶	2010	324 kWh	44,000 Mwh	460 GWh	788 GWh	334 MW	572 MW

Source: Forthcoming analysis by American Council for an Energy Efficiency Economy (ACEEE) for the Appliance Standards Awareness Project, Fall 2003, Washington DC.

Energy Efficient Florida:

***Smart Energy Policy that Benefits
Florida's Economy & Environment***

June 2003

Florida Public Interest Foundation
Florida Public Interest Research Group Education Fund
Southern Alliance for Clean Energy

In Collaboration with

American Council for an Energy-Efficient Economy
Appliance Standards Awareness Project

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American Council for an Energy-Efficient Economy (ACEEE) is a nonprofit organization dedicated to advancing energy efficiency as a means of promoting both economic prosperity and environmental protection. ACEEE fulfills its mission by conducting in-depth technical and policy assessments; advising policymakers and program managers; working collaboratively with businesses, public interest groups and other organizations; organizing conferences and workshops; publishing books, conference proceedings and reports; and educating consumers.

Appliance Standards Awareness Project (ASAP) is dedicated to increasing support for cost-effective appliance and equipment energy efficiency standards. Founded by ACEEE, the Alliance to Save Energy and the Natural Resources Defense Council, ASAP is led by a steering committee that includes representatives from the environmental community, consumer groups, utilities, state government and energy efficiency groups.

Florida Public Interest Foundation (FPIF) is a nonprofit organization established to facilitate, support and advance public interest outcomes through organizational capacity building, education outreach and public interest advocacy. FPIF's focus is on the interests and operations of public interest nonprofits and on issues and concerns of especial importance to the public welfare, including energy.

Florida Public Interest Research Group Education Fund is a statewide, nonprofit and non-partisan public interest advocacy organization whose mission is to deliver persistent, result-oriented public interest activism that protects our environment, encourages a fair, sustainable economy and fosters responsive, democratic government.

Southern Alliance for Clean Energy (SACE) is a nonprofit organization committed to protecting the environment and public health in the Southeast. SACE achieves this by promoting clean energy policies at the state and federal level that would benefit the region.

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Executive Summary

Florida's rapidly increasing electricity demand has made energy one of the most important issues facing the state. The state's population growth, compounded by wasteful energy use, has fueled an explosion in energy consumption over the past four decades. From 1990 to 2001, total electricity consumption grew almost 40% in Florida. Florida's peak electricity demand is expected to increase almost 60% by 2020. That means Florida could see the equivalent of 45 new 500-megawatt power plants by 2020.

Nearly 80% of Florida's current electricity generation relies on fossil fuel combustion methods. Many of the fossil fuel power plants are so old that they are exempt from modern air pollution control standards and thus can emit up to 10 times more air pollution than a modern plant. Most of the remaining generation comes from nuclear power plants, which create radioactive waste and are potential terrorist targets. As a result, our health, environment and homeland security are being compromised unnecessarily. However, the possibilities for conserving energy are enormous and could be realized at lower costs than fossil fuel and nuclear power options. Increasing energy efficiency would also reduce our reliance on these unsustainable options. As Governor Bush has said, "the

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cheapest, easiest and fastest kilowatt we can generate is the one we save through efficiencies. There is a consensus on conservation and efficiency, so let us start there."

One of the most cost-effective and easiest policies to implement is establishing energy efficiency standards for common products sold in Florida. Energy efficiency simply means getting the same amount of work out of a device without having to use as much energy. Examples of energy efficiency measures include adding more insulation to your home and using compact fluorescent light bulbs in table lamps.

Many manufacturers are ahead of the curve, manufacturing appliance and equipment products that already meet higher efficiency standards. The U.S. Environmental Protection Agency's (EPA) ENERGY STAR® rating, for example, is a voluntary standard that sets an achievable level of efficiency that many manufacturers are already meeting. An ENERGY STAR® qualified refrigerator today uses half the energy that a 10-year-old model would use.

As Florida, like the rest of the country, faces tough economic times, state government and individual Floridians are looking for ways to save money. The efficiency standards recommended in this report would yield net savings to Florida consumers and businesses of close to \$3 billion by 2030.

By 2020, the annual energy savings achieved would be equivalent to twice the energy currently used each year by all of the homes and businesses in Tallahassee and the need for several new power plants would also be avoided.

Energy efficiency policies are also good for public health and the environment. These policies would reduce harmful power plant

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emissions of carbon dioxide, nitrogen oxides (NOx), sulfur dioxide (SO₂) and mercury. NOx is the primary pollutant responsible for ground-level ozone formation, which can trigger asthma attacks and damage fruits, vegetables and other crops. SO₂ forms fine particle air pollution, which causes respiratory illness and has been linked to 1,740 premature deaths in Florida each year. Mercury air pollution drops into water bodies and then concentrates in fish. Eating mercury-tainted fish damages the central nervous systems of children and can harm cardiovascular and immune systems in adults.

Power plants also consume large amounts of water, which is a precious resource in Florida. Increased electricity demand also means additional transmission lines, which are unsightly, impact sensitive environmental areas and lower the value of nearby property. Energy efficiency policies reduce the demand for electricity, and thus the need for additional power plants and transmission lines.

Setting efficiency standards for certain products and appliances sold in Florida would assure consumers a basic level of energy efficiency performance. What does that mean? Once the standards took effect, all the ceiling fans and torchiere lamps available for sale in Florida would waste far less electricity than most available now. It means the exit signs, TV set top boxes and traffic signals you see every day would be more energy efficient. It would mean more energy efficient commercial clothes washers, large packaged air conditioners and distribution transformers. Most importantly, it would mean Florida would use a lot less electricity—almost 3% less by 2020. As we eliminate the need for new power plants and reduce the demand for power from Florida's fleet of fossil fuel power plants, it would also mean cleaner air.

Improving energy efficiency standards is the cheapest and cleanest way to save energy and reduce pollution. By choosing cleaner and more efficient energy alternatives, we can save money and minimize the environmental impacts of powering our rapidly growing state.

**Improving
energy efficiency
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Key Findings

If 10 commonly used consumer and business products—ceiling fans, commercial clothes washers, large packaged air conditioners, commercial refrigerators and freezers, commercial building transformers, exit signs, external power supplies, set top boxes, torchiere lamps and traffic signals—met the minimum energy efficiency standards recommended by this report:

- Florida businesses and consumers would save in excess of \$300 million a year in electric and natural gas bills by 2010. Savings would reach more than \$450 million a year by 2020.
- Altogether, Florida consumers and businesses would net almost \$3 billion in savings between 2005 and 2030.
- Energy efficiency standards would drastically cut down on wasted energy. In 2010, standards would reduce electricity consumption by more than 3.6 billion kilowatt hours (kWh). By 2020, the annual electricity savings would reach more than 5.7 billion kWh, an amount equal to 2.9% of total electricity sales in Florida in 2000, or more than twice the amount of power used by all of the homes and businesses in the city of Tallahassee in 2000.

- New standards would eliminate the need for three large (500 megawatts) power plants by 2020.
- By 2020, new standards would reduce carbon dioxide emissions by more than 2.5 million metric tons per year, equivalent to removing almost 500,000 cars from the road.
- Because state facilities use several of the products covered by these standards, the state also saves money. We estimate that state government would save \$800,000 per year from just two of the standards, far outweighing any modest implementation cost.

APPENDIX F

ENERGY STANDARD TOOLS

VII. DECISION TOOLS FOR STRATEGIC ACTION

Information available today on energy technologies, issues, options and implications is *voluminous*. What is lacking is an effective framework for putting that information to work. Decision makers these days have limited time to evaluate and delineate issues and choices. When information is massive or disorganized, people become overwhelmed and tend to the path of least resistance. Decisions made in haste, in a vacuum or based on inaccurate information, may respond to the urgencies of the moment but throw the proverbial “baby out with the bath water” by not addressing the true needs at hand. The failure to make decisions can have the same effect or worse.

The information that follows is intended to provide State decision makers with a set of planning, analysis and decision tools for charting Florida's energy future and ensuring the best possible results for our state.

DEFINING END RESULTS

Noted author Stephen Covey is well known for his approach of “Begin with the End in Mind.” Having a clear sense or picture of what the future you are seeking will look like and feel like is one of the best strategies for success in actually achieving it. CPI facilitated a process of defining planning outcomes at the beginning of the project that centered on the following broad outcomes:

- ***Transitioning Florida to a sustainable energy future***, including: increased energy efficiency, reduced dependence on fuel imports, increased diversity of energy sources and greater use of renewable energy resources.
- ***Enhancing the Florida economy*** through energy choices in all end-use sectors that emphasize energy efficiency, resource diversification and energy independence, and by positioning Florida as a leader in the development and deployment of new and emerging energy technologies.
- ***Preserving and protecting environmental resources*** by way of judicious decision making in energy matters.
- ***Informing and empowering the Florida public*** and constituents in all end-use sectors to play a meaningful role in achieving the energy goals of the state.
- ***Actively engaging governmental agencies*** at the state, regional and local levels in ensuring successful implementation of the State Energy Plan.

- **Safeguarding the welfare** of Florida's citizens and business community against domestic security incidents and other forms of energy emergencies.

These outcomes were neither controversial nor objectionable to stakeholder and public participants who reviewed them as part of the on-line polling and consensus building processes. Instead, they were agreeable to or received broad support from reviewers because they are things that people tend to want: clean air and water, ready energy services, affordable energy and so on. Gaining agreement up front on the desired ends enables the debate that invariably follows to focus on methods rather than outcomes, *how* to get there not where we want to end up. Where agreement can be reached on the destination, it becomes easier to chart the course for arriving there and with the many "travelers" (stakeholders, government, the public, etc.) who must make the journey. Common ground is the first step toward creating further common ground.

Once broad outcomes are set, the next step is to define more specific outcomes, a clearer picture of how we want things to be when all is said and done. The more clarity we have, the better our strategies can be crafted for ultimately getting what we want. The next level of outcomes in itself becomes a tool for arriving at consensus on action plans and implementation steps, likewise essential ingredients to success.

CURRENT ENERGY ISSUES: WHAT'S AT STAKE FOR FLORIDA

When information is voluminous and issues are complex, a *simplified* approach can be of enormous value to decision makers. One such approach involves "bottom-lining" the issues at stake for our state. The goal is to boil the issues down to a manageable set of concerns that State leaders and managers can use in choosing where to direct time, money and resources of the state.

At any given point in history, whether framed as opportunities or challenges, there have always been "issues" at the forefront of societal concern. Issue definition is an integral part of progress. Issues must be identified in order for *action* to occur. Solutions emerge from thoughtful analysis of issues. So it is in this part that we have sought to map out major issues of the day when it comes to energy concerns in Florida. The issues presented below have been identified through the public participation process for this project, coupled with the expertise of CPI's consultant team. Further information on the various topics is provided elsewhere in this report.

TRANSPORTATION

Key issues and themes that have come to the forefront in examining this sector in the context of Florida's energy future include:

- *Auto Dependence:* predominance of transportation via single passenger automobile
- *Public Transportation:* economic viability, availability and convenience of transit; availability and cost of rail transportation

- *Land Use*: effect of land use patterns and policies on transportation efficiency and resource consumption
- *Modal Split*: relative emphasis on modal alternatives (e.g., public transportation “versus” roads); true cost comparisons (including the full costs of road building and car ownership); availability of non-motorized options
- *Alternative Energy*: availability of fuels, vehicles and support infrastructure; comparative safety and environmental impacts
- *Transportation Efficiency*: comparative cost of new efficient vehicles ; personal preferences/ habits and resistance to change
- *Funding*: adequacy of funding for mobility needs; “fair share” funding from state and federal sources; proportionate assignment of user fees; relationship of gas tax and conservation
- *Conflicting Interests*: support of social goals and economic self interest vs. desire for personal convenience and perceptions about available alternatives

THE INDUSTRIAL SECTOR

Examples of issues and themes for this sector are identified below in three categories: electric utilities, other energy suppliers and other industry.

Electric Utilities

- *End Use Efficiency*: utility role beyond designing and delivering load management incentives; efficiency disincentives posed by regulatory connection between utility revenues and electricity sales; absence of incentives for efficiency achievements; cost effectiveness determinations for conservation measures
- *Energy Supply Planning*: role of distributed resources; maintaining fuel diversity; ensuring reliability; new security issues; consideration of health/ environmental impacts of energy alternatives; determination of least cost alternatives
- *Distributed Energy*: interconnection policy implementation/ charges (e.g., Net Metering); inclusion of supply side efficiency; utilization of policy incentives
- *Deregulation*: whether or not Florida should undertake restructuring and, if so, in what form; role of efficiency and renewables (e.g., System Benefits Charge; Public Benefits Fund)
- *Supply Side Efficiency*: reductions in operation and transmission losses; reduction of energy input for power production; removal of barriers to cogeneration and waste heat recovery
- *System Reliability*: operation wherewithal on day to day basis; planning reliability for energy services on longer terms basis; diversity of fuel mix; role of distributed energy in protecting health and safety

- *Next Generation Technologies*: high first cost of cleaner alternatives; renewable energy policies and incentives (e.g., Renewable Portfolio Standard)
- *Fuel Choice*: predominance of natural gas for new power plants; future availability and cost of natural gas
- *Energy Security*: protection of critical infrastructure and fuel supplies; role of distributed energy in protecting health and safety
- *Consumer Impacts*: impacts of regulatory decisions on utility rates; service availability and dependability at fair and reasonable cost; health and environmental effects; consumer choice (e.g., conservation programs, Green Pricing); education/ awareness about alternatives

Energy Suppliers/Other

- *End Use Efficiency Suppliers*: research and development support and coordination for next generation technologies; demonstration and deployment support and coordination for near-market-ready technologies
- *Cogenerators*: fair rates to use utility-owned wires for “self service wheeling” of highly efficient waste heat cogeneration
- *NonUtility Generators*: reasonable access to wholesale power market
- *Renewable Suppliers*: research and development support and coordination for next generation technologies; demonstration and deployment support and coordination for near-market-ready technologies; policy and programmatic support (e.g., Net Metering, Green Pricing, financial incentives); defining green, greener and greenest
- *Supply & Distribution Infrastructure*: adequacy (pipelines, ports); siting/ environmental impacts
- *Next Generation Technologies*: the future of hydrogen; off-shore generation (wind farms, ocean currents); alternative transportation fuels and infrastructure
- *Supply Forecasts*: cost and availability of natural gas

Other Industry

- *Business Competitiveness*: energy source and management impacts on operational costs; raw materials and continuity of operations
- *Utility Regulation*: barriers to cogeneration; obstacles to competition in electricity markets; electric power plant siting
- *Renewable/ Alternative Energy*: role in fuel diversity and energy security; PSC role in determining cost effectiveness; implementation status of legislative

directives for their development and use; incentives such as a Renewable Portfolio Standard (RPS) and definition of renewables

- *Supply Side Efficiency:* relative inefficiency of conventional electric generation; highest/ best use of fossil fuel resources; barriers to cogeneration and renewables/ alternative energy resources
- *Supply Side Resources:* role of municipal solid waste (MSW); impact of transition to greater natural gas reliance on goal of fuel mix diversity; adequacy of transmission capacity
- *Demand Side Efficiency/ Conservation:* inherent value of efficiency for business competitiveness; perception by some of energy as a low priority, substantial achievements to-date by others; non-energy savings potential (water, raw materials, etc.); avoiding lost opportunities (e.g., efficiency investments that are economic at time of new construction or modernization but not later)
- *Reliability/ Security:* fuel supplies for industry and fuel choice for electric power generation

A variation of this outline that provides further detail and valuable insights (as prepared by subcontractor Concept Communiqués) appears in Appendix VII-B).

THE GOVERNMENTAL SECTOR

Among the key points in this area are:

- *Leadership by Example:* vision for the future; commitment to action; effective follow-through
- *Funding:* support for efficiency and alternative energy investments
- *Performance Incentives:* use of dollars saved via agency conservation; performance goals and standards; leadership from within each agency/entity; acknowledgement of exemplary efforts and results
- *Leased Facilities:* effective employee incentives; priority for efficiency in leasing process; methods of influencing lessors
- *Energy Accounting:* definition and use of collected records; automation; feedback mechanisms to agencies
- *Information Support:* energy manager training; employee orientation; information sharing mechanism; identification of best practices
- *Coordination & Administration:* role and resources of Florida Energy Office; resources of DMS; assignment of Agency Energy Coordinators; coordination between agencies with energy functions
- *Accountability:* management of taxpayer dollars; mechanism for tracking; improvements and rewards

- *Energy Security*: internal and inter-agency preparedness

THE ENVIRONMENT

Examples related to natural resources and the environment include:

- *Energy Sources*: renewables “versus” fossil fuels and nuclear; renewables definition and scope (municipal solid waste, cogeneration, etc.); biomass and carbon cycle (compared with fossil fuels)
- *Energy Conservation*: role of conservation and efficiency; definition of “cost effectiveness”
- *Energy Facility Siting*: location of power plants; location of transmission lines; “environmental justice” concerns (with low income and other populations)
- *Nuclear Power*: spent fuel storage and transportation; future plant decommissioning; air quality considerations (compared to alternatives); low level waste storage; possibility of security breach or other structural disruptions
- *Air Quality*: pollution from energy use; health impacts; property damage; pollution control
- *Water Resources*: pollution levels; pollution control; offshore drilling; health impacts; energy intensity of water supply alternatives

GROWTH & DEVELOPMENT

- *Development Patterns*: inefficient land use; urban sprawl; density impacts on transit; concurrency policy impacts; mixed use development
- *Resource Consumption*: effects of growing population on water, land and other resources; landfill capacity; recycling or the lack thereof
- *Community Design*: walkable communities; neotraditional design; street widths; parking facilities; design standards; code adherence/ enforcement
- *Traffic Congestion*: impacts on mobility and fuel efficiency; modal alternatives; right-of-way costs for roads
- *Redevelopment*: urban infill; land reclamation; reuse of facilities
- *Policies & Plans*: “smart growth” policies, programs and strategies; zoning and land use regulations; local comprehensive plans
- *Environment*: effects of more people and greater resource use (including energy) on air and water quality, wildlife habitat, open space, noise
- *Aesthetics*: appearance of energy facilities and devices

CONSUMER ISSUES

- *Affordability*: low income assistance; fair and reasonable costs of supplies and services
- *Self Sufficiency*: availability of distributed energy
- *Health & Environment*: clean air & water; public health protections; environmental preservation and wise resource use; noise pollution avoidance
- *Safety*: avoidance of accidents and hazards; protection of the public in the event thereof
- *Choice*: ability to choose energy sources and services; access to options
- *Awareness*: readily available, easily understandable information for informed and time-efficient consumer decisions
- *Aesthetics*: avoidance of “unsightly” infrastructure or operations; energy technologies that fit well with structural and community design

UNDERSTANDING ENERGY LINKAGES

Energy and water have been referred to as the “lifeblood” of Florida...both are essential for our physical existence and for our way of life, the *quality* of life that we experience. It is unsurprising, then, that energy is linked to virtually all aspects of our society.

Seeing where and how interrelationships occur enables effective action in addressing energy concerns.

OPPORTUNITIES, OBSTACLES & OPTIONS

Another dimension of the analysis process involves the examination of identified energy topics and issues. CPI has modified a Matheny-Burns model toward this end and employed Florida-specific information for its use. The revised model is geared to look at an end use sector and to identify within that sector: major areas of opportunity, the benefits of each, broad options for action, obstacles to such action and solutions for the future.

A preliminary version of this model was used in a facilitated process at the August 5 Stakeholder Forum focused on Transportation topics. It was also featured on the project Web site as a draft for public feedback. A preliminary statement of outcomes and goals accompanies this document. This tool can be used to examine each energy end use sector and devise action plans for capturing opportunities and overcoming barriers.

Florida's Energy Future: The Transportation Sector

VISION & OUTCOMES

The long-range vision for Florida's energy future in this end-use sector is to achieve *Sustainable Transportation Systems, Land Use, Vehicles and Practices [placeholder text, to be edited]*. Related outcomes include:

- Ensure long-term availability of transportation fuels and services
- Protect environmental resources and public health
- Provide affordable transportation
- Support economic development and vitality
- Meet the mobility needs of consumers
- Achieve vehicle and transportation system safety

MAJOR ISSUES

Key issues and themes that have come to the forefront in examining this sector in the context of Florida's energy future include:

1. Auto Dependence: predominance of transportation via single passenger automobile
2. Public Transportation: economic viability, availability and convenience of transit; availability and cost of rail transportation
3. Land Use: effect of land use patterns and policies on transportation efficiency and resource consumption
4. Modal Split: relative emphasis on modal alternatives; true cost comparisons (including the full costs of road building and car ownership); availability of non-motorized options
5. Alternative Energy: availability of fuels, vehicles and support infrastructure; comparative safety and environmental impacts.
6. Transportation Efficiency: comparative cost of new efficient vehicles ; personal preferences/ habits and resistance to change
7. Funding: adequacy of funding for mobility needs; "fair share" funding from state and federal sources; proportionate assignment of user fees; relationship of gas tax and conservation.
8. Conflicting Interests — support of social goals and economic self interest vs. desire for personal convenience and perceptions about available alternatives

GOALS & ACTIONS

Reduced Energy Use:

- Conservation Purchases & Practices
- Multi-Modal Transportation
- Community Design
- Transportation Facility Improvements
- Vehicle Fleet Efficiency
- Alternatives to Travel

Alternative Fuels:

- Fuels
- Vehicles
- Infrastructure

DECISION MODEL

Opportunities, Options, Obstacles and Solutions are identified via the following model as a tool for arriving at clearer understandings of issues and how best to address them.

PART 2 OF 3

OPPORTUNITIES	OPTIONS	OBSTACLES
A. CONSERVATION PURCHASES & PRACTICES		
ACTIONS <ul style="list-style-type: none">▪ Travel More Efficiently▪ Reduce Vehicle Miles Traveled BENEFITS <ul style="list-style-type: none">▪ Energy savings▪ Cost savings▪ Reduced pollution (air, water, noise)	379 <i>TRAVEL EFFICIENCY</i> 380 <u>Vehicle Choice</u> <ul style="list-style-type: none">▪ Increase the use of energy efficient vehicles▪ Initiate work schedules that will help alleviate congestion at peak hours▪ Inform motorists about energy-wise driving practices▪ Reduce congestion and improve traffic flow▪ Reduce speeding on	TRAVEL EFFICIENCY <u>Vehicle Choice</u> <ul style="list-style-type: none">▪ People choose vehicles for multiple reasons and efficiency is often not a priority▪ Cost of a new vehicle deters many people when they can continue to drive their current (less efficient or inefficient) vehicle▪ Less efficient vehicles are often more popular and readily available▪ New cars can be seen as a status symbol or the opposite if sized

<ul style="list-style-type: none"> ▪ Abatement of illness (asthma, other respiratory) ▪ Reduced stress ▪ Time savings ▪ Greater job satisfaction 	<p>Interstate and other major highways</p> <ul style="list-style-type: none"> ▪ Quantify savings and educate consumers <p>REDUCE VEHICLE MILES TRAVELED</p> <ul style="list-style-type: none"> ▪ Encourage the use of multi-occupant vehicles, including carpools and vanpools ▪ Increase fuel charges or other transportation user fees to increase conservation ▪ Implement additional Transportation Demand and Management strategies 	<p>symbol, or the opposite if sized small for efficiency</p> <ul style="list-style-type: none"> ▪ Smaller, lighter cars can be less safe on roads with heavier vehicles <p>VEHICLE MILES TRAVELED</p> <ul style="list-style-type: none"> ▪ Consumers often lack knowledge about the extent of dollar and energy savings they could see through efficiency choices ▪ Traditional work schedules end simultaneously whereby employees encounter traffic congestion due to peak travel times ▪ Employers fail to orient staff on efficiency measures for business travel ▪ People tend to view carpools and vanpools as a reduction of personal freedom
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B. MULTI-MODALISM

<p>BENEFITS</p> <ul style="list-style-type: none"> ▪ Energy savings ▪ Reduced pollution ▪ Land use efficiency ▪ Greater consumer choice ▪ Productive time gained for transit riders ▪ Reduced expenses for personal vehicles 	<ul style="list-style-type: none"> ▪ Expand the use of public transit and rail ▪ Increase ridership on transit systems ▪ Provide more bicycle and pedestrian ways ▪ Integrate alternative modes of transportation in new developments ▪ Provide for safe, convenient and attractive pedestrian and bicycle paths that connect to existing and new developments ▪ Provide more transit oriented development near transit stops and stations ▪ Ensure safe and convenient access to transit as part of new developments 	<ul style="list-style-type: none"> ▪ Alternatives to car travel are not readily available ▪ Regulations and land use practices do not encourage integration of alternative modes of transportation ▪ Pedestrian and bicycle ways are often not convenient, safe or inviting ▪ Streets are primarily designed for vehicular travel and do not adequately accommodate other modes of travel ▪ Little or no connectivity of pedestrian and bicycle ways ▪ Transit supportive development is not efficiently addressed ▪ Access to transit is often difficult and dangerous ▪ Comparative costs of roads are not taken into account in transit funding decisions
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C. MULTI-MODALISM		
BENEFITS <ul style="list-style-type: none"> ▪ Energy savings ▪ Reduced pollution ▪ Land use efficiency ▪ Great consumer choice ▪ Productive time gained for transit riders 	<ul style="list-style-type: none"> ▪ Alternatives to car travel are not provided. ▪ Regulations and land use practices do not encourage integration of alternative modes of transportation. ▪ Pedestrian and bicycle ways are often not convenient, safe or inviting. ▪ Streets are primarily designed for vehicular travel and do not adequately accommodate other modes of travel. ▪ Little or no connectivity of pedestrian and bicycle ways. ▪ Transit supportive development is not effectively addressed. ▪ Access to transit is often difficult and dangerous. ▪ Comparative costs of roads are not taken into account in transit funding decisions. 	<ul style="list-style-type: none"> ▪ Expand the use of public transportation. ▪ Increase ridership on transit systems. ▪ Provide more bicycle and pedestrian ways. ▪ Encourage or require integration of alternative modes of transportation in new developments. ▪ Include provisions for safe, convenient and attractive pedestrian and bicycle paths that connect to existing developments. ▪ Encourage or require new developments to include pedestrian and bicycle ways that connect to existing developments. ▪ Encourage or require transit-oriented development near transit stops and stations. ▪ Encourage or require new developments to provide safe and convenient access to transit where needed.
D. COMPACT DEVELOPMENT		
BENEFITS <ul style="list-style-type: none"> ▪ Energy savings ▪ Other resource efficiencies ▪ Reduced travel time ▪ Increased productivity 	<ul style="list-style-type: none"> ▪ Urban sprawl is the predominant trend. ▪ Homeowners tend away from infill development. ▪ Incentives for housing choices in such areas are limited or non-existent. 	<ul style="list-style-type: none"> ▪ Undertake effective urban and regional planning. ▪ Provide incentives to developers and local governments for urban infill. ▪ Provide technical assistance to local governments on planning and development strategies. ▪ Design communities for walkability and easy transit access. ▪ Increase clustering of employment centers.
E. FACILITY IMPROVEMENTS		
BENEFITS <ul style="list-style-type: none"> ▪ Energy savings ▪ Reduced pollution 	<ul style="list-style-type: none"> ▪ Need for greater funding. ▪ Right-of-way limitations in some areas. 	<ul style="list-style-type: none"> ▪ Expand traffic operations improvements on state and local roads. ▪ Invest in highway preservation as

<ul style="list-style-type: none"> ▪ Reduced congestion ▪ Saved time ▪ Increased convenience ▪ Reduced stress ▪ Reduced government expenditures. 	<ul style="list-style-type: none"> ▪ Commerce and other mobility needs place heavy demand on transportation infrastructure. ▪ Road expansion often given priority due to growth demands. 	<p>an alternative to new construction.</p> <ul style="list-style-type: none"> ▪ Reduce wear on public roadways from high load traffic. ▪ Employ advanced Intelligent Transportation Systems. ▪ Implement additional Transportation System Management strategies. ▪ Select low maintenance materials and landscaping.
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F. FLEET EFFICIENCY

<p>BENEFITS</p> <ul style="list-style-type: none"> ▪ Energy savings ▪ Budget savings for government agencies (and corporations) ▪ Reduced pollution 	<ul style="list-style-type: none"> ▪ Lack of data on fleet energy use. ▪ Fleet energy use not well monitored. ▪ Many fleet vehicles are not energy-efficient. ▪ Maintenance schedules are sometimes inadequate. ▪ Vehicles are often not selected for use based on energy efficiency. ▪ Fleet maintenance staff are often not trained in energy conservation procedures. 	<ul style="list-style-type: none"> ▪ Implement a fleet management information system. ▪ Automate fueling stations. ▪ Centralize fleet operations. ▪ Replace older vehicles with more energy-efficient models. ▪ Provide regular maintenance for vehicles. ▪ Assign vehicles appropriate to the task. ▪ Train maintenance staff in procedures that will save energy. ▪ Train personnel in fuel efficient driving techniques. ▪ Incorporate the use of alternative fuels with the fleet where feasible.
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G. ALTERNATIVES TO TRAVEL

<p>BENEFITS</p> <ul style="list-style-type: none"> ▪ Energy savings ▪ Reduced pollution ▪ Land use efficiency ▪ Greater convenience to public ▪ Saved travel time 	<ul style="list-style-type: none"> ▪ Zoning often prevents or discourages home occupations or telecommuting. ▪ Lack of teleconferencing facilities. ▪ State coffers suffer from remote sales (e.g., Internet). 	<ul style="list-style-type: none"> ▪ Revise regulations to encourage telecommuting and home occupations. ▪ Develop partnerships to build teleconferencing facilities available for use by public and private entities.
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H. ALTERNATIVE FUELS

<ul style="list-style-type: none"> ▪ Increased energy security ▪ Reduced pollution ▪ Great consumer choice ▪ Economic stimulation for emerging 	<ul style="list-style-type: none"> ▪ Alternative fuel sources are not readily available. ▪ The public lacks familiarity about the use and benefits of such fuels. ▪ Alternative fuels are sometimes more expensive than 	<ul style="list-style-type: none"> ▪ Incorporate the use of alternative fuels into government and institutional operations. ▪ Provide adequate fueling capabilities and infrastructure. ▪ Work with industry, civic groups and government to promote the
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for emerging industries	conventional fuels.	use of alternative fuels and to educate the public on the availability and benefits of alternative fuels. ▪ Provide funding for incentive programs.
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Note: Further public input to be incorporated into this document.

Part 3 of 3

SOLUTIONS FOR THE FUTURE

There are many steps that can be taken to address identified *issues*, overcome *obstacles* and capitalize on *opportunities*. Examples for the first component of the Transportation issues follow:

Conservation Purchases & Practices

1. Provide incentives for the purchase and use of more efficient vehicles.

Example: Car dealers in Florida currently benefit from an exemption from the state sales tax. This “dealer allowance” costs the state roughly \$705 million per year in revenues. Consider restructuring this provision in two ways: a) to pass through a substantial savings to purchasers of energy efficient vehicles; and b) to offer discounted fees on the selection of energy efficient vehicles from rental car agencies.

Example: Grant privileges to drivers of compact and subcompact vehicles, such as preferential parking, free parking, waived tolls, High Occupancy Vehicle (HOV) lane use, or other means. Engage employers, government agencies and others to participate. *Note: This measure requires a process for determining eligibility in a fair and time efficient way. Such mechanisms can be determined by sponsoring organizations (like certain airlines did a few years back to set carry-on limits).*

2. Provide incentives/disincentives for the reduction of vehicle miles traveled (VMT).

Example: Investigate per mile insurance (PMI) whereby annual insurance rates are structured to take into account the miles driven on the insured vehicle within that time frame, whereby rates are higher the more miles driven. As consumers realize that they can reduce their rates by driving less, an incentive is created for carpools, vanpools, transit and other forms of reduced driving on a per person basis.

Example: The State of Florida relies on gasoline tax proceeds for funding of its transportation work program. Funding to the DOT suffers if consumers drive less as they thereby pay less in fuel taxes. This is a built-in disincentive for State actions to encourage or facilitate more energy conscious driving habits (whether through information and education, improved transportation planning, support of transit, etc.). At the same time, low gas prices (as the US has compared with other countries) in

themselves encourage more driving and less attention to fuel efficiency. Address tax structure in a way to induce more conservative driving while maintaining needed revenues for transportation programming.

APPENDIX G

BUILDINGS ENERGY SAVINGS

APPENDIX G-1

ENERGY CODE SAVINGS

Florida Energy Code Savings

Florida's current code compliance software, EnergyGauge® FlaRES (version 3), is used to estimate the energy savings that have accrued to Florida as a result of its energy code. The years the energy code was significantly revised were chosen as points to analyze the Florida "baseline" (minimum code) home. The current software was used to evaluate how changes in the energy code, since its implementation in 1980, have impacted Florida residential energy use.

A baseline home for each code climate zone (north, central and south), for each of the "code cycle" years 1980, 1984, 1986, 1989, 1993, 1997 and 2001 was created and evaluated with the most current version of EnergyGauge FlaRES. A total of 21 homes are represented. The thermal envelope and equipment efficiency characteristics used in the analysis are those of the "baseline" home for the respective code cycle and are given below in Table A.

Table A. Characteristics of Florida code "baseline" homes by code cycle vintage

Code component:	Code Year						
	1980	1984	1986	1989	1993	1997	2001
Floor area	30' x 50' = 1500 square foot – 3 bedrooms						
Floor type	Slab-on-grade; perimeter = 160'						
Slab edge	1980	1984	1986	1989	1993	1997	2001
North	R=0	R=0	R=3.5	R=3.5	R=3.5	R=3.5	R=3.5
Central	R=0	R=0	R=3.5	R=3.5	R=3.5	R=3.5	R=3.5
South	R=0	R=0	R=0	R=0	R=0	R=0	R=0
Frame walls	1980	1984	1986	1989	1993	1997	2001
North	R=11	R=11	R=19	R=19	R=19	R=11	R=11
Central	R=11	R=11	R=19	R=19	R=19	R=11	R=11
South	R=11	R=11	R=19	R=19	R=19	R=11	R=11
Ceilings	1980	1984	1986	1989	1993	1997	2001
North	R=19	R=19	R=30	R=30	R=30	R=30	R=30
Central	R=19	R=19	R=30	R=30	R=30	R=30	R=30
South	R=19	R=19	R=30	R=30	R=30	R=30	R=30
Roof/attic	Composition shingle on felt on plywood on trusses with vented attic						
Doors (north)	R-2	R-2	R-5	R-5	R-5	R-5	R-5
Windows:	1980	1984	1986	1989	1993	1997	2001
Area (sq.ft.)	360	360	360	360	360	360	360
U-factor:							
North	1.30	0.87	0.50	0.50	0.50	0.50	0.50
Central	1.30	1.30	0.50	0.50	0.50	0.50	0.50
South	1.30	1.30	0.50	0.50	0.50	0.50	0.50
SHGC:							
North	0.75	0.66	0.66	0.66	0.66	0.66	0.40

Code component:	Code Year						
	1980	1984	1986	1989	1993	1997	2001
Central	0.75	0.75	0.66	0.66	0.66	0.66	0.40
South	0.75	0.75	0.66	0.66	0.66	0.66	0.40
Heating System	1980	1984	1986	1989	1993	1997	2001
Type:							
North	Strip	Strip	HP	HP	HP	HP	HP
Central	Strip	Strip	Strip	Strip	Strip	Strip	HP
South	Strip	Strip	Strip	Strip	Strip	Strip	HP
HSPE:							
North	COP=1	COP=1	6.8	6.8	6.8	6.8	6.8
Central	COP=1	COP=1	COP=1	COP=1	COP=1	COP=1	6.8
South	COP=1	COP=1	COP=1	COP=1	COP=1	COP=1	6.8
Cooling System	1980	1984	1986	1989	1993	1997	2001
SEER							
North	6.1	7.8	7.8	8.5	10.0	10.0	10.0
Central	6.1	7.8	7.8	8.5	10.0	10.0	10.0
South	6.1	7.8	7.8	8.5	10.0	10.0	10.0
HW System EF	1980	1984	1986	1989	1993	1997	2001
EF	0.81	0.83	0.88	0.88	0.88	0.88	0.88

Results from the code compliance analysis are presented in Table B, below. Energy cost savings are computed at an electricity cost of \$0.08 per kWh saved.

Table B. Statewide average energy and dollar savings from Florida's energy code

Year	Baseline		% Change		# Homes	Bus-as-Usual GWh	Code GWh	Diff GWh	Avoided MW	Cum GWh
	Total pts (a)	kWh (b)	Incr (c)	Cum (d)						
1980	45,938	13,460	0.0%	0.0%	90,000	1,211	1,211	---	---	---
1984	38,753	11,354	15.6%	15.6%	92,000	1,238	1,045	194	74	3,680
1986	30,737	9,006	20.7%	33.1%	94,000	1,265	847	419	239	7,117
1989	28,528	8,359	7.2%	37.9%	96,000	1,292	802	490	372	6,856
1993	26,282	7,701	7.9%	42.8%	98,000	1,319	755	564	429	5,644
1997	26,959	7,899	-2.6%	41.3%	100,000	1,346	790	556	423	3,336
2001	23,589	6,911	12.5%	48.7%	110,000	1,481	760	720	274	1,441
2003							Totals:		1810	28,075
							Energy cost savings (\$billions) = \$2.25			

Table B is constructed by taking each year that there was a substantive change in the Florida energy code (see also Table A) and calculating the value given in column (a), total points. For Florida's energy code, total points have units of kBtu per annum. Thus column (b) is simply calculated as column (a) divided by 3.413 kWh/kBtu. Columns (c) and (d) represent the incremental and cumulative change in code stringency calculated from the values in column (a) or (b) as compared with the previous code version and the 1980 code version, respectively. Column (e) provides an estimate of the number of new residences constructed per year for the code cycles listed. Column (f), the business-as-usual scenario, is constructed by multiplying the 1980 value in column (b) by the number of new homes given in column (e). Column (g), the

energy code scenario, is constructed by multiplying each of the values in column (b) by the corresponding value in column (e). Column (h) is the difference between column (f) and column (g) and represents the annual statewide energy savings expected to result from each of the respective increases in energy code stringency with respect to the business-as-usual scenario.

The avoided electrical demand, column (i), is calculated by multiplying the energy savings value in column (h) by the “straight-line demand factor” of 0.19 MW/GWh by the number of years that that particular code is in effect.¹ For example, for the 1984 code cycle, the 1984 energy savings value of 194 GWh is multiplied by 0.19 MW/GWh and by 2 years (1986-1984) to arrive at the avoided demand value of 74 MW for avoided demand. The “straight-line demand factor” assumes that all energy savings are equal at all hours of the day, for each day of the year. It is the most conservative means of estimating avoided electrical demand.

The final column, cumulative energy savings (j), is estimated by multiplying the energy savings values in column (h) by the number of years that that particular code cycle has been in effect. In other words, each code cycle year is subtracted from 2003 to determine the length of time each code cycle has been in effect. This assumes that any changes made to homes over the time period will be at least as efficient as the original home.

The cumulative results show that about 28,075 GWh (gigawatt hours) in energy savings have accrued at savings of more than \$2.2 billion dollars (using an average residential electric rate of \$0.08/kWh) to Florida homeowners during the past 22 years as a result of Florida’s energy code. The demand savings (in MW) are conservatively estimated at 1,810 MW or 4 very large power plants.

The cost to the State government of achieving these energy savings can be estimated from the cost to operate the Codes and Standards Office, Department of Community Affairs. The conservative estimate of the energy code costs is 50% of the total cost of code operations. Since the majority of building code costs are associated with life-safety code issues, this 50% estimate is considered very conservative. The annual total operating costs of the Codes & Standards Office are estimated at \$3 million.² Extrapolating these annual costs over the 22 years of operation provided in Table B above yields a total operating cost of \$33 million for the energy portion of the Florida Building Code. Using this total cost and the cumulative savings provided in Table B, the economic value parameters of Florida’s energy code are calculated as given in Table C.

Table C. Economic Value of Florida’s Energy Code

Economic Parameter	Value
Cost of Saved Energy (\$/kWh)	\$0.00118
Cost of Avoided Demand (\$/kW)	\$18.23
Taxpayer Benefit to Cost Ratio (\$/\$)	68 to 1

These results show that Florida’s energy code is an extraordinarily cost effective means of controlling energy use and costs in residences.

¹ Personal communication between the author and Jim Dean of the Florida Public Service Commission.

² Personal communication between the author and Mo Madani, DCA/C&S.

APPENDIX G-2

Building Energy Life Cycle Cost Analysis

Building energy life cycle cost analysis has been conducted for both residential and commercial buildings. The purpose of the analysis is to determine the degree of cost effectiveness of energy savings improvements in buildings. With the exception of a residential retrofit analysis; the minimum criteria of the Florida Building Code, Buildings Volume, Chapter 13 (pursuant to § 553.900 - 553.912, F.S.) are selected as the point from which all building energy improvements are measured. The analysis is conducted using Florida's code compliance software, EnergyGauge®. Approximately 2,500 individuals license this software for use across Florida and its use is required for building code compliance determination in Florida. The professional version of the residential EnergyGauge software (FlaRES) also has a built-in financial and economic evaluation package that enables all of these calculations to be accomplished by any user of this performance oriented software.

General Assumptions

The assumptions that underlay the analysis do not account for all possible building energy improvements. For example, building orientation is not considered by the analysis and, for residential buildings, only heating, cooling, hot water and lighting energy uses (about 55-60% of the residential use) are considered. Therefore, certain cost-effective, appliance efficiency improvements like high-efficiency refrigerators and freezers, compact fluorescent lights, horizontal axis washers, pool etc. are not considered.

New Homes

The analysis of residential buildings covers homes of various sizes (1500, 2500 and 4000 ft²) located in Florida's 3 primary code zones (north, central and south). The EnergyGauge FlaRES Pro software comes standard with default, installed costs for a large variety of energy features in homes. These default costs are used for all analysis. The analysis also assumes that the home is mortgaged on a 30 year fixed interest rate mortgage (improvements with a shorter life are replaced at the end of their projected useful life) and that building energy improvements are incorporated into that mortgage.

EnergyGauge has the capability to rank order individual improvements to homes using various financial indicators. **For this analysis, the Net Present Value (NPV) of the investment is the ranking method.** NPV is defined as the present value of the building energy savings over the life of the mortgage less the present value of the incremental building costs (including replacements where necessary) of the over the life of the mortgage. The analysis is performed over the life of the mortgage "with replacement", meaning that at the conclusion of the useful life of a given feature, it is replaced at a cost equal to its original cost escalated at the general inflation rate. At the conclusion of the mortgage period, any salvage value for improvements with remaining useful lives are reconciled. All cash flows are rigorously accounted, including mortgage payments, insurance costs, property taxes, maintenance, replacement and salvage value on the cost side and energy and income tax savings on the savings side.

The economic and financial assumptions incorporated into each analysis are shown by Figure 1, below.

Financial Inputs in EnergyGauge

Years for Analysis:

- Mortgage Years: 250
- Analysis with replacement

Mortgage and Payment Information for Energy Improvement

- Mortgage Type: Fixed Rate
- Comment: EnergyGauge defaults for LLC analysis

Energy Rating

- Cost of Rating: 250
- % Borrowed: 0

General Rates (%)

- General Inflation: 3
- Fuel Price Inflation: 3
- Discount Rate: 5

Home Insurance
(Percent of Home Value): 0.4

Standard Loan

- Annual Interest Rate (%): 7
- Duration (yrs): 30
- Payments per year: 12
- Down Payment (%): 5

Tax Rates(%)

- Income: 28
- Property: 1
- Assessment/Cost: 80
- Property-Tax Inflation: 3

Points paid by borrower (% of Loan):	2	100
Private Mortgage Ins. (% of Loan):	0.5	
Other buyer fees (% of Loan):	1	100

Right click for page help, point to any field for hints, or place cursor in any field and press F1 for detailed help.

Figure 1. Financial and economic input assumptions for residential LLC analysis

EnergyGauge uses these data along with its default energy conservation measure (ECM) tables to automatically determine, ordered by highest NPV, the order in which improvements are most cost-effectively incorporated into the home. It accomplishes this by taking the full list of available ECM options and evaluating each one separately to determine which one from the entire list has the highest NPV. It then incorporates

that improvement it into the home, removes it from the list of available ECM options and repeats the entire procedure again for all the remaining ECM options on the list. In this way, EnergyGauge successively selects the single most cost-effective ECM option until it has either reached a user specified goal or it has exhausted the list of possible improvements. For this analysis, a substantial savings goal was set to insure that all available improvement options were exhausted. The EnergyGauge optimization input data for the analysis reported here is shown by Figure 2.

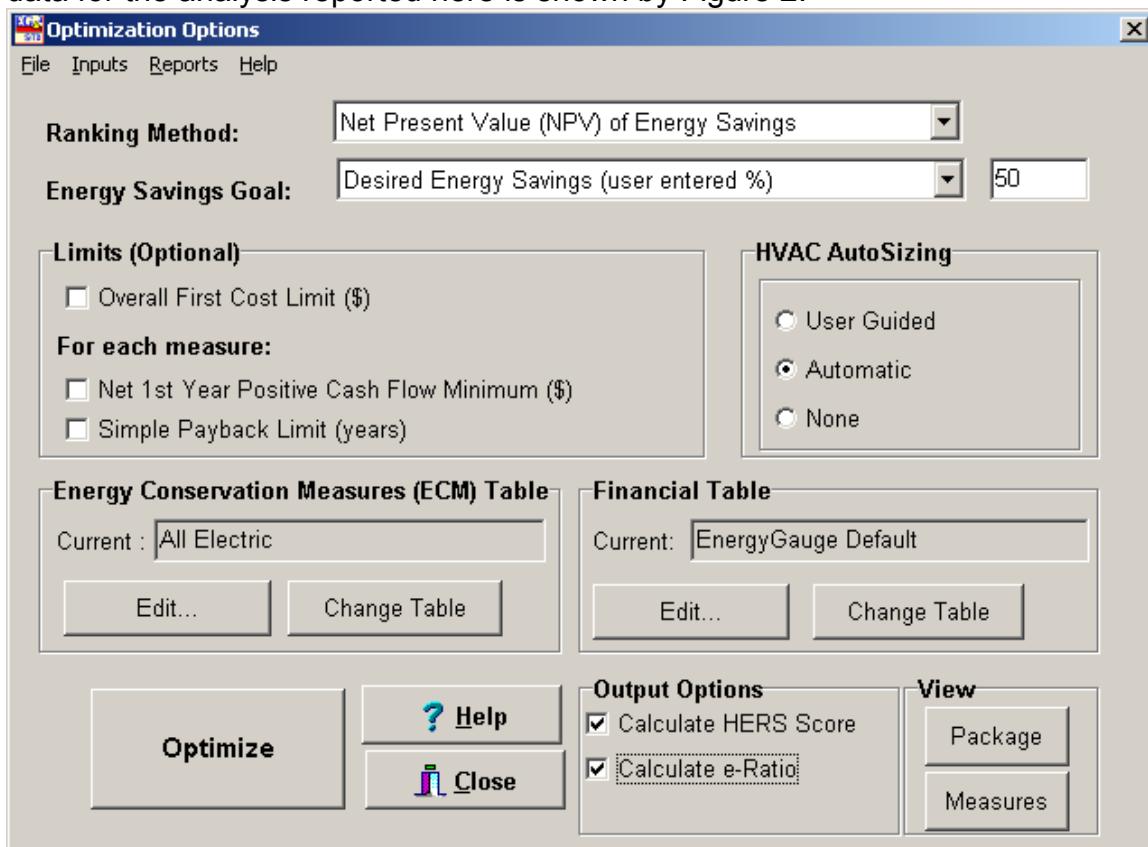


Figure 2. EnergyGauge FlaRES Optimization Input Screen

EnergyGauge produces a report (accepted measures report) for this life-cycle cost analysis that comprises, among other things, the improvements in the order they were selected along with the respective energy cost savings, improvement costs and NPV for each successive improvement. These data may then be used to create a "picture" of the present value cost of home ownership as a function of energy efficiency. This is accomplished by taking the present value of the energy cost to operate the home at each level of efficiency and adding it to the present value of the improvement costs required to produce the efficiency increase. As the percent energy savings increase the energy costs decline but the improvement costs increase. Thus, there is some energy efficiency at which the sum of these two costs is minimized. This point represents the most advantageous financial and economic position for the home purchaser.

Figure 3 provides an example. The "baseline home" depicted in the chart is the standard or reference home that Florida's energy code uses to determine the minimum performance requirements for a home of this size in south Florida. As such it

represents the “minimum code” home. The y-axis for the chart is the present value of the costs for the home and the x-axis is the % energy savings as compared with the baseline home. Characteristically, although the energy costs decrease linearly as the % energy savings increase, the improvement cost increase at first slowly and then very rapidly as the available options for increased efficiency become geometrically more costly as one approaches the limits of available options.

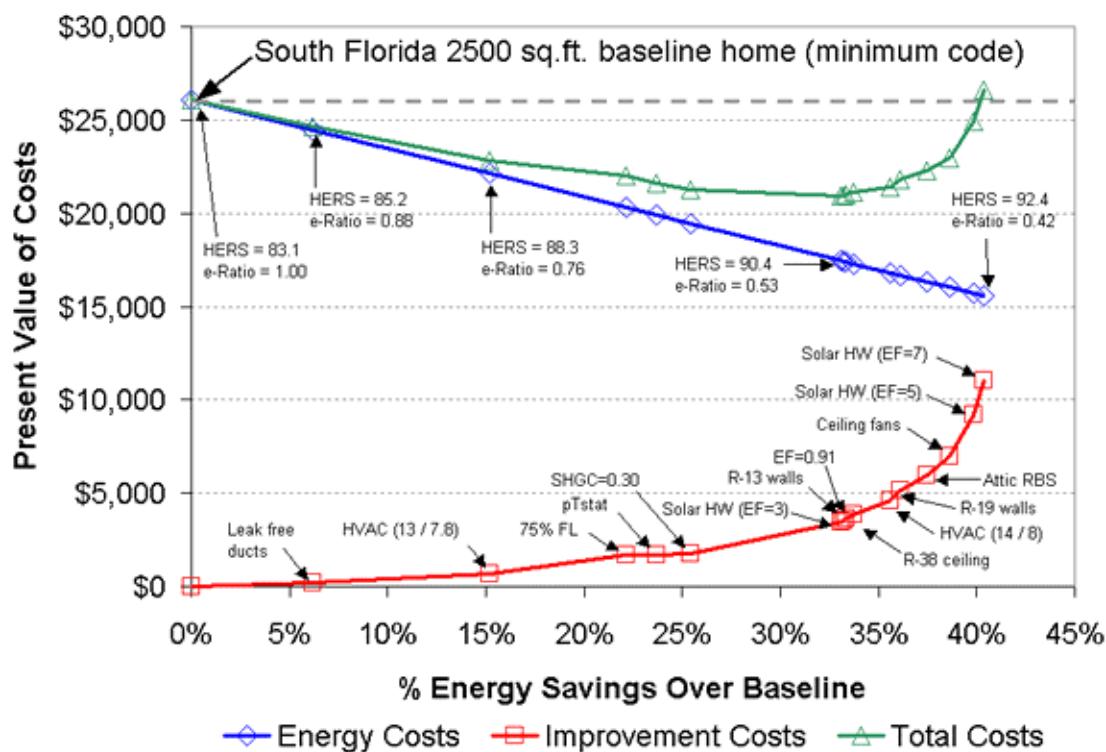


Figure 3. Optimization results for 2500 ft² south Florida baseline (minimum code) home

Figure 3 also clearly shows the financial impact of the selected energy improvements. The green line with the triangle symbol represents the sum of the energy and improvement costs. Its present value decreases until the energy efficiency of the home has increased by about 33%. This cost minimum represents the cost-optimized configuration for this home. It is also important to point out that cost-effective savings are achieved up until the point that this total cost line exceeds the total cost for the baseline home (gray dashed line). The figure also shows alongside the improvement cost line the order in which the individual improvements were incorporated into the home.

The final items on the figure that deserve explanation are the HERS and e-Ratio values given adjacent to the energy cost line. These values represent the “rated” energy efficiency of the home at various points along the curves. The HERS score is a means of expressing the relative efficiency of homes, as compared with a HERS reference home, which is roughly equivalent to the 1993 national Model Energy Code (MEC). In

general, a one-point increase in HERS score above a score of 80 represents a 5% decrease in energy use for heating cooling and hot water as compared with the 1993 national model energy code standard. The e-Ratio is the energy use of the home divided by the energy use of the Florida "baseline" home. Thus, it represents the relative efficiency of the home with respect to the Florida minimum code requirement and, thus, the baseline home has an e-Ratio of 1.00. One thing that is clear from Figure 3 is that Florida's current baseline home (minimum code standard) is about 15% more efficient $[(83.1-80.0) \times 5 = 15.5\%]$ than the 1993 MEC. An important point is that both of these scores consider only heating, cooling and hot water energy use while the results shown in Figure 2 consider all home energy uses in the calculation of its x-axis values (% energy savings over the baseline). As a result, the improvement level that shows on the x-axis as a 33% energy savings actually saves 47% $[(1-0.53) \times 100 = 47\%]$ of just the heating, cooling and hot water energy use.

As stated previously, analyses identical to that shown in Figure 3 were conducted for three home sizes (1500, 2500 and 4000 ft²) in each of Florida's three climate zones. Since each home size has a characteristically different magnitude of energy use, the effect of home size can only be shown in relative terms by "normalizing" the y-axis of the figure. This is accomplished by dividing each y-axis value by its value at the baseline home condition (i.e. where x = 0). This results in a y-axis that is expressed as % of baseline home costs, which allows all home sizes to be compared directly on the same plot as shown in Figure 4.

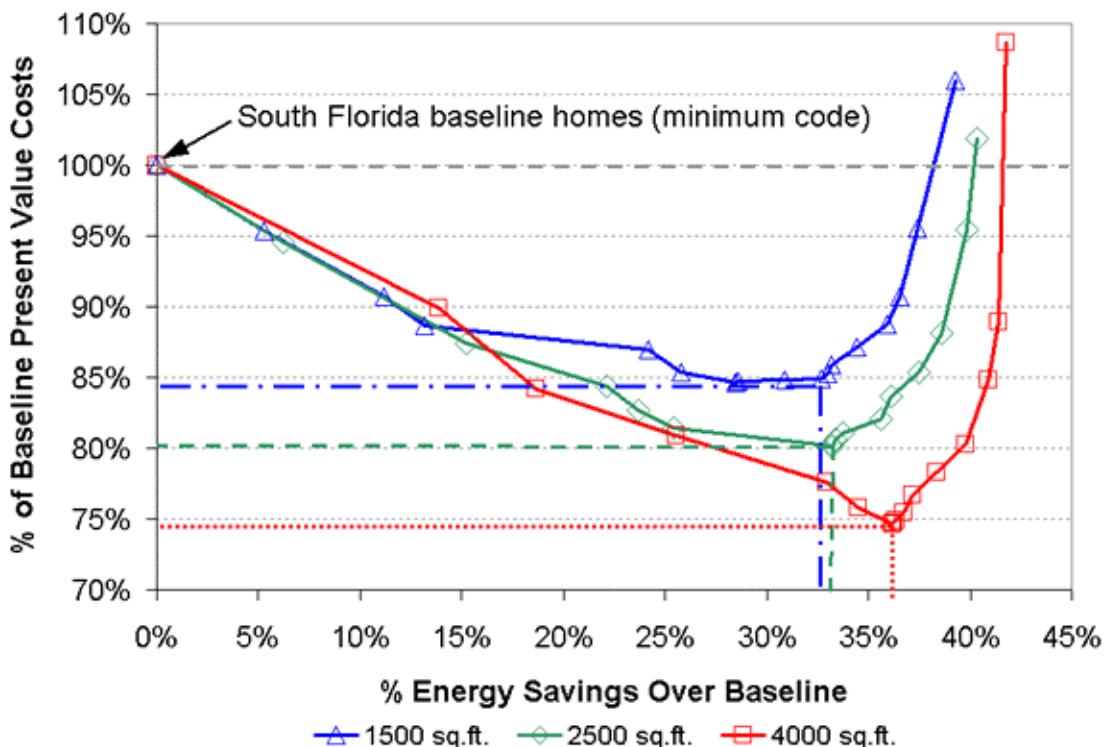


Figure 4. Life cycle cost analysis results for various home sizes in south Florida

To make the analysis easy to follow, only the sum of the energy and improvement costs (the total present value costs) are shown in Figure 4. This value is, after all, the “bottom line” of the analysis. Two things clear from Figure 4:

- Large homes have a greater potential for cost-effective energy savings than smaller homes, and
- The total cost of ownership for a large home can be reduced by a greater percentage than for a small home.

Figure 4 shows that the total present value cost minimums occur at 32%, 33% and 36% for the 1,500 ft², 2,500 ft² and 4,000 ft² homes, respectively. This allows an actual cash return to the owner on investing in energy efficiency for each month he owns the home. Figures 5 and 6 depict the same life cycle cost analysis results for central and north Florida homes, respectively. Taken together, Figures 4, 5 and 6 show very similar trends with the greatest difference between climates being that there are increasing potentials to cost-effectively save energy and reduce energy costs as one progresses from north to central to south Florida.

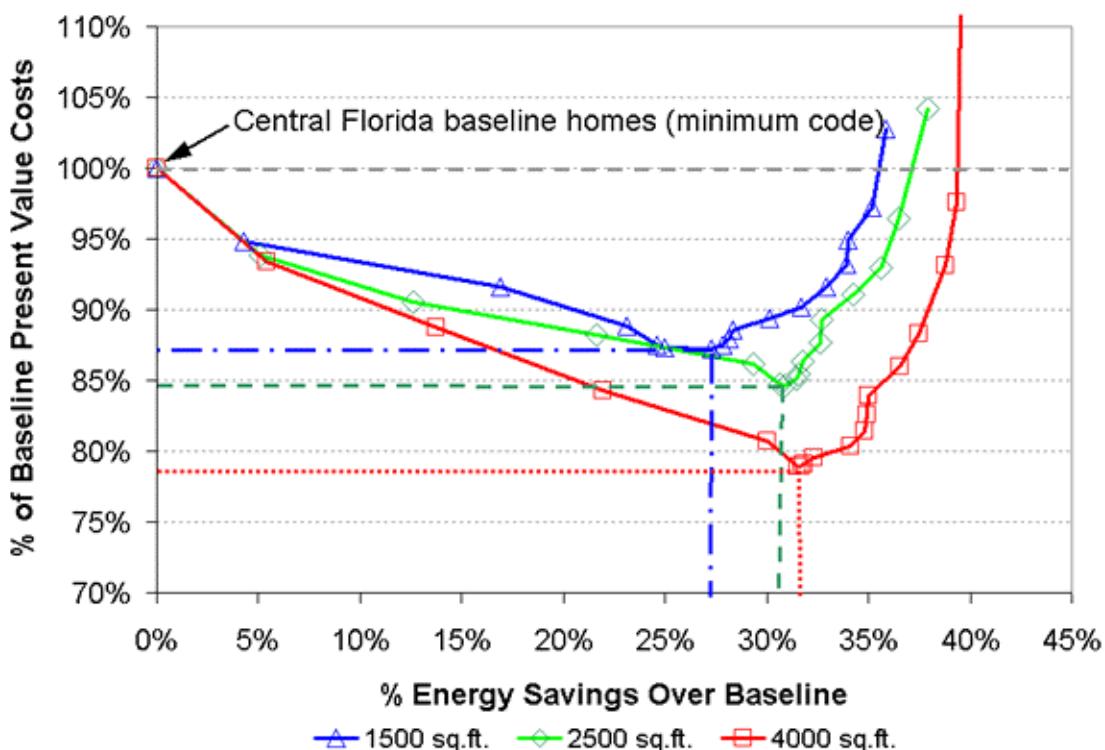


Figure 5. Life cycle cost analysis results for various home sizes in central Florida

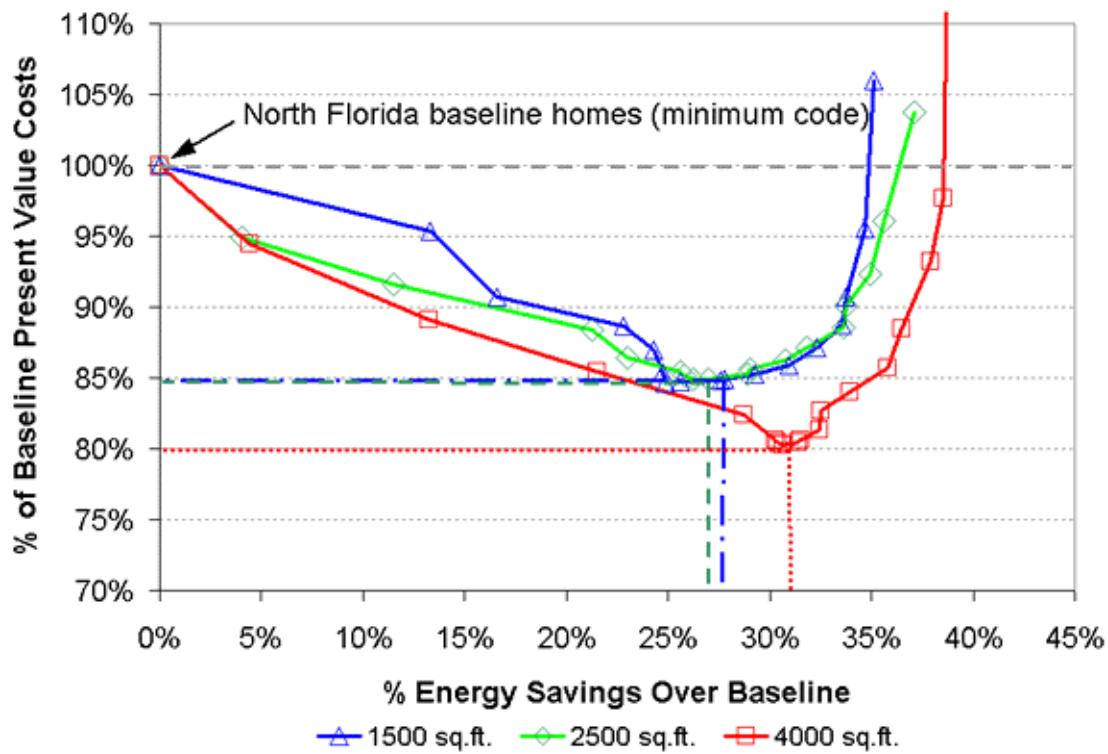


Figure 6. Life cycle cost analysis results for various home sizes in north Florida

Existing Home Retrofits

The vast majority of Florida homes already exist. To examine the potential for cost effective home retrofits, a second set of life cycle cost analysis was conducted where a 20-year old home (1984 code vintage) was used as the basis of comparison. (For the energy characteristics of this 1984 code vintage home (see appendix on Energy Code savings). A key difference in the manner in which EnergyGauge treats existing and new homes is that the cost of improving an existing home includes the entire installed cost of the improvement rather than the incremental cost of the improvement (the cost difference between the baseline home and the improved home). Thus, retrofit improvements are characteristically more expensive than similar improvements applied to homes that have yet to be constructed.

Except for this improvement cost difference, the retrofit analysis presented here uses the same financial and economic assumptions as are used for the new home analysis, including the assumption that the improvements are financed through a 30-year mortgage (and items with less than a 30-year life replaced).

Even though the costs of the retrofit are significantly greater than in new homes, there is significant energy savings potential compared to the existing 1984 vintage home. Figure 7 shows that total home costs are minimized at 43% energy savings and that 48% savings are achievable without exceeding the present value costs of the existing home. The home purchaser who maximizes the cost-effectiveness of the purchase of this existing home will achieve \$5,000 in present value savings (which could be used to finance an renovated bathroom or kitchen at no extra cost) and a 43% reduction in energy cost as compared to the original 1984 vintage home. It is interesting to note that the first ECM selected for this home is an heating and air conditioning equipment replacement that upgrades the system to a heat pump with SEER = 12 and HSPF = 7.5. This single retrofit measure results in a net present value savings of \$2,850 and an energy savings of 22%.

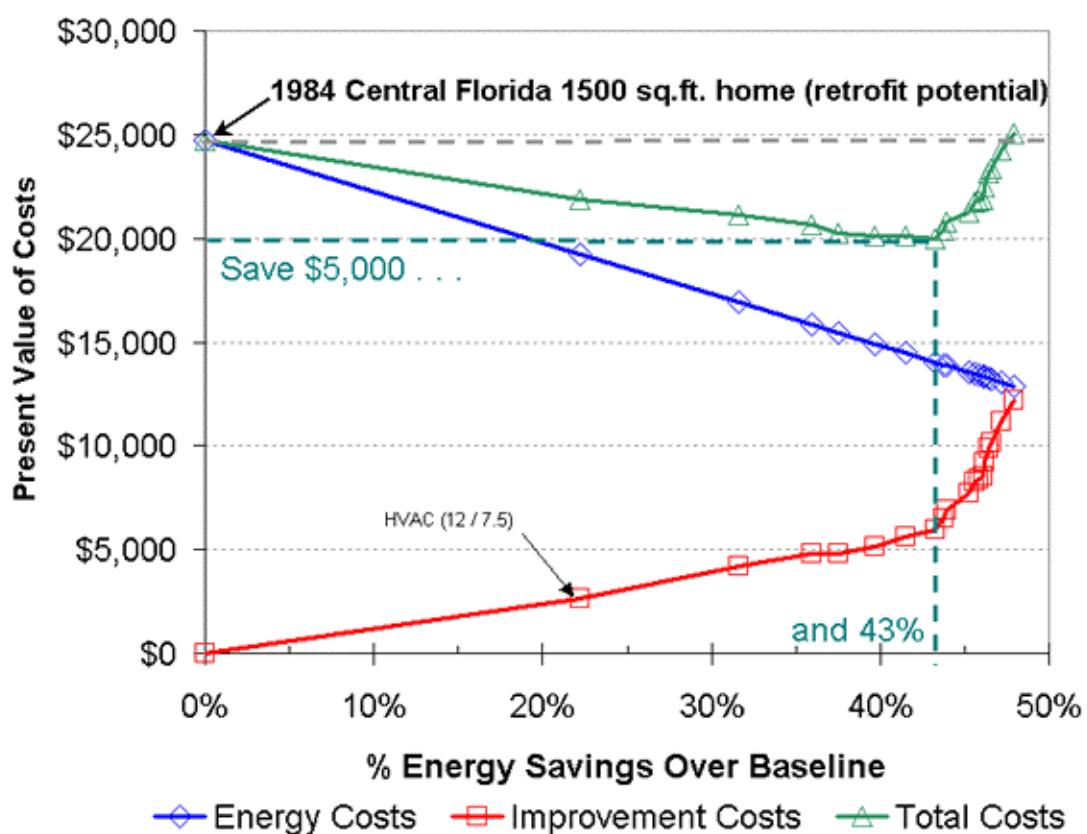


Figure 7. Life cycle cost analysis results for 1984 vintage central Florida home retrofit

As in new homes, existing homes are expected to show greater cost and energy savings as home size increases. The impact of climate is clearly shown in Figure 8, which provides the relative financial and economic benefits of retrofitting this 1500 ft² 1984 vintage code homes in all three Florida climate zones. The figure clearly shows that the cost and savings benefits for retrofitting these homes vary significantly, with significantly more potential in northern as opposed to southern climates.

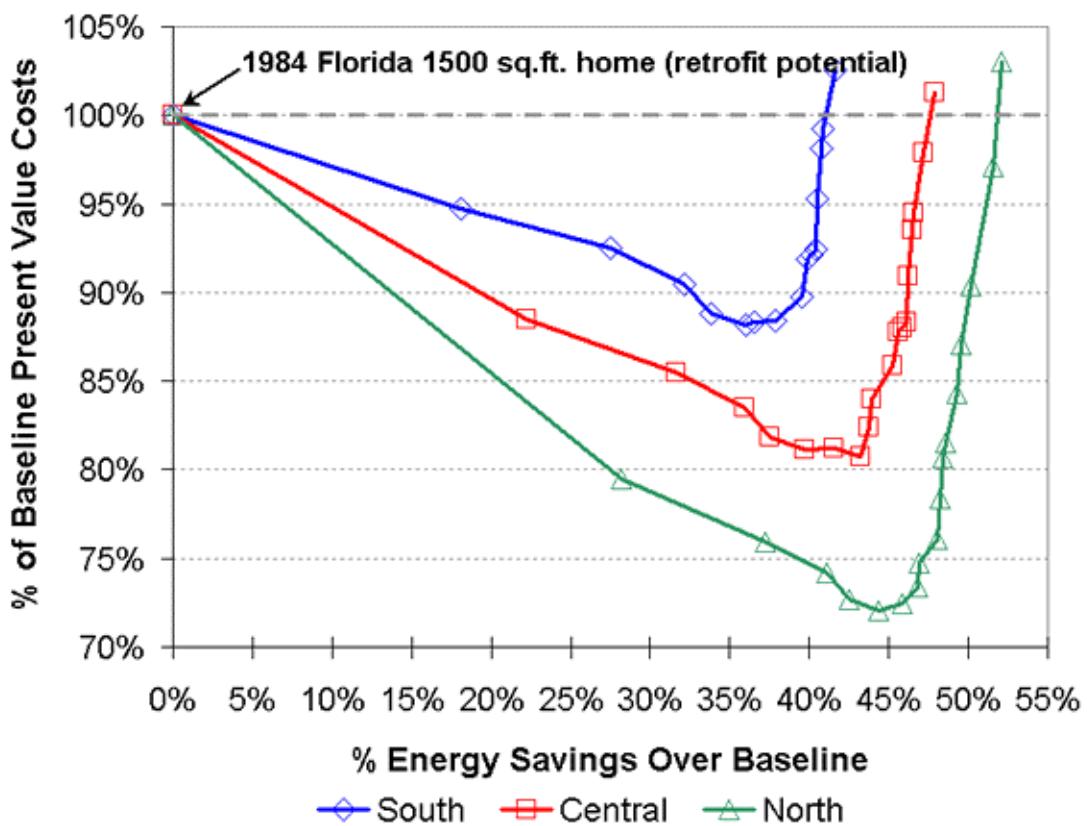


Figure 8 Retrofit potential for small residential building

Commercial Buildings

Analysis of commercial buildings covers a number of prototype buildings obtained from the Commercial Buildings Energy Consumption Survey (CBECS). The analysis was performed by developing an analysis tool derived from EnergyGauge FlaCom that was able to perform energy as well as cost analysis for various improvements to the buildings.

Prototypes of commercial buildings

LBNL¹ developed prototypes of commercial buildings based on the Commercial Buildings Energy Consumption Survey (CBECS)². These prototypes represent building types, which covered 85% of the commercial building stock surveyed by CBECS. These building types are:

¹Huang, J and E. Franconi, 1999, "Commercial Heating and Cooling Loads Component Analysis," LBL-37208, Lawrence Berkeley National Laboratory, Berkeley, CA

² Energy Information Administration (EIA), 1995, "Commercial Buildings Energy Consumption Survey," US Department of Energy, Washington DC

- Large office ($\geq 25,000 \text{ ft}^2$)
- Small office ($< 25,000 \text{ ft}^2$)
- Large retail store ($\geq 25,000 \text{ ft}^2$)
- Small retail store ($< 25,000 \text{ ft}^2$)
- School
- Hospital
- Large hotel
- Restaurant
- Supermarket
- Warehouse

A brief description of building construction of each building type used in the analysis is listed below.

Large office

Floor area: $90,000 \text{ ft}^2$

Number of floor: 6

Floor type: First floor, Interior floor and Top floor

Zone: Each floor has 4 perimeter zones and one core zone

Small office

Floor area: $6,600 \text{ ft}^2$

Number of floor: 1

Zone: Each floor has 2 zones

Large retail store

Floor area: $79,000 \text{ ft}^2$

Number of floor: 2

Floor type: First floor, and Top floor

Zone: Each floor has a single zone

Small retail store

Floor area: $6,400 \text{ ft}^2$

Number of floor: 1

Zone: A single zone

School

Floor area: $16,000 \text{ ft}^2$

Number of floor: 2 for classroom

Floor type: First floor, and Top floor

Zone: Each floor a multiplier for class room. Each class room has a floor area of $1,800 \text{ ft}^2$. In addition, the school has library, gymnasium, auditorium, kitchen, and dinning area. The percentages of each zone compared to the total floor area are listed below:

Library 13%

Gymnasium 13%

Auditorium	8%
Kitchen	2%
Dinning	4%
Classroom	60%

Hospital

Floor area: 155,800 ft²

Number of floor: 12

Floor type: First floor, interior floor and Top floor

Zone: Each floor has patient room, core & public area, kitchen, hallway, and clinic. The percentages of each zone compared to the total floor area are listed below:

Patient room 15%

Core & public 35%

Kitchen 5%

Hallway 20%

Clinic 25%

Large hotel

Floor area: 250,000 ft²

Number of floor: 10

Floor type: First floor, interior floor and Top floor

Zone: Each floor has hotel rooms. Kitchen & laundry, and lobby & conference rooms are located in the first floor. The percentages of each zone compared to the total floor area are listed below:

Hotel room 70%

Lobby/Conf 25%

Kitchen/Laun 5%

Sit-down restaurant

Floor area: 5,250 ft²

Number of floor: 1

Zone: It consists of dining area and kitchen. The percentages of each zone compared to the total floor area are listed below:

Dining 80%

Kitchen 20%

Supermarket

Floor area: 21,300 ft²

Number of floor: 1

Zone: It consists of office, dry storage, bakery, deli area, and sale area. The percentages of each zone compared to the total floor area are listed below:

Office 400 ft²

Bakery 1000 ft²

Deli area 1000 ft²

Dry storage 3000 ft²
Sales area Area-5400 ft²

Warehouse

Floor area: 136,000 ft²

Number of floor: 1

Zone: It consists of office, and storage area. The percentages of each zone compared to the total floor area are listed below:

Office area 20%
Storage area 80%

Measures:

Improvements to the following building elements were considered.

- Wall Insulation
- Roof Insulation
- Roof Alpha
- Window Types
- Lighting Types
- Lighting Controls
- System Efficiency

Cost Data

An outside consultant was contracted to obtain cost data for each base-line building and improvements. These costs were derived from Means Construction Cost Guides (2003). Since the cost data are quite voluminous, only a sample is shown here.

Separate Excel spreadsheet files containing costs for each improvement measure for each of the prototype buildings are available in electronic form.

TEMPLATE: SMALL OFFICE (< 25,000 SF)				
COMPONENT: WALL INSULATION				
OPTION ID	DESCRIPTION (interior to exterior)	EQUIV. INSUL R VALUE	COL. NOT USED	* INSUL. COST (\$)
Base	gyp. board over 3/4" thick furring with 3/4" extruded polystyrene insulation between furring on 8" CMU with stucco finish.	2.88		0.62
A	gyp. board over 3/4" thick furring over 1/2" foil faced rigid isocyanurate insulation on 8" CMU with stucco	6.67		0.59

	finish.			
B	gyp. board over 3/4" thick furring over 1" foil faced rigid isocyanurate insulation on 8" CMU with stucco finish.	9.97		0.62
C	gyp. board over 3/4" thick furring over 2" foil faced rigid isocyanurate insulation on 8" CMU with stucco finish.	17.20		0.76
D	gyp. board over 3/4" thick furring on 8" CMU with 2" EIFS finish.	7.80		0.94
E	gyp. board on 3.5" metal studs @ 24" o.c. with 3.5" batt insulation between with 2" EIFS finish.	14.40		1.36
F				

* Cost = \$/SF of component area, derived from Means Construction Cost Guides (2003)

TEMPLATE:	SMALL OFFICE (< 25,000 SF)			
COMPONENT:	ROOF ALPHA			
OPTION ID	DESCRIPTION (interior to exterior)	SOLAR ABSORP	COL. NOT USED	*COST (\$)
Base	grey SBS modified bitumen membrane with fully mopped base sheet.	0.70		2.85
A	White concrete tile	0.25		3.12
B	White painted metal (26 gauge)	0.32		3.03
C	white PVC fully adhered single ply membrane	0.46		1.49
D	light painted metal (26 gauge)	0.50		3.03
E	light shingle	0.72		0.89
F	medium concrete tile	0.81		2.71
G	dark shingle	0.97		0.89

* Cost = \$/SF of component area, derived from Means Construction Cost Guides (2003)

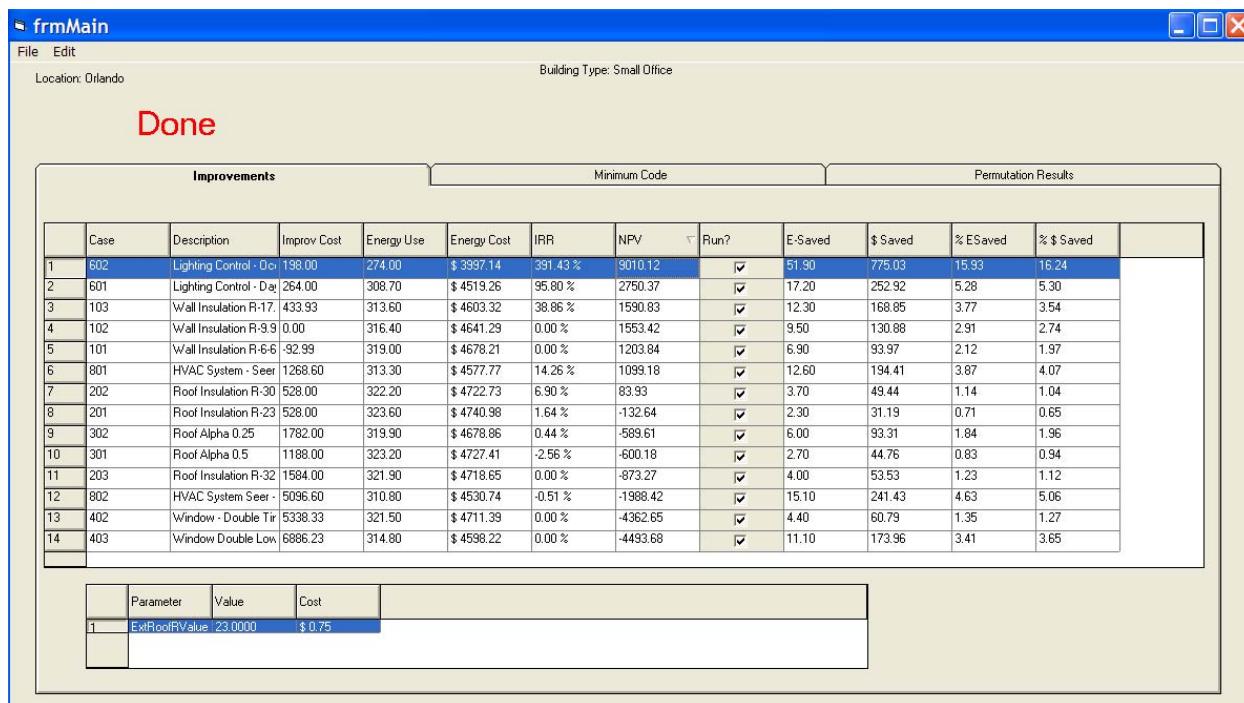
Analysis Tool

An analysis tool that is an extension of EnergyGauge FlaCom was written where in any of the building templates and measures can be selected by the user for analysis. An Access databases was used as the data repository. The program calculates energy and cost indicators for the building and improvement measures chosen.

Energy and cost indicators calculated by the Analysis Tool include:

- Improvement cost
- Energy Use
- Energy Cost
- Internal Rate of return
- Net Present Value and Present Value
- Energy Saved (both, absolute and %)
- \$ Saved (both, absolute and %)

Figures 9 and 10 show screen-shots of the analysis tool.



The screenshot shows a Windows application window titled "frmMain". The menu bar includes "File" and "Edit". Below the menu, it says "Location: Orlando" and "Building Type: Small Office". A red "Done" button is centered above a large table. The table has three tabs at the top: "Improvements" (selected), "Minimum Code", and "Permutation Results". The "Improvements" tab displays a list of 14 cases with various parameters and results. The "Parameter" and "Value" columns for the last row are highlighted in blue. The "Cost" column is also highlighted in blue.

	Case	Description	Improv Cost	Energy Use	Energy Cost	IRR	NPV	Run?	E-Saved	\$ Saved	% ESaved	% \$ Saved
1	602	Lighting Control - Occupied	198.00	274.00	\$ 3997.14	391.43 %	9010.12	<input checked="" type="checkbox"/>	51.90	775.03	15.93	16.24
2	601	Lighting Control - Daylight	264.00	308.70	\$ 4519.26	95.80 %	2750.37	<input checked="" type="checkbox"/>	17.20	252.92	5.28	5.30
3	103	Wall Insulation R-17	433.93	313.60	\$ 4603.32	38.86 %	1590.83	<input checked="" type="checkbox"/>	12.30	168.85	3.77	3.54
4	102	Wall Insulation R-9.9	0.00	316.40	\$ 4641.29	0.00 %	1553.42	<input checked="" type="checkbox"/>	9.50	130.88	2.91	2.74
5	101	Wall Insulation R-6.6	-92.99	319.00	\$ 4678.21	0.00 %	1203.84	<input checked="" type="checkbox"/>	6.90	93.97	2.12	1.97
6	801	HVAC System - Seer 12	686.60	313.30	\$ 4577.77	14.26 %	1099.18	<input checked="" type="checkbox"/>	12.60	194.41	3.87	4.07
7	202	Roof Insulation R-30	528.00	322.20	\$ 4722.73	6.90 %	83.93	<input checked="" type="checkbox"/>	3.70	49.44	1.14	1.04
8	201	Roof Insulation R-23	528.00	323.60	\$ 4740.98	1.64 %	-132.64	<input checked="" type="checkbox"/>	2.30	31.19	0.71	0.65
9	302	Roof Alpha 0.25	1782.00	319.90	\$ 4678.86	0.44 %	-589.61	<input checked="" type="checkbox"/>	6.00	93.31	1.84	1.96
10	301	Roof Alpha 0.5	1188.00	323.20	\$ 4727.41	-2.56 %	-600.18	<input checked="" type="checkbox"/>	2.70	44.76	0.83	0.94
11	203	Roof Insulation R-32	1584.00	321.90	\$ 4718.65	0.00 %	-873.27	<input checked="" type="checkbox"/>	4.00	53.53	1.23	1.12
12	802	HVAC System Seer - 10	5096.60	310.80	\$ 4530.74	-0.51 %	-1988.42	<input checked="" type="checkbox"/>	15.10	241.43	4.63	5.06
13	402	Window - Double Tir	5338.33	321.50	\$ 4711.39	0.00 %	-4362.65	<input checked="" type="checkbox"/>	4.40	60.79	1.35	1.27
14	403	Window Double Low	6886.23	314.80	\$ 4598.22	0.00 %	-4493.68	<input checked="" type="checkbox"/>	11.10	173.96	3.41	3.65

	Parameter	Value	Cost
1	ExtRooIRValue	23.0000	\$ 0.75

Figure 9. Single improvement Analysis Table

Permutation Results												
	Case	Description	Improv Cost	Energy Use	Energy Cost	IRR	NPV	E-Saved	\$ Saved	% ESaved	% \$ Saved	
1	1	Lighting Control - Occupant	198.00	274.00	\$ 3997.14	391.43 %	9010.12	51.90	775.03	15.93	16.24	
2	2	Wall Insulation R-17.7	631.93	260.10	\$ 3801.70	153.57 %	10916.55	65.80	970.48	20.19	20.34	
3	3	HVAC System - Seer 12	1900.53	249.60	\$ 3639.20	59.61 %	11637.01	76.30	1132.98	23.41	23.74	
4	4	Roof Insulation R-30	2428.53	245.90	\$ 3588.24	48.73 %	11738.95	80.00	1183.93	24.55	24.81	
5	5	Roof Alpha 0.25	4210.53	242.40	\$ 3528.90	29.36 %	10746.15	83.50	1243.28	25.62	26.05	
6	6	Window - Double Tinted	9548.86	237.90	\$ 3465.15	12.36 %	6418.60	88.00	1307.02	27.00	27.39	

Figure 10. Combination of improvements

Procedure

The analysis tool that encapsulates the templates, climates, minimum code parameters and measures performs the following steps for a given prototype building in order to achieve the objective of the analysis.

- Minimum code building is set up
- Minimum code is run with HVAC system auto-sizing.
- Minimum code is rerun with actual system size obtained from previous step
- Each measure is run on the minimum code building
- Energy and cost indicators are calculated
- Single Measure runs are sorted by cost indicators
- Combination of the measures are run and energy and cost indicators are recalculated

Results

Figure 11 provides an example of the analysis for a small office prototype building. The “baseline” depicted in the chart is the reference building that Florida’s energy code uses to determine the minimum performance requirements. As such it represents the “minimum code” building. The y-axis for the chart is the present value of the costs for the building and the x-axis is the % savings as compared with the baseline building. Characteristically, although the energy costs decrease linearly as the % savings increase, the improvement cost increase at first slowly and then very rapidly as the

available options for increased efficiency become geometrically more costly as one approaches the limits of available options.

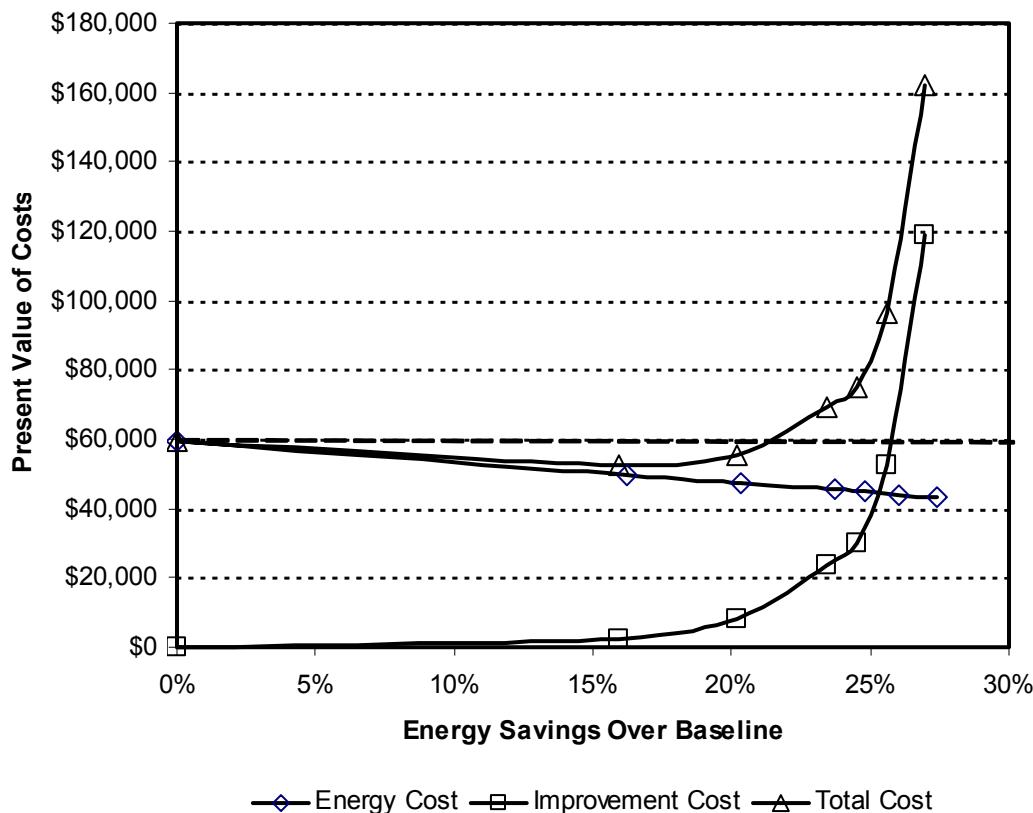


Figure 11. Optimization results for Small Office baseline (minimum code) building

Figure 11 also clearly shows the financial impact of energy improvements. The line with the triangle symbol represents the sum of the energy and improvement costs. Its present value decreases until the energy efficiency of the building has increased by about 22%. This cost minimum represents the cost-optimized configuration for this building. It is also important to point out that cost-effective savings are achieved up until the point that this total cost line exceeds the total cost for the baseline (gray dashed line). The figure also shows alongside the improvement cost line the order in which the individual improvements were incorporated into the building.

Identical to that shown in Figure 11 were conducted for 10 prototype buildings. Since each building has a characteristically different magnitude of energy use, the effect of building type can only be shown in relative terms by “normalizing” the y-axis of the figure. This is accomplished by dividing each y-axis value by its value at the baseline building condition (i.e. where $x = 0$). This results in a y-axis that is expressed as % of baseline costs, which allows all building types to be compared directly on the same plot as shown in Figure 12.

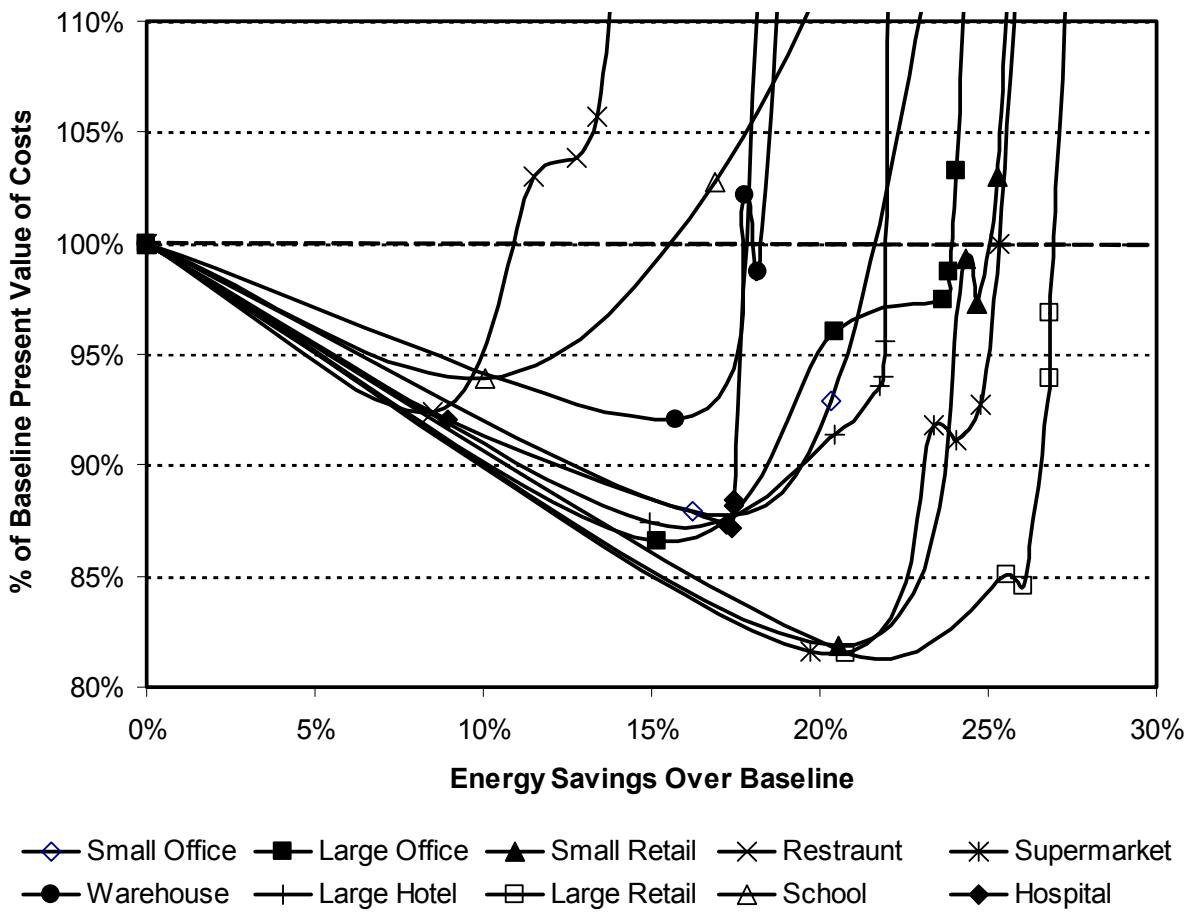


Figure 12. Life cycle cost analysis results for various building prototypes

To make the analysis easy to follow, only the sum of the energy and improvement costs (the total present value costs) are shown in Figure 4. This value is, after all, the “bottom line” of the analysis. Several things are clear from Figure 4:

- Larger buildings have a greater potential for cost-effective energy savings than smaller ones, and
- The total cost of ownership for larger buildings can be reduced by a greater percentage than for a small ones
- Results show that the total present value cost minimums occur between 12% and 27% depending of the building type.



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Recognizing that state sizes vary considerably, we've come up with a formula to more fairly balance the support each state gives. Based on Colorado's contribution of \$20,000 and a state population of 4,417,714, we estimated the contribution to be .0045 cents per capita. Using this formula, (and then rounding down considerably) we've calculated the contribution each state would need to make to match that contribution. For the state of Florida, with a population of 16,396,515, the contribution would be \$74,231. However, we will give you full benefits for a contribution of \$35,000 per year, and may consider in-kind services additionally.

The benefits to partnership are:

- Ready-made news releases that can be customized to your office and sent to local media
- Ability to use your sponsorship of campaign in own advertisements/outreach efforts, taking credit for your sponsorship of this campaign
- The name of your energy office credited in consumer fulfillment materials
- The name of your energy office credited on web site with link to your web site
- The name of your energy office credited on TV public service announcements
- One localized TV news story distributed to local stations in your targeted market including your choice of spokesperson

With your contribution, we will increase awareness of energy efficiency to families in Florida.

I look forward to speaking with you further.

Sincerely,

A handwritten signature in black ink that reads "Maria Ellingson". The signature is fluid and cursive, with "Maria" on top and "Ellingson" below it.

Maria Ellingson
Director – Efficiency and Conservation Program



OVERVIEW

This three-year campaign targeted at kids and their parents uses effective public service advertising to raise awareness of the benefits of residential energy efficiency and conservation.

On behalf of national advertisers and ad agencies, Ad Council produces, distributes, promotes and evaluates national public service campaigns. They have created famous campaigns such as:



- **Smokey Bear**, recognized by 95% of adults and 77% of children.
- **Friends Don't Let Friends Drive Drunk**, 70% of Americans have tried to stop someone from driving drunk.
- **Crash Test Dummies, Vince and Larry**, increased seat belt usage from 21% to 70%, saving an estimated 75,000 lives.

CURRENT SPONSORS

Non Profit Sponsors, CEAF & NFFN: The Energy Outreach Colorado has distributed over 35 million dollars to help needy families receive a basic human necessity – home energy. The National Fuel Funds Network (NFFN) is the national organization of fuel funds like CEAF with over 200 members from energy providers and others.

Campaign Sponsors:

- U.S. Department of Energy
- The Home Depot
- The North American Insulation Manufacturers Association (NAIMA)
- 18 State Energy Offices: Alaska, Colorado, Georgia, Kansas, Kentucky, Louisiana, Maryland, Minnesota, Missouri, Nevada, North Dakota, Ohio, Oklahoma, Pennsylvania, Texas, Utah, Virginia, and Wyoming.

EXPOSURE: Sponsors will be identified in all press releases, web sites, and response materials.

Breakdown by Media

- TV: 24% (averages 150,129,130 TV Households per year, 12,510,760 TV Households per month)
- Internet: 16% (Average of 750,000,000 impressions a year on banner ads on popular sites)
- Radio: 50%
- Print, Out-of-Home, and Other: 10%

PR (*includes mention of sponsors*)

- Media kits distributed to 28,000 outlets nationwide
- Launch campaign press conference (possibly at White House)
- Mention in Ad Council Bulletin, distributed to 20,000 media representatives
- Ad Council has aggressive PR reps that actively solicit coverage

Response (*includes mention of sponsors on all materials sent to inquiries*)

- Average campaign generates 13,000-26,000 responses in 12 months
- Average campaign generates \$20 million-\$100 million worth of advertising exposure nationally

KEY MESSAGES

The campaign will promote the benefits of energy conservation and energy efficiency, including:

- Saved money/economic stimulus: By reducing monthly energy bills, families save money
- Public health / indoor air quality: Educating people about indoor air quality issues and solutions
- Better environment: By using less energy, we reduce harmful emissions caused by our demand
- Increased awareness of new technologies such as low-e windows, CFL's, and Energy Star appliances

Energy Hog Artwork for National Ad Council Campaign

Front View



Side View



CHAPTER 5

Transportation Energy Plan

Recommendations

The following Clean Fuel Florida Advisory Board policy themes and recommendations have been developed through a consensus process to highlight the contributions that the expanded use of alternative fuels and alternative-fuel vehicles can make to Florida's Economic Prosperity, Environment and Community Quality. Implementation of these recommendations will:

- Support and enhance Florida's Alternative-fuel vehicle Infrastructure
- Create an organizational structure to support expanded Alternative-fuel vehicle use
- Expand levels of public awareness and general understanding of transportation issues, and
- Garner the support for research into the best application of emerging technologies such as hydrogen and fuel cells.

RECOMMENDATION 1. Emerging Transportation Technology Business Development

HOST ALTERNATIVE FUELS AND ADVANCED TRANSPORTATION TECHNOLOGIES SUMMIT.

In evaluating the first steps to establish the sustainable development of an alternative fuels and advanced transportation technologies market in Florida, the Clean Fuel Florida Advisory Board has determined that the State must create heightened awareness and incentives for private sector involvement. This is essential to communicating clearly the highly desirable market opportunities that Florida possesses and to creating leveraged funding opportunities with non-government organizations and the private sector.

Utilizing the material presented in this report, the Clean Fuel Florida Advisory Board recommends that the Department of Community Affairs and the Florida Energy Office, Enterprise Florida and the Florida Chamber of Commerce host an "Alternative Fuels and Advanced Transportation Technologies" summit, at which the Governor and departmental heads can provide a forum for discussion among private and public interests of this report. A key function of this forum is to highlight the economic

development and business opportunities Florida can provide to alternative fuel vehicle manufacturers and alternative fuel providers. Co-hosts and participants should include:

- Enterprise Florida
- Clean Cities Coalitions
- Metropolitan Planning Organization Advisory Council
- Florida League of Cities
- Regional Planning Councils
- American Public Transit Agency
- Community Transportation Association of America¹
- Florida Public Transit Agency

Both government and industry representatives must understand the importance of private sector involvement and recognize that government investment can complement existing private sector plans to bring product to market at an earlier stage. Florida possesses a number of unique qualities that make it ideal for expanded alternative fuel use as highlighted by Clean Fuel Florida Advisory Board. In addition, Florida presents a market of significant size and rapid growth that make it attractive for investment, product development and economic development opportunities.

¹ Community Transportation Association of America is the sister agency to the American Public Transit Agency, and an advocate for rural and community transportation.

RECOMMENDATION 2. Government Agency Leadership

ADOPT RULES FOR STATE FLEETS TO ACHIEVE ORIGINAL EPACT INTENT OF GREATER ALTERNATIVE FUEL USE.

The Energy Policy Act of 1992 mandated that a certain percentage of vehicle acquisitions in Federal, State and energy provider fleets be alternatively fueled, with the goal of diversifying fuel use and reducing the nation's dependence on foreign oil. The premise was that the demand for these vehicles and associated infrastructure by government fleets would spur development of alternative-fuel vehicles and assist manufacturers in lowering product costs and broadening model lines.

Research undertaken by the Center for Urban Transportation Research at the University of South Florida, at the direction of the Clean Fuel Florida Advisory Board, the Department of Community Affairs and the Florida Energy Office, found that this critical mass of alternative-fuel vehicle activity and demand had not and would not be achieved through the Energy Policy Act. Despite Florida's compliance with the Act mandates, a sustainable and viable alternative-fuel vehicle market will not be created through current program requirements, as the Act relies on vehicle procurement ratios that will neither achieve a critical mass of vehicles for a sustainable alternative-fuel vehicle market, nor significantly reduce the use of petroleum-based fuels. In addition to addressing the critical national security issue of the nations dependency on foreign oil, reductions in petroleum use can produce environmental and health gains and can improve the State's balance of payments.

Accordingly, the Clean Fuel Florida Advisory Board recommends that The Florida Legislature direct the Department of Community Affairs, the Department of Transportation, the Department of Environmental Protection and the Department of Management Services to cooperatively adopt a set of rules for State fleets that complement the Energy Policy Act requirements and achieve the original intent of greater alternative fuel use. These rules would shift focus to fuel use and gasoline/diesel displacement rather than vehicle acquisition, and should:

1. Encourage the use of alternative fuels in existing alternative-fuel vehicles operated by fleets (such as with propane and compress natural gas bi-fuel vehicles).
2. Encourage the use of transitional fuels (such as Ethanol, and Bio-diesel) in existing fleet vehicles where appropriate.
3. Encourage the acquisition of emerging technology vehicles (such as Hybrid-Electric Vehicles with high fuel efficiencies).
4. Incorporate niche-market vehicles (such as Battery Electric Vehicles), that are matched to specific fleet applications where appropriate, in place of traditional gasoline powered vehicles.

Consideration should also be given to assisting local and municipal fleets to adopt the rules as goals. As such, the rules should be developed under the joint direction of the Department of Community Affairs and the Florida Energy Office, the Department of Management Services, the Florida Department of Environmental Protection and the Florida Department of Transportation. Consultation should be sought from the Metropolitan Planning Organization Advisory Council, Regional Planning Councils, the Clean

Cities Coalitions, and other local regulatory and rule making entities.

The legislation and rules should be designed to achieve the level of fuel use and gasoline/diesel displacement intended by the original Energy Policy Act mandate (Table 7), which required a certain percentage of vehicle acquisitions annually (and therefore fuel use) be alternative-fuel vehicles. The Clean Fuel Florida Advisory Board recommends that each State fleet adopt the most suitable technology (bio-fuels, emerging technologies, etc) for their specific application to achieve these goals.

Table 7 – EPACT Requirements

Year	Federal	State	AFP	Local Municipal
1997	25%	10%		
1998	50%	15%	30%	
1999	75%	25%	50%	
2000	75%	50%	70%	
2001	75%	75%	90%	
2002	75%	75%	90%	20%*
2003	75%	75%	90%	40%*
2004	75%	75%	90%	60%*
2005	75%	75%	90%	70%*
2006	75%	75%	90%	70%*

*Ruling yet to be ratified

RECOMMENDATION 3.**Alternative-fuel Vehicle Infrastructure and Vehicle Program Development****DEDICATED SOURCE(S) OF FUNDS FOR ALTERNATIVE-FUEL VEHICLE INFRASTRUCTURE RESEARCH, DEVELOPMENT AND IMPLEMENTATION.**

Concurrent with creating a marketplace for increased alternative-fuel vehicle use, the Clean Fuel Florida Advisory Board recognizes the importance of an effective, efficient and convenient refueling infrastructure. A determination of what level of funding is necessary, and a suitable funding source should be established. Private sector entities also provide opportunities for infrastructure investment cost sharing. A recurring source of funds to match these opportunities and encourage public/private partnerships is an essential step in developing a broad infrastructure base to support alternative-fuel vehicle deployment.

Therefore, the Clean Fuel Florida Advisory Board recommends that the State identify a dedicated source(s) of funds for alternative-fuel vehicle infrastructure research, development and implementation. As one example of a dedicated source of funding, a \$1 tag fee would generate in excess of \$12.5 million based on year 2001 vehicle registrations.

Federal funding for almost 60 transportation related State Energy Program projects in 2000 was in excess of \$7.2 million. SEP awards require matching funds or cost sharing in a range of 20 percent to 50 percent of the award amount from the respective state energy offices. Awards in seven categories ranged from \$25,000 to \$250,000 and are awarded on a competitive basis. The Clean Fuel Florida Advisory Board recommends

the appropriation of funding dedicated to alternative-fuel vehicle transportation to effectively compete for federal matching funds and attract private sector investment. In 2000, matching funds of \$355,000 would have been required to be successful in winning just one award from each category. The Clean Fuel Florida Advisory Board recommends this level of funding be appropriated annually for State Energy Program award matches, and for leverage with private sector projects on a minimum 50 percent cost share basis.

RECOMMENDATION 4.**Planning Code and Regulations****WORKSHOPS TO ASSIST IN DEVELOPING ALTERNATIVE FUEL VEHICLE REGULATIONS AND INFRASTRUCTURE NEEDS.**

The Clean Fuel Florida Advisory Board recognizes that implementation of alternative-fuel vehicle programs requires a collaborative effort between regulators and end users. Accordingly, the Clean Fuel Florida Advisory Board recommends that the State, through the Department of Community Affairs provide assistance to local government and building officials to address in both comprehensive plans and building codes any needed provisions for alternative fuel vehicle refueling infrastructure in commercial and residential settings. This should also include better integration of plans, zoning and code provisions, and should draw upon successful experiences in Florida such as the South Florida Regional Planning Council Strategic Regional Policy Plan. Additionally, the Clean Fuel Florida Advisory Board recommends that the Florida Department of Community Affairs and the Florida Energy Office host workshops for planners and regulators from Regional Planning Councils, and

other local regulatory and policy-making entities to assist them in developing regulations that address these needs. These workshops should be conducted as needed to help ensure that the aforementioned objectives are achieved.

The opportunities that advanced transportation technologies such as Neighborhood Electric Vehicles, City cars and Fuel Cell Vehicles (FCVs) provide for more effectively meeting individual transportation needs, present challenges for planners and regulatory agencies. Understanding that these vehicle types are not dependent upon traditional refueling infrastructure, and that they can assist in more efficient community planning is essential to facilitating widespread adoption of these new technologies. In many instances, code for electric vehicle recharging already exists. These regulations should not conflict with any existing code or requirement. Recharging and refueling infrastructure must be provided for in comprehensive plans, building codes and local regulations to ensure safety and uniformity and to facilitate growth of an alternative fuel vehicle market.

RECOMMENDATION 5.**Transportation System Funding****STUDY TO DEVELOP A METHODOLOGY TO PROVIDE A REVENUE STREAM FOR TRANSPORTATION INFRASTRUCTURE.**

Successful implementation of alternative-fuel vehicle programs could have an impact on State fuel tax revenues, which help fund its roadway system. An efficient transportation network is vital to the sustained economic prosperity of the State. Traditional means of funding roadways through gasoline taxes are already strained, and considerable efforts are

underway by the Florida Department of Transportation to address projected funding shortfalls to maintain and expand the roadway system. Additionally, the fuels tax is a per-unit tax, and (in Florida) is not indexed to inflation. Therefore, in real terms, gas tax revenues are falling. The Clean Fuel Florida Advisory Board recognizes the critical nature of this funding issue.

The push for more fuel-efficient vehicles, regardless of fuel type, has the added potential for significant impact on fuel tax revenues. Moreover, many of the emerging technologies do not use standard units of gasoline or diesel, and so would not create fuel tax revenues in the traditional manner, or at a similar rate. These new technologies utilize fuels and energy sources that are difficult to apply traditional fuel taxes.

Therefore, the Clean Fuel Florida Advisory Board recommends a study be conducted in conjunction with the Florida Department of Transportation to develop a methodology to fairly and equitably provide a revenue stream that will protect and enhance the State's investment in transportation infrastructure. Concurrently, the need to provide an incentive for the early and widespread adoption of alternative energy sources for an increasing proportion of transportation energy use must also be addressed.

In the 2002 Legislative session, the Clean Fuel Florida Advisory Board sought the introduction of language (Appendix 1) to fund a study identifying the impact of expanded use of non-petroleum fuel and the improved efficiencies of emerging technology vehicles. The study is yet to be approved for funding. In conducting the recommended study, the Clean Fuel Florida Advisory Board considers that the perspectives of alternative fuel providers and emerging technology vehicle manufacturers be an integral element in determining the projected levels of market penetration, and the re-

sulting fiscal impact that improved fuel economies and expanded use of non-petroleum based fuels may have on state revenues. Such a study should incorporate not only the funding needs of the Florida Department of Transportation, but also those of the Department of Community Affairs, the Florida Energy Office, the Florida Department of Environmental Protection, Enterprise Florida and other State agencies that may be involved in fostering an expanded alternative fuels market in the State. At the time of writing (December 2002), the Florida Department of Transportation is engaged at the national level in considering this issue. It is recommended that the study be completed within 12 months with summaries of completed work issued every 2 months. It is also recommended that the study include but not be limited to:

- Necessary partners for developing road funding policy
- Alternative-fuel vehicles and alternative fuel use market projections 5, 15, 25 years
- Fuel price projections (traditional and alternative fuels)
- Fuel tax revenue projections 5, 15, 25 years
- Funding needs shortfalls 5, 15, 25 years (Florida Department of Transportation, Florida Interstate Hiway System, Metropolitan Planning Organization Advisory Council)
- “best practices” of other states
- alternative road use tax collection methods, such as taxes based on energy use rather than road use

This study would be conducted by the Florida Department of Transportation as the lead agency and in collaboration with the Florida Energy Office. Both agencies would contribute to the cost of the study.

The results of the study should be presented to the governor, department and agency directors, the leg-

islature, the Florida Transportation Commission and others as deemed appropriate. The report will be used to build consensus and recommendations for acting on policy and programs that could address this issue.

RECOMMENDATION 6.

Clean Fuel Transit Systems

DEVELOP EDUCATION AND OUTREACH PROGRAMS RELATED TO ALTERNATIVE FUEL TRANSIT.

In 2000, over 45,000 buses were in use in Florida. Over 5,000 of these were commercial or municipal transit and paratransit community transportation program vehicles; the balance consisted of school buses. A number of alternative fuel technologies such as bio-diesel, hybrid electric, and battery electric drive trains are ideally suited to certain transit and paratransit applications and can reap immediate benefits of reductions in emissions and dependence upon foreign oil. However, incremental capital costs for hybrid-electric and battery electric vehicles are significant, and per unit costs for fuels such as bio-diesel are not yet at parity with petro-diesel.

Accordingly, the Clean Fuel Florida Advisory Board recommends that the State work in partnership with the Florida Transit Association, the Florida Public Transit Association and any other organizations as deemed appropriate to develop education and outreach to transit and paratransit agencies and other member organizations related to alternative fuel transit. This education and outreach effort will include information on the current, available alternative-fuel vehicle transit including but not limited to addressing the incremental costs between current transit technology and alternative-fuel vehicle technology, challenges related to acquisition, maintenance, re-fueling

infrastructure, funding issues and other information needed to make informed decisions related to alternative-fuel vehicle transit and paratransit technologies. Utilizing the venue of conferences, meetings and other events held by Florida transit and paratransit organizations is an effective way to reach the intended audience and maximize limited resources. It is further recommended that the Florida Department of Transportation be designated as the lead state agency on this alternative-fuel vehicle transit and paratransit technology education and outreach effort.

An on-going program of education and identification of funding needs and resources will position the state to best leverage existing investments and transit agency support. Overseen by the Florida Department of Community Affairs's Florida Energy Office, the forums should complement existing Florida Department of Transportation programs, and should be used to communicate to manufacturers the market potential for alternative fuel transit and paratransit vehicles in Florida. An approach to address the funding needs for incremental operating costs should be identified and constrained to realistic targets for the market to achieve price-parity.

RECOMMENDATION 7. Education and Outreach

EDUCATION AND OUTREACH ON AN ON-GOING STATEWIDE BASIS.

The diversity of the Clean Fuel Florida Advisory Board membership has provided the State with a broad range of perspectives on the issues of alternative fuels for transportation. However, it also highlighted the limited extent of understanding that industry experts, as well as elected officials and the

general public, have of the specifics of alternative fuel use. In 1999, the Clean Fuel Florida Advisory Board, the Department of Community Affairs and the Florida Energy Office initiated the development of a Resource Manual² to ensure that all Clean Fuel Florida Advisory Board members were appropriately educated on alternative fuel issues.

Policy makers, planners, legislative staff and departmental managers have a range of knowledge of alternative fuel technologies, some with considerable expertise, and others with little knowledge or understanding. The Clean Fuel Florida Advisory Board recommends that a planned education and outreach effort be undertaken on an on-going statewide basis, coordinated and jointly funded by the Florida Department of Community Affairs, the Florida Energy Office, the Florida Department of Environmental Protection and the Florida Department of Transportation. Primary audiences for the initial phase of this program are elected officials, policy makers and legislators. Materials from the Clean Fuel Florida Advisory Board "Cornerstone Report", previous Clean Fuel Florida Advisory Board reports, as well as Clean Cities publications and other publications should be utilized in this program.

RECOMMENDATION 8. State Energy Office

STAFFING, FUNDING AND LEADERSHIP ROLE OF FLORIDA ENERGY OFFICE

The need for a strong Energy Office is critical as our nation faces the many challenges related to transportation energy security. The Energy Office must be strong, well staffed and appropriately funded to support the current and emerging needs and to help ensure that Florida has a comprehensive and

well designed plan that effectively addresses the state's transportation energy security.

The role of the Energy Office should encompass serving as a transportation energy resource to the Governor, Legislature and state agencies. In this capacity, the Energy Office should be knowledgeable about emerging transportation technologies and develop strategies for incorporating these technologies into Florida's transportation energy plan.

It is also recommended that the Clean Cities Coalitions model be reviewed for consideration in establishing and supporting a statewide network of Coalitions. Given adequate funding by the State, a local and statewide network of Clean Cities Coalitions would be instrumental in conveying Florida's plan for transportation energy security to residents and businesses. Marketing the plan to select audiences would help spread the word that Florida is a transportation-security-safe-state where one feels confident in building a business, in establishing a home or in making Florida a vacation destination. Additionally, the Clean Fuel Florida Advisory Board recommends that the Florida Energy Office not only continue with its responsibility for developing, implementing and maintaining a strong, effective alternative-fuel vehicle education and outreach plan; but, also increase the efforts to ensure heightened awareness and promotion of alternative-fuel vehicle transportation technologies.

² The Clean Fuel Florida Advisory Board's Alternative Fuel Vehicle and Infrastructure Resource Manual was provided to each member of the Clean Fuel Florida Advisory Board as well as the Florida Energy Office and Department of Community Affairs staff. At each meeting of the Clean Fuel Florida Advisory Board, additional material was provided to board members and Florida Energy Office staff for retention in the manual. Limited copies of this manual, incorporating periodic updates, datasets and reports are available from the Florida Energy Office or the Center for Urban Transportation Research at the University of South Florida.

APPENDIX J

SCHOOL ENERGY USE

APPENDIX J-1

EDUCATION BUILDINGS FUEL CONSUMPTION



Sum of Major Fuel Consumption by Size and Type of Education Building

	Total (trillion Btu)	per Building (million Btu)	per Square Foot (thousand Btu)	Dollars per Million Btu
All Education Buildings	649	1,982	75.0	12.36
Building Floorspace (Square Feet)				
Small (1,001 to 5,000)	26	218	76.9	17.03
Medium (5,001 to 50,000)	236	1,455	75.5	12.96
Large (Over 50,000)	387	8,480	74.6	11.68
Building Activity Subcategory				
College/University	172	6,790	144.6	11.88
Elementary/Middle/High School	425	1,851	65.0	12.34
Other Education	Q	Q	Q	Q
Preschool/Daycare	25	773	48.6	13.88

Electricity Consumption by Size and Type of Education Building

	Total (billion kWh)	per Building (thousand kWh)	per Square Foot (kWh)	Dollars per Hundred kWh
All Education Buildings	75	230	8.7	7.72
Building Floorspace (Square Feet)				
Small (1,001 to 5,000)	4	33	11.5	8.95
Medium (5,001 to 50,000)	27	164	8.5	8.13
Large (Over 50,000)	45	987	8.7	7.37

Building Activity Subcategory					
College/University	19	736	15.7	6.86	
Elementary/Middle/High School	51	221	7.8	7.90	
Other Education	3	84	8.3	8.46	
Preschool/Daycare	3	82	5.2	9.30	

Natural Gas Consumption by Size and Type of Education Building

	Total (billion cubic feet)	per Building (thousand cubic feet)	per Square Foot (cubic feet)	Dollars per Thousand Cubic Feet
All Education Buildings	220	981	33.5	5.04
Building Floorspace (Square Feet)				
Small (1,001 to 5,000)	Q	Q	Q	Q
Medium (5,001 to 50,000)	87	691	37.2	5.49
Large (Over 50,000)	125	3,496	30.9	4.61

Building Activity Subcategory					
College/University	18	1,511	32.6	5.54	
Elementary/Middle/High School	181	1,171	34.7	4.88	
Other Education	12	368	35.0	Q	
Preschool/Daycare	Q	Q	Q	Q	

Fuel Oil Consumption by Size and Type of Education Building

	Total (million gallons)	per Building (gallons)	per Square Foot (gallons)	Dollars per Gallon
All Education Buildings	347	18,341	0.21	0.60
Building Floorspace (Square Feet)				
Small (1,001 to 5,000)	N	N	N	N
Medium (5,001 to 50,000)	95	10,193	0.33	0.67
Large (Over 50,000)	252	26,183	0.19	0.57

Building Activity Subcategory					
College/University	Q	Q	Q	Q	Q
Elementary/Middle/High School	309	21,265	0.22	0.59	
Other Education	Q	Q	Q	Q	
Preschool/Daycare	Q	Q	Q	Q	

District Heat Consumption by Size and Type of Education Building

	Total (trillion Btu)	per Building (million Btu)	per Square Foot (thousand Btu)	Dollars per Million Btu
All Education Buildings	117	3,151	100.60	7.54
Building Floorspace (Square Feet)				
Small (1,001 to 5,000)	Q	Q	Q	Q
Medium (5,001 to 50,000)	Q	Q	Q	Q
Large (Over 50,000)	69	13,601	99.31	6.88
Building Activity Subcategory				
College/University	89	6,648	110.06	7.41
Elementary/Middle/High School	Q	Q	Q	Q
Other Education	Q	Q	Q	Q
Preschool/Daycare	Q	Q	Q	Q

Q=Data withheld because the Relative Standard Error (RSE) was greater than 50 percent, or fewer than 20 buildings were sampled.
Source: Energy Information Administration, 1999 Commercial Buildings Energy Consumption Survey.

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Specific questions may be directed to:

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School District Annual Utility Cost Information

District	Natural Gas	L P Gas	Electricity	Heating Oil	All Energy	F.I.S.H. GSF	COFTE	Square Ft Cost	Cost Per COFTE
					All Energy	Elec only	All Energy	All Energy	Elec only
Alachua	153,479.27	68,650.61	4,496,557.55	0	\$ 4,718,687.43	5,135,040	27,443	\$ 0.92	\$ 171.95
Baker	0	15,994.61	623,432.61	1,822.70	\$ 641,249.92	800,679	4,398	\$ 0.80	\$ 145.80
Bay	345,014.72	4,737.82	3,525,464.92	2,570.44	\$ 3,877,787.90	4,366,992	24,891	\$ 0.89	\$ 155.79
Bradford	11,849.97	3,364.96	550,566.44	0	\$ 565,781.37	676,515	3,891	\$ 0.84	\$ 145.41
Brevard	234,717.16	100,359.29	9,361,589.11	15,184.16	\$ 9,711,849.72	10,297,945	68,355	\$ 0.94	\$ 142.08
Broward	259,526.04	298,380.65	36,682,136.59	25.09	\$ 37,240,068.37	34,414,301	246,411	\$ 1.08	\$ 151.13
Calhoun	21,498.38	2,773.15	223,687.63	0	\$ 247,959.16	418,220	2,143	\$ 0.59	\$ 115.71
Charlotte	60,124.21	15,086.77	2,662,607.14	0	\$ 2,737,818.12	2,475,470	16,898	\$ 1.11	\$ 162.02
Citrus	17,344.95	21,973.90	1,876,852.84	0	\$ 1,898,826.74	2,608,568	14,756	\$ 0.73	\$ 128.68
Clay	0	2,711.75	3,136,951.90	8,311.34	\$ 3,147,974.99	4,559,684	28,483	\$ 0.69	\$ 110.52
Collier	0	4,492.50	5,208,079.31	0	\$ 5,212,571.81	5,666,138	34,965	\$ 0.92	\$ 149.08
Columbia	29,858.66	17,943.01	1,160,504.98	0	\$ 1,208,306.65	1,551,970	9,431	\$ 0.78	\$ 128.12
Miami-Dade	576,919.42	331,090.93	44,024,322.45	615,827.46	\$ 45,548,160.26	39,110,213	354,871	\$ 1.16	\$ 128.35
Desoto	0	10,553.67	731,100.15	0	\$ 741,653.82	784,729	4,556	\$ 0.95	\$ 162.79
Dixie	0	9,873.00	429,152.76	2,196.76	\$ 441,222.52	673,978	2,182	\$ 0.72	\$ 202.21
Duval	513,725.69	0	11,264,510.95	37,533.21	\$ 11,815,769.85	16,254,168	121,958	\$ 0.73	\$ 96.88
Escambia	1,154,639.86	3,187.43	4,973,286.81	0	\$ 6,131,114.10	6,910,243	41,710	\$ 0.89	\$ 146.99
Flagler	0	5,804.13	1,381,231.19	0	\$ 1,387,035.32	1,264,276	6,928	\$ 1.10	\$ 200.21
Franklin	0	15,207.77	238,009.25	0	\$ 253,217.02	361,320	1,324	\$ 0.70	\$ 191.25
Gadsden	152,222.96	580.03	1,035,019.36	8,119.84	\$ 1,195,942.19	1,349,958	6,440	\$ 0.89	\$ 185.71
Gilchrist	0	7,666.67	559,511.78	0	\$ 567,178.45	668,349	2,561	\$ 0.85	\$ 221.47
Glades	0	4,813.77	215,089.27	0	\$ 219,903.04	207,096	1,005	\$ 1.06	\$ 218.81
Gulf	21,784.13	0	348,869.55	0	\$ 370,653.68	526,302	2,125	\$ 0.70	\$ 174.43
Hamilton	10,888.80	4,216.60	249,432.38	1,543.72	\$ 266,081.50	466,446	2,033	\$ 0.57	\$ 130.88
Hardee	0	1,883.21	749,702.60	0	\$ 751,585.81	889,937	4,890	\$ 0.84	\$ 153.70
Hendry	0	72,138.41	1,424,691.22	0	\$ 1,496,829.63	1,204,540	7,316	\$ 1.24	\$ 204.60
Hernando	0	22,423.89	2,692,298.20	0	\$ 2,714,722.09	2,930,066	17,480	\$ 0.93	\$ 155.30
Highlands	5,223.27	12,975.33	1,721,933.14	0	\$ 1,740,131.74	1,930,120	11,243	\$ 0.90	\$ 154.77
Hillsborough	428,903.62	184,933.88	22,428,901.69	8,723.16	\$ 23,051,462.35	23,019,104	161,762	\$ 1.00	\$ 142.50
Holmes	0	24,315.44	475,820.03	0	\$ 500,135.47	661,215	3,401	\$ 0.76	\$ 147.06
Indian River	0	33,548.12	2,675,575.36	0	\$ 2,709,123.48	2,936,592	14,561	\$ 0.92	\$ 186.05
Jackson	29,532.43	16,000.81	949,231.40	37,119.13	\$ 1,031,883.77	1,492,223	6,974	\$ 0.69	\$ 147.96
Jefferson	0	5,076.26	18,965.97	0	\$ 24,042.23	421,361	1,591	\$ 0.06	\$ 15.11
Lafayette	0	13,836.77	153,923.17	1,000.24	\$ 168,760.18	200,184	1,023	\$ 0.84	\$ 164.97

School District Annual Utility Cost Information

District	Natural Gas	L P Gas	Electricity	Heating Oil	All Energy	F.I.S.H. GSF	COFTE	Square Ft Cost All Energy	Cost Per COFTE Elec only
Lake	198,373.84	4,986.24	3,976,684.98	165.78	\$ 4,180,210.84	5,596,054	29,475	\$ 0.75	\$ 0.71
Lee	0	62,919.83	9,643,681.23	0	\$ 9,706,601.06	8,352,961	58,487	\$ 1.16	\$ 1.15
Leon	245,003.96	32,085.91	4,085,546.59	14,191.92	\$ 4,376,828.38	5,305,209	30,494	\$ 0.83	\$ 1.15
Levy	6,175.24	22,478.65	746,937.82	9,143.79	\$ 784,735.50	969,943	5,941	\$ 0.81	\$ 1.15
Liberty	0	7,401.62	203,172.78	10,172.11	\$ 220,746.51	323,143	1,105	\$ 0.68	\$ 1.15
Madison	45,624.63	6,640.63	515,794.72	0	\$ 568,059.98	599,541	3,134	\$ 0.95	\$ 1.15
Manatee	395,114.57	54,929.11	5,961,861.55	6,198.91	\$ 6,418,104.14	5,901,950	35,043	\$ 1.09	\$ 1.15
Marion	79,576.15	35,628.82	4,592,661.26	19,400.14	\$ 4,727,266.37	5,830,236	37,208	\$ 0.81	\$ 1.15
Martin	20,057.73	14,971.34	3,059,301.34	0	\$ 3,094,330.41	2,884,304	16,297	\$ 1.07	\$ 1.15
Monroe	0	21,544.02	1,529,766.46	0	\$ 1,551,310.48	1,710,076	8,855	\$ 0.91	\$ 1.15
Nassau	52,173.51	1,124,977.13	19,977.43	0	\$ 1,197,130.07	1,723,189	10,174	\$ 0.69	\$ 1.15
Okaloosa	494,699.12	74,092.51	3,369,488.18	0	\$ 3,938,279.81	4,297,763	28,498	\$ 0.92	\$ 1.15
Okeechobee	0	7,192.27	1,002,045.96	0	\$ 1,009,238.23	1,061,565	6,400	\$ 0.95	\$ 1.15
Orange	511,350.50	271,830.15	24,607,814.87	0	\$ 25,390,995.52	22,769,756	150,964	\$ 1.12	\$ 1.15
Osceola	47,920.16	79,206.25	4,625,352.22	89.12	\$ 4,752,567.75	5,394,677	34,428	\$ 0.88	\$ 1.15
Palm Beach	226,068.15	146,246.88	23,957,390.99	4,657.31	\$ 24,334,363.33	21,887,733	153,885	\$ 1.11	\$ 1.15
Pasco	79,949.35	33,819.07	5,103,556.85	9,889.51	\$ 5,227,214.78	7,280,794	50,645	\$ 0.72	\$ 1.15
Pinellas	475,503.44	14,869.81	16,009,786.33	1,596.48	\$ 16,501,756.06	17,338,842	110,054	\$ 0.95	\$ 1.15
Polk	154,408.07	62,119.07	8,842,569.10	737.7	\$ 9,059,833.94	13,350,203	76,578	\$ 0.68	\$ 1.15
Putnam	45,597.13	20,745.49	1,620,144.94	6,480.92	\$ 1,692,968.48	2,325,883	12,215	\$ 0.73	\$ 1.15
St. Johns	1,086.56	48,698.57	3,187,186.99	29,632.75	\$ 3,266,604.87	3,263,298	19,953	\$ 1.00	\$ 1.15
St. Lucie	0	83,708.20	5,480,532.33	0	\$ 5,564,300.53	4,688,896	29,666	\$ 1.19	\$ 1.15
Santa Rosa	193,185.19	20,996.16	2,574,454.01	0	\$ 2,788,635.36	3,447,073	22,325	\$ 0.81	\$ 1.15
Sarasota	58,326.97	57,817.39	5,653,139.56	0	\$ 5,769,283.92	6,320,716	35,519	\$ 0.91	\$ 1.15
Seminole	163,003.00	104,326.00	8,638,406.00	0	\$ 8,905,735.00	8,294,431	60,864	\$ 1.07	\$ 1.15
Sumter	0	11,976.76	1,041,180.82	0	\$ 1,053,157.58	1,036,954	5,542	\$ 1.02	\$ 1.15
Suwannee	36,253.40	4,699.67	892,036.92	432	\$ 933,421.99	950,844	5,541	\$ 0.98	\$ 1.15
Taylor	21,626.56	0	623,388.94	0	\$ 569,161.61	777,787	3,376	\$ 0.73	\$ 1.15
Union	0	16,261.34	379,174.99	0	\$ 327,330.38	441,542	2,060	\$ 0.74	\$ 1.15
Volusia	111,876.00	0	7,936,394.00	32,643.00	\$ 8,080,913.00	8,410,847	60,527	\$ 0.96	\$ 1.15
Wakulla	0	10,159.67	666,983.13	0	\$ 677,142.80	971,801	4,328	\$ 0.70	\$ 1.15
Walton	10,299.49	3,472.49	947,536.47	7,898.22	\$ 969,206.67	1,160,026	5,636	\$ 0.84	\$ 1.15
Washington	4,432.49	10,745.91	557,691.32	0	\$ 572,869.72	823,584	3,279	\$ 0.70	\$ 1.15
State totals	7,704,939	3,808,142	330,300,713	893,307	342,545,796	352,665,563	2,378,495		

**School District Annual
Utility Cost Information**

State Average	\$	0.97	\$	0.94	\$	144.02	\$	138.87
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LOCAL GOVERNMENT ENERGY RESPONSES

	A	B	C	D	E	F	G	H
1	LOCAL GOVERNMENT	Dunnedin	Panama City	Fort Walton Beach	Winter Springs	Jacksonville Beach*	Mount Dora*	Wauchula*
2		FMUA Questions						
3	Question 1 - How much money does your local govt spend on electricity for all city function including	\$ 1,426,860				\$ 1,105,898	\$ 320,000	\$ 296,500
4	Question 2 - How much money does your local govt spend on natural gas for all city business?					\$ -	\$ 3,600	\$ -
5	Question 3 - What is the population of your city?					21,056	9,925	4,336
6	Question 4 - For what fiscal year is this information?	2002				FY ending 9/30/2002	2002	2002-2003
7	CPI Questions							
8	Question 1a - How much does your local govt spend per year on electric service and fuels for your facilities?				\$ 560,000			
9	Question 1b - Are those facilities leased or owned by your local government?				Yes			
10	Question 2a - Does your local govt own vehicles or a fleet?	Yes		Yes	Yes			
11	Question 2b - If so, how much do you spend annually on fuels for transportation?	\$ 169,270		\$ 196,240	\$ 180,000			
12	SUVEY Questions							

LOCAL GOVERNMENT ENERGY RESPONSES

	A	B	C	D	E	F	G	H
1	LOCAL GOVERNMENT	Dunnedin	Panama City	Fort Walton Beach	Winter Springs	Jacksonville Beach*	Mount Dora*	Wauchula*
13	Question 1: Involved in addressing energy concerns?							
14	1 - Not Involved							
15	2							
16	3 - Somewhat			X				
17	4							
18	5 - Very Involved							
19								
20	Question 2: Familiar w/ state's energy program & purposes?							
21	1 - Not Familiar							
22	2			X				
23	3							
24	4							
25	5 - Very familiar							
26								
27	Question 3: Active in implementing energy saving measures?							
28	1 - Not Active							
29	2							
30	3			X				
31	4							
32	5 - Very Active							
33								
34	Question 4: Steps taken?							
35	Lighting?		some					
36	Other measures & equipment?		some selection of high SEER equip.					
37	Retrofits?							
38	Revised purchasing practices?							
39	Vehicles?							
40	Solar/ renewables?							
41	Education of employees?							

LOCAL GOVERNMENT ENERGY RESPONSES

	A	B	C	D	E	F	G	H
1	LOCAL GOVERNMENT	Dunnedin	Panama City	Fort Walton Beach	Winter Springs	Jacksonville Beach*	Mount Dora*	Wauchula*
42	Other?							
43								
44	Question 5: Influence?							
45	1 - Not Much							
46	2			X				
47	3							
48	4							
49	5 - Very Much							
50								
51	Question 6: Programs now administer?							
52								
53								
54								
55								
56	Question 7: Programs like to see?							
57								
58								
59								
60								
61	Question 8a: What % could be saved through improvements?							
62	5%							
63	10%			X				
64	15%							
65	20+%							
66								
67	Question 8b: What % savings through higher cost items?							
68	10%							
69	20%			X				
70	30%							
71	40+%							
72								

LOCAL GOVERNMENT ENERGY RESPONSES

	A	B	C	D	E	F	G	H
1	LOCAL GOVERNMENT	Dunnedin	Panama City	Fort Walton Beach	Winter Springs	Jacksonville Beach*	Mount Dora*	Wauchula*
73	Question 8c: How much spent on energy bills for facilities?		\$ 1,522,814	\$ 785,480				
74								
75	Question 9a: Own % office space?							
76	own?			X	X			
77	% estimate			98%	100%			
78	lease?							
79	% estimate							
80								
81	Question 9b: Square footage occupy?							
82	under 10K sq. ft.							
83	10K - 50K sq. ft.							
84	50K - 100K sq. ft.				X			
85	100K - 150K sq. ft.			X				
86	over 150K sq. ft.							
87								
88	Question 9c: How many vehicles?							
89	None							
90	10 or less							
91	11 to 25							
92	over 25		X (over 200)		X			
93								
94	Name:	Dan Zantop	Jerold Ake	Mike Burton	Kelly Balagia	Trish Roberts	Don McBride	James A. Braddock
95								
96	Question 10: Email Address?	Dzantop@DUN EDINFL.NET	Jerold.Ake@city ofpanamacity.co m	mburton@fwb.o rg	kbalagia@winte rspingsfl.org	troberts@jaxbc hfl.net	mcbrided@ci.m ount-dora.fl.us	braddock@cityo fwauchula.com
97								
98	Fax #:							
99								
100	Question 11: Other comments . . . ?							
101								

LOCAL GOVERNMENT ENERGY RESPONSES

	A	B	C	D	E	F	G	H
1	LOCAL GOVERNMENT	Dunnedin	Panama City	Fort Walton Beach	Winter Springs	Jacksonville Beach*	Mount Dora*	Wauchula*
102								
103								
104								
105	*These municipalities responded to questions put forth by Florida Municipal Utilities Association.							

LOCAL GOVERNMENT ENERGY RESPONSES

	A	I	J	K	L	M	N	O
1	LOCAL GOVERNMENT FMUA Questions	Homestead*	Ocala*	Vero Beach*	Hialeah	Escambia County	Fort Pierce*	Port St. Lucie
2								
3	Question 1 - How much money does your local govt spend on electricity for all city function including	\$ 836,446	\$ 2,016,535	\$ 2,409,995	\$ 4,000,000	\$ 2,319,789	\$ 428,798	
4	Question 2 - How much money does your local govt spend on natural gas for all city business?	\$ 1,990,828	\$ 30,000	\$ 11,414		\$ 910,477	\$ -	
5	Question 3 - What is the population of your city?	31,900	47,139	17,918			38,642	
6	Question 4 - For what fiscal year is this information?	2001-2002	FY ending 9/30/02	2,003	budgeted for 10/1/03 - 9/30/04	2001-2002 - facilities; 2002-- 2003 vehicles	FY ending 9/30/02	
7	CPI Questions							
8	Question 1a - How much does your local govt spend per year on electric service and fuels for your facilities?					\$ 3,230,266		\$ 1,737,760
9	Question 1b - Are those facilities leased or owned by your local government?					Owned		Owned
10	Question 2a - Does your local govt own vehicles or a fleet?					Yes		Yes
11	Question 2b - If so, how much do you spend annually on fuels for transportation?				\$ 1,250,000	\$ 1,872,140		\$ 694,000
12	SUVEY Questions							

LOCAL GOVERNMENT ENERGY RESPONSES

	A	I	J	K	L	M	N	O
1	LOCAL GOVERNMENT	Homestead*	Ocala*	Vero Beach*	Hialeah	Escambia County	Fort Pierce*	Port St. Lucie
13	Question 1: Involved in addressing energy concerns?							
14	1 - Not Involved							
15	2							
16	3 - Somewhat							
17	4							
18	5 - Very Involved							
19								
20	Question 2: Familiar w/ state's energy program & purposes?							
21	1 - Not Familiar							
22	2							
23	3							
24	4							
25	5 - Very familiar							
26								
27	Question 3: Active in implementing energy saving measures?							
28	1 - Not Active							
29	2							
30	3							
31	4							
32	5 - Very Active							
33								
34	Question 4: Steps taken?							
35	Lighting?							
36	Other measures & equipment?							
37	Retrofits?							
38	Revised purchasing practices?							
39	Vehicles?							
40	Solar/ renewables?							
41	Education of employees?							

LOCAL GOVERNMENT ENERGY RESPONSES

	A	I	J	K	L	M	N	O
1	LOCAL GOVERNMENT	Homestead*	Ocala*	Vero Beach*	Hialeah	Escambia County	Fort Pierce*	Port St. Lucie
42	Other?							
43								
44	Question 5: Influence?							
45	1 - Not Much							
46	2							
47	3							
48	4							
49	5 - Very Much							
50								
51	Question 6: Programs now administer?							
52								
53								
54								
55								
56	Question 7: Programs like to see?							
57								
58								
59								
60								
61	Question 8a: What % could be saved through improvements?							
62	5%							
63	10%							
64	15%							
65	20+%							
66								
67	Question 8b: What % savings through higher cost items?							
68	10%							
69	20%							
70	30%							
71	40+%							
72								

LOCAL GOVERNMENT ENERGY RESPONSES

	A	I	J	K	L	M	N	O
1	LOCAL GOVERNMENT	Homestead*	Ocala*	Vero Beach*	Hialeah	Escambia County	Fort Pierce*	Port St. Lucie
73	Question 8c: How much spent on energy bills for facilities?							
74								
75	Question 9a: Own % office space?							
76	own?				X			
77	% estimate				100%			
78	lease?							
79	% estimate							
80								
81	Question 9b: Square footage occupy?							
82	under 10K sq. ft.							
83	10K - 50K sq. ft.							
84	50K - 100K sq. ft.							
85	100K - 150K sq. ft.							
86	over 150K sq. ft.							
87								
88	Question 9c: How many vehicles?							
89	None							
90	10 or less							
91	11 to 25							
92	over 25							
93								
94	Name:	Denise Santana	Chas Johnson	Joyce Vonada	Daniel DeLoach	Cathy Gomez	Nina B. Hurtubise	Frank Blackwell
95								
96	Question 10: Email Address?	dsantana@ci.homestead.fl.us	cjohnson@Ocalafl.org	citymgr@covb.org	DDeLoach@ci.hialeah.fl.us	cathy_gomez@co.escambia.fl.us	nhurtubise@fpua.com	
97								
98	Fax #:							772-871-5203
99								
100	Question 11: Other comments . . . ?							
101								

LOCAL GOVERNMENT ENERGY RESPONSES

	A	I	J	K	L	M	N	O
1	LOCAL GOVERNMENT	Homestead*	Ocala*	Vero Beach*	Hialeah	Escambia County	Fort Pierce*	Port St. Lucie
102								
103								
104								
105	*These municipalities responded to questions put forth by Florida Municipal Utilities Association.							

LOCAL GOVERNMENT ENERGY RESPONSES

	A	P	Q	R	S	T	U	V
1	LOCAL GOVERNMENT FMUA Questions	City of Bonita Springs	Plantation	Chattahoochee*	Leesburg*	Lake Worth*	Cooper City	
2								
3	Question 1 - How much money does your local govt spend on electricity for all city function including			\$ 137,710		\$ 402,784		
4	Question 2 - How much money does your local govt spend on natural gas for all city business?			\$ 1,077.00		5,643.00		
5	Question 3 - What is the population of your city?			2,524	16,290	35,000		
6	Question 4 - For what fiscal year is this information?			2002-03	2003	2001-2002		
7	CPI Questions							
8								
9	Question 1a - How much does your local govt spend per year on electric service and fuels for your facilities?							
10	Question 1b - Are those facilities leased or owned by your local government?							
11	Question 2a - Does your local govt own vehicles or a fleet?							
12	SUVEY Questions							

LOCAL GOVERNMENT ENERGY RESPONSES

	A	P	Q	R	S	T	U	V
1	LOCAL GOVERNMENT	City of Bonita Springs	Plantation	Chattahoochee*	Leesburg*	Lake Worth*	Cooper City	
13	Question 1: Involved in addressing energy concerns?							
14	1 - Not Involved	X						
15	2							
16	3 - Somewhat							
17	4							
18	5 - Very Involved						X	
19								
20	Question 2: Familiar w/ state's energy program & purposes?							
21	1 - Not Familiar	X					X	
22	2							
23	3							
24	4							
25	5 - Very familiar							
26								
27	Question 3: Active in implementing energy saving measures?							
28	1 - Not Active	X						
29	2							
30	3							
31	4							
32	5 - Very Active						X	
33								
34	Question 4: Steps taken?							
35	Lighting?		X				X	
36	Other measures & equipment?			X				X
37	Retrofits?						X	
38	Revised purchasing practices?			X				
39	Vehicles?							
40	Solar/ renewables?							
41	Education of employees?		X					

LOCAL GOVERNMENT ENERGY RESPONSES

	A	P	Q	R	S	T	U	V
1	LOCAL GOVERNMENT	City of Bonita Springs	Plantation	Chattahoochee*	Leesburg*	Lake Worth*	Cooper City	
42	Other?							
43								
44	Question 5: Influence?							
45	1 - Not Much	X						
46	2							
47	3						X	
48	4							
49	5 - Very Much							
50								
51	Question 6: Programs now administer?							
52								
53								
54								
55								
56	Question 7: Programs like to see?							
57								
58								
59								
60								
61	Question 8a: What % could be saved through improvements?							
62	5%							
63	10%							
64	15%						X	
65	20+%							
66								
67	Question 8b: What % savings through higher cost items?							
68	10%							
69	20%							
70	30%						X	
71	40+%							
72								

LOCAL GOVERNMENT ENERGY RESPONSES

	A	P	Q	R	S	T	U	V
1	LOCAL GOVERNMENT	City of Bonita Springs	Plantation	Chattahoochee*	Leesburg*	Lake Worth*	Cooper City	
73	Question 8c: How much spent on energy bills for facilities?	\$ 15,000	\$ 2,000,000				\$ 507,665	
74								
75	Question 9a: Own % office space?							
76	own?		X				X	
77	% estimate		95%				100%	
78	lease?	X	X					
79	% estimate		5%					
80								
81	Question 9b: Square footage occupy?							
82	under 10K sq. ft.	X						
83	10K - 50K sq. ft.							
84	50K - 100K sq. ft.						X	
85	100K - 150K sq. ft.							
86	over 150K sq. ft.		X					
87								
88	Question 9c: How many vehicles?							
89	None							
90	10 or less	X						
91	11 to 25							
92	over 25		X				X	
93								
94	Name:	Gary A. Price	Daniel Keefe				Carl Miller	
95								
96	Question 10: Email Address?	garyprice@cityofbonitasprings.org	Dkeefe@plantation.org					
97								
98	Fax #:	239-390-1004					954-433-1365	
99								
100	Question 11: Other comments . . . ?							
101								

LOCAL GOVERNMENT ENERGY RESPONSES

	A	P	Q	R	S	T	U	V
1	LOCAL GOVERNMENT	City of Bonita Springs	Plantation	Chattahoochee*	Leesburg*	Lake Worth*	Cooper City	
102								
103								
104								
105	*These municipalities responded to questions put forth by Florida Municipal Utilities Association.							

LOCAL GOVERNMENT ENERGY RESPONSES

	A	W	X	Y	Z	AA	AB	AC	AD	AE	AF
1	LOCAL GOVERNMENT FMUA Questions										
2											
3	Question 1 - How much money does your local govt spend on electricity for all city function including										
4	Question 2 - How much money does your local govt spend on natural gas for all city business?										
5	Question 3 - What is the population of your city?										
6	Question 4 - For what fiscal year is this information?										
7	CPI Questions										
8	Question 1a - How much does your local govt spend per year on electric service and fuels for your facilities?										
9	Question 1b - Are those facilities leased or owned by your local government?										
10	Question 2a - Does your local govt own vehicles or a fleet?										
11	Question 2b - If so, how much do you spend annually on fuels for transportation?										
12	SUVEY Questions										

LOCAL GOVERNMENT ENERGY RESPONSES

	A	W	X	Y	Z	AA	AB	AC	AD	AE	AF
1	LOCAL GOVERNMENT										
13	Question 1: Involved in addressing energy concerns?										
14	1 - Not Involved										
15	2										
16	3 - Somewhat										
17	4										
18	5 - Very Involved										
19											
20	Question 2: Familiar w/ state's energy program & purposes?										
21	1 - Not Familiar										
22	2										
23	3										
24	4										
25	5 - Very familiar										
26											
27	Question 3: Active in implementing energy saving measures?										
28	1 - Not Active										
29	2										
30	3										
31	4										
32	5 - Very Active										
33											
34	Question 4: Steps taken?										
35	Lighting?										
36	Other measures & equipment?										
37	Retrofits?										
38	Revised purchasing practices?										
39	Vehicles?										
40	Solar/ renewables?										
41	Education of employees?										

LOCAL GOVERNMENT ENERGY RESPONSES

	A	W	X	Y	Z	AA	AB	AC	AD	AE	AF
1	LOCAL GOVERNMENT										
42	Other?										
43											
44	Question 5: Influence?										
45	1 - Not Much										
46	2										
47	3										
48	4										
49	5 - Very Much										
50											
51	Question 6: Programs now administer?										
52											
53											
54											
55											
56	Question 7: Programs like to see?										
57											
58											
59											
60											
61	Question 8a: What % could be saved through improvements?										
62	5%										
63	10%										
64	15%										
65	20+%										
66											
67	Question 8b: What % savings through higher cost items?										
68	10%										
69	20%										
70	30%										
71	40+%										
72											

LOCAL GOVERNMENT ENERGY RESPONSES

	A	W	X	Y	Z	AA	AB	AC	AD	AE	AF
1	LOCAL GOVERNMENT										
73	Question 8c: How much spent on energy bills for facilities?										
74											
75	Question 9a: Own % office space?										
76	own?										
77	% estimate										
78	lease?										
79	% estimate										
80											
81	Question 9b: Square footage occupy?										
82	under 10K sq. ft.										
83	10K - 50K sq. ft.										
84	50K - 100K sq. ft.										
85	100K - 150K sq. ft.										
86	over 150K sq. ft.										
87											
88	Question 9c: How many vehicles?										
89	None										
90	10 or less										
91	11 to 25										
92	over 25										
93											
94	Name:										
95											
96	Question 10: Email Address?										
97											
98	Fax #:										
99											
100	Question 11: Other comments . . . ?										
101											

LOCAL GOVERNMENT ENERGY RESPONSES

	A	W	X	Y	Z	AA	AB	AC	AD	AE	AF
1	LOCAL GOVERNMENT										
102											
103											
104											
105	*These municipalities responded to questions put forth by Florida Municipal Utilities Association.										

LOCAL GOVERNMENT ENERGY RESPONSES

	A	AG	AH	AI
1	LOCAL GOVERNMENT			
2	FMUA Questions			
3	Question 1 - How much money does your local govt spend on electricity for all city function including			
4	Question 2 - How much money does your local govt spend on natural gas for all city business?			
5	Question 3 - What is the population of your city?			
6	Question 4 - For what fiscal year is this information?			
7	CPI Questions			
8	Question 1a - How much does your local govt spend per year on electric service and fuels for your facilities?			
9	Question 1b - Are those facilities leased or owned by your local government?			
10	Question 2a - Does your local govt own vehicles or a fleet?			
11	Question 2b - If so, how much do you spend annually on fuels for transportation?			
12	SUVEY Questions			

LOCAL GOVERNMENT ENERGY RESPONSES

	A	AG	AH	AI
1	LOCAL GOVERNMENT			
13	Question 1: Involved in addressing energy concerns?			
14	1 - Not Involved			
15	2			
16	3 - Somewhat			
17	4			
18	5 - Very Involved			
19				
20	Question 2: Familiar w/ state's energy program & purposes?			
21	1 - Not Familiar			
22	2			
23	3			
24	4			
25	5 - Very familiar			
26				
27	Question 3: Active in implementing energy saving measures?			
28	1 - Not Active			
29	2			
30	3			
31	4			
32	5 - Very Active			
33				
34	Question 4: Steps taken?			
35	Lighting?			
36	Other measures & equipment?			
37	Retrofits?			
38	Revised purchasing practices?			
39	Vehicles?			
40	Solar/ renewables?			
41	Education of employees?			

LOCAL GOVERNMENT ENERGY RESPONSES

	A	AG	AH	AI
1	LOCAL GOVERNMENT			
42	Other?			
43				
44	Question 5: Influence?			
45	1 - Not Much			
46	2			
47	3			
48	4			
49	5 - Very Much			
50				
51	Question 6: Programs now administer?			
52				
53				
54				
55				
56	Question 7: Programs like to see?			
57				
58				
59				
60				
61	Question 8a: What % could be saved through improvements?			
62	5%			
63	10%			
64	15%			
65	20+%			
66				
67	Question 8b: What % savings through higher cost items?			
68	10%			
69	20%			
70	30%			
71	40+%			
72				

LOCAL GOVERNMENT ENERGY RESPONSES

	A	AG	AH	AI
1	LOCAL GOVERNMENT			
73	Question 8c: How much spent on energy bills for facilities?			
74				
75	Question 9a: Own % office space?			
76	own?			
77	% estimate			
78	lease?			
79	% estimate			
80				
81	Question 9b: Square footage occupy?			
82	under 10K sq. ft.			
83	10K - 50K sq. ft.			
84	50K - 100K sq. ft.			
85	100K - 150K sq. ft.			
86	over 150K sq. ft.			
87				
88	Question 9c: How many vehicles?			
89	None			
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92	over 25			
93				
94	Name:			
95				
96	Question 10: Email Address?			
97				
98	Fax #:			
99				
100	Question 11: Other comments . . . ?			
101				

LOCAL GOVERNMENT ENERGY RESPONSES

	A	AG	AH	AI
1	LOCAL GOVERNMENT			
102				
103				
104				
105	*These municipalities responded to questions put forth by Florida Municipal Utilities Association.			

APPENDIX L

STATE AGENCY SURVEY RESULTS

STATE AGENCY SURVEY

FLORIDA ENERGY PLAN

EACH AGENCY OF STATE GOVERNMENT IS BEING ASKED TO COMPLETE THE FOLLOWING SURVEY TO ASSIST THE STATE OF FLORIDA IN PREPARING A FLORIDA ENERGY PLAN. AGENCIES OF THE STATE WILL BE CHARGED WITH IMPLEMENTING THIS IMPORTANT PLAN AND ALL AGENCIES ARE INVITED TO PARTICIPATE IN THE PLANNING PROCESS. YOUR ASSISTANCE IN THIS EFFORT IS APPRECIATED.

Agency:
Name of Person Completing Survey:
Title:
Office:
Phone Number:
Email Address:

1. Generally speaking, how involved has your agency been in addressing energy concerns?

1
Not Involved

2. How familiar are you with the state's energy program and its purposes?

1
Not Familiar

3. How active has your agency been in implementing energy saving measures within your facilities and operations?

1
Not Active

4. Which of the following steps have been taken within your agency to a significant extent?

Installation of energy efficient lighting

- Use of other energy efficient measures and equipment
- Performance contracting for energy retrofits
- Revised purchasing practices to emphasize conservation and efficiency
- Purchase or use of energy efficient or alternative fueled vehicles
- Use of solar or other renewable energy technology
- Education of employees about conservation practices

Other:

5. Apart from your internal operations, to what extent do you think your agency does or could influence energy use in this state?

1
Not Much

2

3

4

5
Very Much

6. What programs does your agency administer that have direct or substantial bearing on energy use in Florida, and how?

Examples:

- *Department of Community Affairs, State Planning & Growth Management – oversees transportation and other land-use planning*
- *Department of Environmental Protection, Air Quality – regulates emissions from power plants and oversees power plant siting decisions*
- *Department of Business & Professional Regulation – administers licensing of specialty contractors, including solar energy technicians*
- *Department of Agriculture & Consumer Services – tests fuel supplies and regulates storage*

7. Are there programs, policies or other steps that you'd like to see to better address the state's energy needs?

8a. If your agency had the upfront seed money to do so, what percentage of your annual energy costs do you think could be saved through low cost energy efficiency improvements?

5%

10%

15%

20+%

8b. What percent savings could you foresee through adding higher cost items (that could be paid for through the energy savings)?

10%

20%

30%

40+%

8c. Roughly how much does your agency spend per year on energy bills for your facilities? _____

If you're not sure, what would you guesstimate? _____

9. About your facilities and vehicles:

a. Does your agency —

own its office space? _____ % estimate

lease its office space? _____ % estimate

b. What square footage of office space does your agency occupy?
square feet

If you don't have the exact number, would you say it is —

under 10,000 square feet?

10,000 – 50, 000 square feet?

50,000 – 100,000 square feet?

100,000 – 150,000 square feet?

over 150,000 square feet?

c. How many vehicles does your agency own?

None 10 or less

11 – 25 over 25

10. Please list the individuals in your agency most likely to be involved in energy matters (by name, title, location, phone # and e-mail address).

11. Other comments, suggestions or feedback:

PLEASE RETURN COMPLETED SURVEY TO:

floridaenergyplan@earthlink.net (email)
or
(850) 997-1898 (fax)

***THANK YOU FOR YOUR ASSISTANCE ON THIS
INITIATIVE FOR FLORIDA'S FUTURE!***

STATE AGENCY SURVEY SUPPLEMENT

Thank you for taking the time to complete the July 3 survey of state agency officials. Please take a moment to share with us any additional thoughts or information you may have for purposes of the Florida Energy Plan.

Name & Title: _____

Agency: _____

Office: _____

Email/ Phone/ Fax: _____

1. As a follow-up to the July 15 briefing and discussion: are there additional programs, policies or other steps that you'd like to see to better address the state's energy needs? _____

2. Focusing on your agency operations, what areas need further development for state agency energy conservation and efficiencies, and what specific ideas do you believe need to be pursued? _____

3. Would you like to participate in a special state "leasing" group to identify areas in which state leases may forward energy efficiency? Yes No

What would be some specific topics or suggestions that you believe the group should explore? _____

What about an agency workgroup to address other opportunities for energy improvements in state government? Yes No

Any related suggestions? _____

4. Will you participate in the state agency workshop on September 3rd?

Yes No Possibly Will send another representative(s)

Will you attend one or more of the stakeholder forums?

Yes No Possibly Will send another representative(s)

5. Are there any other suggestions or comments that you would like to make?

Please return by email, or fax to 997-1898

Thank You For Your Participation!

APPENDIX M MARKETING ENERGY EFFICIENCY

**Marketing Energy, Environment ,and Economy
September 2003**

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Background

Creative Pursuits, Inc (CPI) and the Florida Solar Energy Center have been contracted by the Florida Department of Community Affairs to assist the State of Florida in the development of a draft State Energy Plan and implementation strategy. CPI has subcontracted with the Florida House Institute (FHI) and Concept Communiqués to participate in this effort. This paper is an early draft meant to facilitate discussion.

The United States, and the world, must begin a decades-long transition to an energy system that will not run out, cannot be cut off, supports a vibrant economy, and safeguards our health and environment.

Today's patterns of energy production and consumption will not deliver these benefits for our children and grandchildren. The way we produce and use energy wastes money, threatens our environment, raises our vulnerability to accident, terrorism and economic shocks, and contributes to instability around the globe.

We must create a new energy system that makes our country and the world more secure. It must be less susceptible to major disruptions and it must meet the needs of people today and of generations to come—providing adequate, affordable, and healthful energy services, for all, forever.

The opportunity to create this new energy future is here and now. New technologies that only a few years ago seemed visionary now provide energy services to millions and demonstrate that this energy future is not only possible but also commercially viable. The sooner we begin to act on key energy policy issues, the more control we will have over our energy future. The longer we wait, the higher the cost of action and the less certain its success.

The National Energy Policy Initiative, March 2002¹

Introduction

This paper presents a comprehensive, long-term energy marketing strategy. The strategy is based on initiating a state wide marketing program in tandem with community-based economic development initiatives. The statewide program is targeted to building brand and product awareness, the local and regional effort is based on building action-oriented partnerships across communities.

Energy costs play a significant role in the economic vitality of Florida's economy. Florida spends over \$30 billion per year on direct energy costs. When money is spent on energy, much of it leaves the state and the nation. When money is spent on other goods and services, much more stays in Florida, creating economic growth and jobs.

In spite of significant reductions in energy use and real energy prices in the past two decades, significant opportunities for cost-effective, energy-efficient investments exist in all sectors of Florida's economy. Furthermore, many of these investments offer opportunities to improve productivity and lower operating and maintenance costs. Investments in energy-saving products and practices can lower energy bills for residents and businesses. Lower energy bills, in turn, will promote overall economic efficiency and create jobs. Investments in energy efficiency can increase cash flow and operating margins, providing businesses a critical competitive edge. Moreover, accelerated investments in energy efficiency will enhance the state's air and water quality by reducing emissions associated with energy production and use. Investments in energy efficiency can encourage the development of new, clean, energy-saving technologies and industries in Florida.²

A Statewide Energy Marketing Strategy

Floridians purchase a wide range of products often with little thought to the on-going energy costs associated with the product. Why? Because we perceive, quite accurately, that energy fuels are relatively inexpensive. The cost of protecting our fuel sources and the environmental cost of our energy production means are not included in the price we pay for gasoline or electricity.

Can we encourage consumers to invest in energy-efficiency without an immediate or short-term economic incentive? Yes. Every day consumers choose more expensive products based on perceived value. Behind every successful product is a successful marketing campaign.

The Florida energy marketing strategy would be based on cultivating a state-wide branding strategy - **Florida Energy Star** - combined with building state-wide, regional and local business and civic partnerships.

Building a Brand

The US Environmental Protection Agency's (EPA) Energy Star program is well-supported nationally and has become a recognized brand to many consumers. Florida's Energy Star strategy would be to adopt a co-branding approach with the Energy Star label and add a distinct Florida twist:

- tune to Florida's climate;
- establish new energy performance standards;
- build on Florida's **Sunshine State** identity.

The Florida Energy Star brand would be supported with a comprehensive market development program:

- ✓ Develop point-of-purchase materials and other marketing deliverables;
- ✓ Support joint marketing efforts with local and regional partners;
- ✓ Provide sales and technical training directly, and in partnership with manufacturers and distributors, for builders, mechanical & HVAC engineers, plumbers, and others.

Strengthening Core Competencies

The marketing plan can be viewed as a comprehensive Community Economic Development strategy. Through the Florida Solar Energy Center (FSEC), the State of Florida has already invested in technical leadership in what is a strong emerging market, renewable energy and advanced efficiency technologies. But the US is far behind Europe in investing in the necessary technologies, expertise and infrastructure necessary to shift our economy to a more sustainable energy course for the future.

The *Florida Energy Star* brand would be substantially and uniquely strengthened by developing world-class design, manufacturing and implementation competencies in **Sunshine** technologies:

- passive solar design;
- heating, cooling, & lighting;
- hydrogen;
- bio-fuels.

Over the years, each crisis in the Middle East has resulted in renewed concerns about US vulnerability to price increases and supply disruptions. And after each crisis has passed Americans return to our business-as-usual routine, forgetting our continued dependence on imported fuels from politically volatile sources. In order to change the nature of the game for a new energy path with results that well serve the people of Florida, we need strong and sustained state-wide community support across a wide range of interests and constituencies.

Elements of Success

There are three elements to transforming the energy outlook for Florida, including long term vitality of the Florida economy:

1. establish a **clear goal and interim objectives**;
2. articulate a **comprehensive strategy**;
3. ensure that there is **broad community support** and an on-going commitment.

One goal – 100%

The goals of any significant public and private investment plan should be clear enough to communicate to a general audience, broad enough to garner wide support across the arbitrary political and personal differences which too often divide us, and ambitious enough to engage leaders throughout the State.

The goal of the marketing plan is to increase the State of Florida's energy productivity by 100% in ten years.

This is an audacious goal. In one sense it is as ambitious as the goal articulated in 1960 to land a man on the moon in a decade. The interesting thing is that the same experts that will tell you how “impossible” it would be to double Florida’s energy productivity in a decade will admit that technologically it is quite possible. They would suggest that politically, doubling energy productivity is as likely as landing a woman on the moon in the next ten years - technically feasible, practically an unlikely and quixotic objective. Indeed, many of the greatest achievements of our nation and global community were considered impossible until those who dared to reach further, harder and faster proved them to be within reach.

The only ingredient necessary to accomplishing this bold objective is to generate and sustain the necessary political will and market support for establishing Florida as an energy leader.

The political will and market support necessary can be generated if the goal’s costs and payback are clearly articulated and broadly disseminated.

Doubling Florida’s energy productivity will promote substantial economic gains, nurture and protect our natural environment and promote the health and well-being of all of our citizens.

Clearly Defined Milestones – interim objectives

The advantage of a single, easy-to-understand goal is clear when seeking to achieve a broad-based end result of this magnitude and form. A goal focused on per capita energy consumption, if approached astutely and founded on compelling public benefits, can generate wide support across the state. Such an approach must be accompanied by an understanding of how, when and to what extent the varied “stakeholders” can expect to experience the benefits, whether direct and immediate cash savings to the homeowner, lifecycle savings within a time period from investment, creation of jobs over a five year period, or a host of other favorable impacts. The disadvantage is that people may be discouraged by slow or uncertain progress in the first few years of plan implementation.

It is important to measure progress along the way. Interim objectives can be established by market segment: commercial and residential buildings, vehicle efficiency, transportation and land use.

Generally speaking, in the first three years interim indicators would be modest, achievable and tied to specific marketing programs. For example, a target might be that 10% of new homes be *Florida Energy-Star* certified. Some indicators could be more aggressive where the likelihood of stronger and faster results warrants. Overall, the prospect for substantial progress is great, both in the early years and beyond, given the potential for Florida to reach new heights through new and retooled energy strategies.

Strategy –Inform, Encourage, Embody

There are three key strategic principles:

- Provide clear and concise information to decision-makers;

- Encourage private and public investments in high-yield energy investments;
- Demonstrate local and regional initiatives that provide clear and compelling performance breakthroughs.

Provide clear and concise information to decision-makers

The energy marketplace can quickly shift by providing clear and concise investment information to decision-makers:

- at every scale - state, regional and local;
- for distinct audiences, market sectors and customers.

Decision-makers at all levels will be provided with accurate and current information on the yield of energy investment alternatives.

Encourage private and public investments in high-yield energy investments.

Market Transformation

Historically, the underlying purpose of perhaps the most prominent of energy efficiency programs was simply to reduce energy demand for electricity, thereby delaying the need for new capital investments for power plants. This approach requires constant regulatory and market intervention with continued funding. When the programs end, so does most of the impact. While Florida has seen positive results from such efforts in the past, a long-term, self-sustaining approach can yield substantially higher returns in the future. Such a long-range approach requires providing education, technical assistance, and guidance along with more standard forms of incentives to encourage suppliers to regularly offer, and customers to regularly demand, a more energy efficient range of goods and services. If consumers understand the value of energy-efficiency to the long-term health, prosperity and security of their country when they shop, whether for appliances, vehicles or other items they will choose energy-efficient products and services. Successful suppliers listen to their customers and will supply energy- efficient products to the market.³

In the long run, this will reduce the need for continued intervention as buyers and sellers become more conscious of the value of energy productivity. This will “transform” the market as sustainable efficient products are traded as a matter of choice, rather than through arbitrary government incentives or mandates. Market transformation programs require greater attention to partnerships among a broad range of manufacturers, suppliers, distributors, marketers, installers, purchasers and users of energy efficient products than earlier programs targeted solely to customers. Market transformation initiatives can take many forms. There are many examples of state initiatives that have transformed specific target markets.

Building Partnerships

To fundamentally shift our patterns of energy consumption requires establishing effective partnerships with key players. These partners would include large public and private institutions, regional land-use and transportation planners, water resource managers, manufacturers, developers, general contractors, mechanical & HVAC engineers and builders, retailers, the hospitality industry, home buyers and remodelers, and car buyers, among others.

The partnerships would provide clear, consistent and compelling value proposition to target market sectors. A value proposition involves identifying what current and prospective customers value and delivering products and services which are based on those values. The following table segments the energy market.

Florida Energy Star Market Segmentation

Target Market Sector	Sub-sector		Partners	Florida Energy Star Co-Marketing Programs	Customers
Buildings	Appliances		Retailers	<i>Florida Energy Star Products and services</i>	Homeowners
	Homes		Electric companies		
	New Homes		Builders	<i>Florida Energy Star homes</i>	Homebuyers
	Multi-family, commercial and institutional buildings	Less than 50,000 square feet	Service companies	Design, engineer & implement <i>Florida Energy Star solutions</i>	Building owners
		50,000 plus square feet			Large institutions, property managers, facilities managers
Land Use & Transportation	Planned Development Communities		Developers	<i>Florida Energy Star communities</i>	
	Transportation planning, land use and zoning decisions				Transportation and land use planners; City and County governments; Citizen groups.
Vehicle Efficiency	New cars		Auto Dealers	<i>Florida Energy Star cars</i>	Car buyers
	Fleets		Fleet owners	<i>Florida Energy Star fleets</i>	Fleet owners/purchasers
	Trucks		Truck dealers	<i>Florida Energy Star trucks</i>	Truck and fleet buyers
	Boats		Boat dealers	<i>Florida Energy Star boats</i>	Boat buyers

The impact of marketing campaigns

Other states have learned that building market share state-wide for high yield energy investments take time. And specifically targeted long-term marketing campaigns are measurably effective.

Let's look at the potential impact of one campaign: increasing the number of Energy Star homes in Florida. The energy consumed by the average new home is about 90 million BTUs for around \$1,250. This consumption is driven largely by appliances and gadgets.

Energy Star new homes are designed to save 30% of HVAC (heating, ventilation and air conditioning) and hot water. These two end uses typically make up around 60% of the total bill, so the Energy Star new home will save about 20% of the total bill.

An Energy Star home uses 30% less energy than the minimum code requirement. In New York, 25% of all new homes are *New York Energy-Star* certified. To achieve a *New York Energy Star* rating at least two major appliances must also meet EPA *Energy Star* requirements. In Alaska, 40% of all homes are *Alaska Energy-Star* certified. Like New York, *Alaska Energy Star* homes also exceed the EPA standard. Louisiana went from no Energy Star homes in 2000 to a 7% market penetration in one year! In Florida, the number of *Energy Star* certified homes is less than 1%. And Florida builds 124,000 new homes every year - more than New York, Alaska and Louisiana combined. The impact of shifting 10% of the Florida housing market to Energy Star homes with three *Energy Star* appliances would be quite significant.

Potential Marketing Campaigns

More than 50% of the residential windows sold in Wisconsin are manufactured with energy-efficient glass and nearly 80% of the furnaces sold are high-efficiency. This compares to a more typical national rate of 20%. In New York, half of all residential air conditioners are Energy-Star rated. There are several other states that have successfully demonstrated specific programs to "move the market" on energy.

There are several potential campaigns that would be relatively easy to measure and that would have a significant impact on energy consumption.

Market Campaign – Replace incandescent bulbs with compact fluorescents.
Light up your life with a compact fluorescent.

Five year return:

- ✓ \$1.5 billion dollar in additional consumer income;
- ✓ 32 billion fewer pounds of greenhouse gases;
- ✓ 5.4 billion fewer pounds of toxic gases;
- ✓ 241 million fewer bulb changes.

Yield per bulb	Annual Yield 2005 10% market penetration	Annual Yield 2010 50% market penetration	6-year Cumulative Yield 2005 through 2010
Economic Each bulb saves \$30 worth of energy	\$53 million dollars disposable income	\$663 million dollars disposable income	\$1.95 billion disposable income

Environment Clean air 750 pounds carbon dioxide	1.89 billion fewer pounds greenhouse gases	12.1 billion fewer pounds greenhouse gases	32 billion fewer pounds greenhouse gases
Clean air and clean water 128 pounds of toxic emissions.	322.56 million fewer pounds toxic emissions	2.06 billion fewer pounds toxic emissions	5.46 billion fewer pounds toxic emissions
Health & well-being Saves time - lasts eight times longer than incandescent bulb. Reduces risk of falls.	20.8 million fewer light bulb changes	258.3 million fewer light bulb changes	761.2 million fewer light bulb changes

Market Campaign – Install solar water heaters.

Put your sun to work.

Solar water heaters deliver the highest return on investment per dollar spent producing energy.

Five year return:

- ✓ \$2.25 billion dollars in additional consumer income;
- ✓ 24 million fewer tons of greenhouse gases;
- ✓ 214 thousand fewer tons of toxic gases;
- ✓ 46 million fewer barrels of imported oil.

Yield per homeowner	Annual Yield 2005 20% market penetration 6.5 million households	Annual Yield 2010 50% market penetration 8 million households	6-year Cumulative Yield 2005 - 2010
Economic Each homeowner can save \$150 per year.	\$195 million dollars disposable income	\$605 million dollars disposable income	\$ 2.25 billion dollars disposable income
Environment Clean air 1.6 tons of carbon dioxide	2 million fewer tons greenhouse gases	6.5 million fewer tons greenhouse gases	24 million fewer tons greenhouse gases
Clean air and clean water 28.6 pounds of toxic emissions.	18.5 thousand fewer tons toxic emissions	58 thousand fewer tons toxic emissions	214 thousand fewer tons toxic emissions
Health & well-being Save energy Increase energy self-reliance	4 million fewer barrels of imported oil	12.5 million fewer barrels of imported oil	46 million fewer barrels of imported oil

Market Campaign – Increase market share of hybrid cars.

According to the US Environmental Protection Agency, the average fuel economy of the new fleet of cars for 2003 is 6 percent lower than it was 15 years ago. In 1987 and 1988 new cars averaged 22.1 miles per gallon, compared to 20.8 for the 2003 model cars. Yet several hybrid electric-gasoline vehicles such as the Toyota Prius and Honda Civic average nearly 50 miles per gallon with no difference in performance.

Each year Floridians purchase 1.2 million new vehicles. Imagine if just 10% of new cars purchased in Florida averaged 50 miles per gallon over the next five years.

Five year return:

- ✓ Over \$2.5 billion dollars in additional consumer income;
- ✓ 16.89 billion fewer pounds of greenhouse gases;
- ✓ Save 43.3 million barrels of oil.

Broad Community Engagement

The purpose of the statewide Energy Marketing campaign is to build awareness. At the same time, a much broader effort is needed to truly transform the energy market. Such an effort requires broad public and private participation and commitment. The state can play a significant role in generating such support. The State Energy office can:

- Convene local community task forces and provide a common, comprehensive framework for understanding energy;
- Catalyze communities by presenting each community with its unique energy profile;
- Mobilize communities for creating and executing sustainable energy programs and strategies coordinated within a comprehensive state-wide effort.

A comprehensive energy framework designed to create a common understanding about energy: what is energy, where does energy come from, how is energy used, and what are the costs/impacts of energy use. The framework, referred to as the “The Energy Story”, would be tailored to each community through the use of publicly available data: quantity and age of housing stock, number of residents, square footage of commercial/industrial property, agricultural acreage, number of vehicles, vehicle miles traveled, etc.

The value and benefits of the *Florida Energy Star* program will be targeted to three community audiences: 1. the business community, 2. the environmental community and 3. civic leaders, parents and grandparents.

Florida Energy Star Audience Segmentation

Target Audiences	Value Proposition	Key Marketing Messages
the business community	Promote economic vitality.	<ul style="list-style-type: none"> ✓ <i>Increase standard of living for all Floridians;</i> ✓ <i>Create tens of thousands of new jobs;</i> ✓ <i>Increase profitability of businesses;</i> ✓ <i>Enhance global competitiveness;</i> ✓ <i>Reduce public and private infrastructure costs;</i> ✓ <i>Increase public revenue without increasing taxes;</i> ✓ <i>Support rural economic development.</i>
environmentalists	Nurture and protect environment.	<ul style="list-style-type: none"> ✓ <i>Reduce toxic emissions and greenhouse gases;</i> ✓ <i>Enhance water quality;</i> ✓ <i>Reduce sprawl and protect natural areas;</i> ✓ <i>Increase the diversity, health and abundance of life;</i> ✓ <i>Protect endangered species.</i>
civic leaders, parents & grandparents	Ensure health, well-being and security.	<ul style="list-style-type: none"> ✓ <i>Create walkable, pedestrian-friendly communities;</i> ✓ <i>Enhance physical health;</i> ✓ <i>Increase quality of our food supply;</i> ✓ <i>Reduce traffic fatalities;</i> ✓ <i>Reduce isolation for elderly residents;</i> ✓ <i>Reduce the impact of energy price increases;</i> ✓ <i>Substantially reduce our dependency on imported energy.</i>

Community energy plans and objectives can be organized around distinct task groups within a common agenda and goal setting framework. The task groups would include: Residential and Commercial Buildings, Appliance Sales, Vehicles, Large Institutions & Agencies, and Land Use & Transportation.

Each community would develop its own targets and areas of focus within a common set of state-wide energy action plan guidelines and performance measurements. The capacity to connect, monitor, and act across traditional boundaries can build a strong sense of shared community purpose. Community agencies, institutions and organizations can share resources to engage in collaborative planning; support program networks; and support staff training that cross program, agency, and system boundaries.

Tailoring the story to specific communities is an effective way to generate real commitment from the public, the business community and large institutions (including government agencies). It moves it from *the* energy story to *our* energy story. For example, Sarasota Co. purchases 155 million gallons of gasoline per year. If we assume that gasoline costs \$1.50 per gallon the cost to Sarasota County is \$232 million annually or \$2.3 billion over 10 years. Every 10 cent increase in gasoline prices translates to \$15 million leaving the community. Increasing vehicle efficiency 10% over 5 years, an ambitious but achievable objective, would generate \$25 million per year of additional disposable income in Sarasota County

A bottoms-up community-based approach coupled within a top-down organizational framework encourages cooperation and innovation, accountability and permeability, short-term wins and long-term commitment.

Footnotes

1. The NEP Initiative's report has so far been endorsed by 33 distinguished energy policy experts. Half are or were senior executives in the energy industries. The other half has public-sector backgrounds including:

- Two Advisors to the President and one of their deputies
- Two Deputy Secretaries of Energy
- A Director of Central Intelligence
- Five subcabinet members from the Departments of Energy, State, Defense, Commerce, and EPA
- Two senior staff economists from the President's Council of Economic Advisors
- A Congressional Energy & Power Subcommittee Chair and his staff director
- Chairs or members of two Federal and three State energy regulatory commissions—one a President of the National Association of Regulatory Utility Commissioners
- Senior policy and technical professors from Harvard, Princeton, Stanford, Berkeley, and Cambridge Universities

2. American Council for an Energy-Efficient Economy

3. Wisconsin State Energy Plan