

RECOMMENDATION 35:
Setting a Renewable Energy Policy

It is recommended that the Florida Legislature develop Florida's renewable energy policy in the context of the larger state energy, environmental and economic plans. In particular, the renewable energy policy should be consistent with the state's greenhouse gas reduction goals, air quality standards, and the guiding principles of reliability, affordability, efficiency and diversity.

BACKGROUND INFORMATION:

Renewable energy policies considered by the Florida Legislature should be measured against the goals of the overall energy, environmental and economic policies of the state. The Florida Legislature has provided the Florida Energy Commission with explicit principles that must be addressed in our deliberations: "The recommendations of the commission shall be based on the guiding principles of reliability, efficiency, affordability, and diversity. . . ." §337.901(5), Fla. Stat. Furthermore, the commission is required to make recommendations that minimize untoward effects on the environment and public health: "The generation, transmission, and delivery of electricity should be accomplished with the least detriment to the environment and public health." §337.901(7)(c), Fla. Stat.

Each source of renewable energy must be examined and tested against these guiding principles. The use of any energy source in the production of electricity involves trade-offs. The economic cost of renewable energy is typically higher than that of fossil fuels, but fossil fuels typically have higher CO₂ emissions. Although biofuels generally have better carbon profiles than fossil fuels, the life cycle impact of biofuels must include the emissions associated with fertilizer production and the combustion of fossil fuel consumed in transportation. While lessening our dependence on oil, the popularity of ethanol as a substitute for gasoline has caused the price of corn to increase significantly.

RECOMMENDATION 36:
Definition of Renewable Energy

It is recommended that the Florida Legislature adopt the definition of “Renewable Energy” as provided in the “Background Information” section which is to be used for the purpose of creating a renewable portfolio standard;

BACKGROUND INFORMATION:

For the reasons following this paragraph, the FEC recommends defining “renewable” as follows: *“Renewable Energy” means electrical, mechanical or thermal energy produced from a method that uses one or more of the following fuels or energy sources: hydrogen produced from sources other than fossil fuels or nuclear energy, solar energy, geothermal energy, wind energy, ocean energy, waste heat, hydroelectric power, and biomass. As used in this definition, biomass means a power source that is comprised of combustible residues, oils or gases from forest products manufacturing, agricultural and orchard crops, waste products from livestock and poultry operations and food processing, urban wood waste, biogenic municipal solid waste, municipal liquid waste treatment operations, and landfill gas.*

In recent years, several definitions of “renewable energy” have been added to the Florida Statutes. They are as follows:

Section 366.91(2)(b) Public Utilities:

"Renewable energy" means electrical energy produced from a method that uses one or more of the following fuels or energy sources: hydrogen produced from sources other than fossil fuels, biomass, solar energy, geothermal energy, wind energy, ocean energy, and hydroelectric power. The term includes the alternative energy resource, waste heat, from sulfuric acid manufacturing operations.

Additionally, biomass is further defined in the same section to mean;

"Biomass" means a power source that is comprised of, but not limited to, combustible residues or gases from forest products manufacturing, agricultural and orchard crops, waste products from livestock and poultry operations and food processing, urban wood waste, municipal solid waste, municipal liquid waste treatment operations, and landfill gas.

Section 377.803(6) Florida Renewable Energy Technologies & Energy Waste and §570.957(1)(d) (Session Law 2007-73) Farm-to-Fuel Grants Program:

"Renewable energy" means electrical, mechanical, or thermal energy produced from a method that uses one or more of the following fuels or energy sources: hydrogen, biomass, solar energy, geothermal energy, wind energy, ocean energy, waste heat, or hydroelectric power.

Section 377.703(2)(j) Additional functions of the Department of Environmental Protection; energy emergency contingency plan; federal and state conservation programs:

"renewable energy resource" means any method, process, or substance the use of which does not diminish its availability or abundance, including, but not limited to, biomass conversion, geothermal energy, solar energy, wind energy, wood fuels derived from waste, ocean thermal gradient power, hydroelectric power, and fuels derived from agricultural products.

As the State moves forward with the development of the its energy policy, one definitive version of the term should be used consistently through out the Florida Statutes.

In reviewing the three versions of the term, they are not all that dissimilar or contradictory. All the named fuel or energy sources that appear in s. 377.803(6) also appear in s. 366.91(2)(b) except that in the later section waste heat is limited to waste heat from sulfuric acid manufacturing operations. The same is true for the expansive language in s. 377.703(2)(j) which specifically includes wood fuels derived from waste and fuels derived from agricultural products, both of which would appear to be encompassed within the clarifying language of biomass in s. 366.91(2)(a.).

There are different limiting terms. The term "ocean thermal gradient power" is used in s. 377.703(2)(j) as opposed to the broader term "ocean energy" in the other referenced sections. Also, hydrogen as used in s. 366.91(2) is limited to sources other than fossil fuels and appears in s. 377.803(6) with no such restrictions. Hydrogen is not specially identified in s. 377.703(2)(j). However, one could assume that it may be captured by the broad language at the beginning of the definition.

It is also important to look at the purpose of the statutes within which these respective definitions appear. The intent for the first three cited provisions is, in part, the promotion and enhancement of renewable energy sources or technologies. The intent of the last provision is, in part, the economical management of energy problems and pinpointing responsibility for conducting energy programs. The purpose of the first three statutes are similar, and the corresponding definitions of renewable energy are the most similar. It seems appropriate, therefore, to pay particular attention to the language of those definitions since the legislative intent behind the respective statutes is the same as the intent of SB 888, from the 2006 session. To that end, the recommended definition captures the intent of the Legislature to encourage the production of renewable energy.

Other aspects of the definition include; it is not open-ended thereby requiring continuous interruption, the term biomass is clarified and hydrogen from other than fossil fuels is used to help reduce greenhouse gas emissions.

RECOMMENDATION 37:
Assessment of Florida's Renewable Energy Status

It is recommended that the Florida Legislature direct the Florida Department of Environmental Protection and the Florida Public Service Commission to produce a current and comprehensive assessment of renewable energy opportunities and demand-side resources and technologies. The assessment should be in depth and allow ample time for appropriate participation by stakeholders. In particular, it should address existing and potential renewable resources and technologies, economic considerations and environmental issues.

BACKGROUND INFORMATION:

In January of 2003, The Florida Public Service Commission and the Florida Department of Environmental Protection prepared the first comprehensive assessment of renewable electric generation in the state, producing a report entitled *An Assessment of Renewable Electric Generating Technologies in Florida*¹. Information contained in that document, although still valuable, is dated. In order to make well-informed and broadly accepted policy decisions, it is recommended that the Florida Legislature commission an updated and expanded report.

These state agencies have the resources and expertise necessary to carry out this critical task. Given the profound implications of large-scale energy policy decisions, an appropriate amount of time should be allowed for thorough research and analysis, and the process should provide for participation by the many stakeholders.

¹ This report can be found at www.psc.state.fl.us/publications/pdf/electricgas/Renewable_Energy_Assessment.pdf

RECOMMENDATION 38:
Measurement and Evaluation of Florida's Electric Generation

It is recommended that the Florida Legislature:

- 1 . direct the Florida Department of Environmental Protection to measure the environmental effects of each method used (or proposed for use) in the generation of electricity in Florida.*
- 2 . direct the Florida Public Service Commission to evaluate each method used (or proposed for use) to generate electricity in Florida to determine its efficacy in achieving the goals of reliability, affordability, efficiency and diversity.*

BACKGROUND INFORMATION:

(This recommendation contemplates the completion of the report by the Florida Department of Environmental Protection [FDEP] and the Florida Public Service Commission [FPSC] on renewable generation and demand-side resources and technologies suggested in the recommendation entitled Assessment of Florida's Renewable Energy Status. The FDEP's process should create an emission profile and determine a greenhouse coefficient [measured in equivalent lbs of CO₂ emitted per MWh of electricity generated] for each generation method. The FPSC's process should establish the levelized cost [in cents/kWh] and incremental capacity available in Florida [in kW] for each generation method.)

Establishing the environmental benefits and costs for each method of producing electrical energy is necessary to determine the effects of introducing, increasing, or decreasing the use of that method. These effects should be quantified consistently and stated in terms of emission rates based on the generation of a megawatt-hour of electricity. In order to meet greenhouse gas objectives, a greenhouse coefficient for each method should be determined. This will allow the computation of the total amount of GHG emitted (or avoided) as a result of generating (or displacing) a given amount of electrical power by that method.

In order to make meaningful comparisons of energy production options, a uniform and objective technique should be employed. Criteria should be established and options measured against those criteria numerically. This recommendation implies that a scale be created that is consistent for each criterion. For example, a range of 0-5 could be employed to grade each generation method with respect to reliability, affordability, efficiency and diversity. This will permit the calculation of a single number, which in turn can be used to rank all sources. (See, recommendation on *Ranking of Electric Generation and Greenhouse Gas Emission Goals*).

RECOMMENDATION 39:
Ranking of Electric Generation and Greenhouse Gas Emission Goals

It is recommended that the Florida Legislature direct the Florida Public Service Commission and the Florida Department of Environmental Protection jointly to:

- 1 . establish a ranking for all methods used (or proposed for use) in the generation of electricity in Florida based on the quantitative results determined by the Florida Public Service Commission, as recommended in Measurement and Evaluation of Florida's Electric Generation, and*
- 2 . determine how to achieve state greenhouse gas emission goals using the quantitative results determined by the Florida Department of Environmental Protection, as recommended in Measurement and Evaluation of Florida's Electric Generation, within the context of this ranking.*

BACKGROUND INFORMATION

The Florida Public Service Commission and the Department of Environmental Protection are the appropriate state agencies to carry out the tasks outlined in this recommendation. Current law (§377.703(3) Fla. Stat.) places these subject matters within the jurisdictions of the two agencies.

The objective of these recommendations is to provide a framework for creating a set of generation scenarios that will simultaneously honor the guiding principles of reliability, affordability, efficiency and diversity and attain environmental and public health goals.

It is recognized that any ranking will be based on current data and assumptions. It is therefore recommended that this process be ongoing and forward-looking. The model can easily accommodate future scenarios by projecting technology advances and economies of scale, for example. The greenhouse effects of each generation method can be calculated under various generation mix scenarios using greenhouse coefficients and incremental capacity data.

In order to determine the relative desirability of energy sources, the process used should be explicit in its assumptions and transparent in its methodology. This recommendation contemplates the use of analytic tools designed to evaluate multi-criteria alternatives.

An established approach used in this context is the Decision Matrix Method (DMM)². A Decision Matrix is a table listing alternatives in rows and criteria in columns. A scoring system for determining how well each alternative meets each criterion is established, and the alternatives are weighted to reflect their relative importance. Each alternative is evaluated and scores are assigned that measure how well that alternative meets each criterion. The total score for a particular alternative is calculated by multiplying the value of each element in that alternative's row by the weight assigned to the criterion in that element's column and then summing the products. Once the total score is determined for each alternative, they can be ranked in order of preference.

In this context, the alternatives are the various generation methods (e.g., solar PV, coastal wind turbines, nuclear, pulverized coal) and the criteria are the statutory principles (reliability, affordability, improved supply diversity, environmental and public health benefits, and security from damage and prompt recovery). The measure of how well each method meets each principle is then determined using a common scheme, such as a 0-5 scale. The relative importance of each criterion would be established and a weight assigned to each. The total value for each generation method (alternative) would then be determined by multiplying its score for each principle (criterion) by the corresponding weight and summing the products. The total values can then be used to rank all the generation methods.

An analysis such as this will bring important issues to the forefront early in the process of establishing renewable energy policy. It will also avoid surprises later that could make achieving policy objectives more difficult or more expensive than necessary.

2

DMM is used in utility function analysis, and can be formally defined as follows: Let u be the utility vector, where each u_i is the total utility score for the i th alternative. Let X be the matrix of scores, where X_{ij} is the element associated with the i th alternative and j th criterion. Let w be the vector of weights, with w_j the weight associated with j th criterion. Then the utility function, designated by u , is given by

$$\mathbf{X} \mathbf{w} = \mathbf{u}.$$

For examples of the use of this method see S. Pugh, *Total Design: Integrated Methods for Successful Product Engineering* (Workingham, England: Addison-Wesley, 1990), H. W. Stoll, *Product Design Methods and Practices* (New York: Marcel Dekker, 1999), pp. 122–130 and Bijay K. Jayaswal, Peter C. Patton, *Design for Trustworthy Software: Tools, Techniques, and Methodology of Developing Robust Software* (Prentice Hall, 2006), pp. 423-425.

RECOMMENDATION 40:
Generation Scenarios for a RPS

It is recommended that the Florida Legislature direct the Florida Public Service Commission to utilize the ranking established in Ranking of Electric Generation and Greenhouse Gas Emission Goals to select generation scenarios to develop a Renewable Portfolio Standard (RPS) that will appropriately promote the use and development of renewable energy resources and technologies in Florida. Following development of the RPS by the PSC, the FEC should review the resulting RPS for possible further recommendations regarding goals and the scope of the rules.

BACKGROUND INFORMATION:

Recommendation *Ranking of Electric Generation and Greenhouse Gas Emission Goals* sets forth a process for creating a set of generation scenarios that not only abide by the guiding principles of reliability, efficiency, affordability and diversity but also meet greenhouse emission requirements. The Florida Public Service Commission is the proper state authority to determine which scenario will promote renewable energy appropriately: existing legislation states that the Florida Public Service Commission “may adopt appropriate goals for increasing the use of existing, expanded, and new Florida renewable energy resources.” §366.92(2) Fla. Stat.

RECOMMENDATION 41:
Renewable Energy Incentives

It is recommended that the Florida Legislature provide substantial financial support for the purchase, installation and use of equipment exploiting renewable energy. The eligibility requirements for incentives and their types and amounts should be consistent with the overall energy plan for the state and with forward-looking assessments of renewable energy development. Properly coordinated and funded incentives will result in renewable energy sources rising in the ranking established in Ranking of Electric Generation and Greenhouse Gas Emission Goals.

BACKGROUND INFORMATION:

Current financial incentives for renewable energy in Florida are limited and lack coordination. Corporate tax credits are available through the Renewable Energy Production Tax Credit and the Renewable Energy Technologies Investment Tax Credit. A sales tax exemption exists for Renewable Energy Equipment Sales. The Solar Energy System Incentives Program is a rebate program for small scale solar water heating, small scale photovoltaics (PV) and solar pool heating.

Nationwide, incentives for renewable energy include corporate and personal income tax credits and deductions for equipment purchases and installation; sales and use tax exemptions for equipment; property tax credits, exemptions, and exclusions; rebates to promote the installation of equipment; production incentives (cash payments based on owner electricity production); loan programs (including low and no interest loans as well as direct loans); leasing and lease purchase programs; industry recruitment incentives; and grant programs available primarily to commercial, industrial, utility, education and government sectors.³

³ Source: Database of State Incentives for Renewables & Efficiency (www.dsireusa.org).

RECOMMENDATION 42:
Third Party Ownership of On-Site Generation Projects

It is recommended that the Florida Legislature revise Section 366.02(1) of the Florida Statutes to allow, without incurring regulatory jurisdiction of the Florida Public Service Commission, third party ownership of new renewable generation facilities located on the site of an electric energy customer and sale of up to 5 MW of renewable electricity to a single customer provided the facilities are located on the customer's premises. This change should not eliminate the obligation of the local electric utility to provide back-up service or to purchase excess energy generated by the installation.

BACKGROUND INFORMATION:

Florida law allows energy customers to “self-generate” electric power from equipment located on their property without incurring the jurisdiction of the Florida Public Service Commission. One impediment to the expansion of renewable generation in Florida is the reluctance of energy customers to own and/or operate generation equipment outside of their expertise. There are third party developers willing to invest capital to build such units, operated them, and sell the energy to the customer on a kilowatt-hour basis. But to do this, the developer risks being deemed an electric utility, being saddled with FPSC jurisdiction, and losing a service territory infringement battle with the local utility.

In order to encourage and increase the application of renewable technologies (e.g., photovoltaic, biomass, and small scale co-generation), Florida law should be revised to allow third party ownership of “on-site” generation projects of up to 5 MW. The local utility should continue to provide back-up service or to purchase excess energy generated by the installation.

Recommendation 43:
Net Metering

It is recommended that the Florida Legislature require all utilities to allow all Florida electricity customers to generate renewable electricity (“Distributed Generation”), to allow interconnection to the Florida electricity grid, to allow net metering, and to direct the Florida PSC to adopt corresponding technical standards and appropriate backup rates that are fair to the utility.

BACKGROUND INFORMATION:

Distributed generation (DG) systems give electric consumers the capability of generating electricity or mechanical power on site to meet all or part of their own needs, to sell power back to the grid, and sometimes to make use of heat typically lost during power generation. In so doing, distributed generation raises the overall efficiency with which fuel is used. Solar, wind, biomass burning and other methods can be used to create DG.

In addition to improvements in fuel use efficiency and related greenhouse gas reductions, expanded use of distributed CHP (combine heat and power generation) offers significant electricity system benefits including avoided electricity transmission and distribution losses, and avoided requirements for electricity grid expansion.

Policies to encourage CHP use include a combination of regulatory changes and possible incentives for CHP systems which would include net metering and appropriate backup rates that are fair to the utility to compensate the utility for the use of its generation and transmission infrastructures. The recommendation would address customers with generation of 100 kW or less.

A concern with backup rates exists within the ratepayer base, in that the backup rates are high enough to make their savings or potential earnings too small to be worth making the initial investment to participate in distributed generation.

In Executive Order 07-127, the Governor requested the PSC to initiate rulemaking no later than September 1, 2007, to authorize a uniform, statewide method to enable residential and commercial customers who generate electricity from on-site renewable technologies of up to 1 megawatt to offset their consumption over a billing period by allowing their electric meters to turn backwards when they generate electricity.

RECOMMENDATION 44:
Exemption for Waste Heat Recovery Facilities

It is recommended that the Florida Legislature, in order to encourage further development of existing cost effective renewable energy resources in Florida, enact changes to the Power Plant Siting Act that allow expansions of waste heat recovery renewable energy facilities to be exempted from the Act if the expanded renewable energy facility exports less than 75 megawatts to the grid.

BACKGROUND INFORMATION:

In order to meet objectives of diversifying the state's electric fuel mix, reducing dependence on foreign oil and dealing with climate change problems, non-polluting renewable energy resources must be encouraged. Revising existing policies that inhibit the full utilization of existing "waste heat recovery" renewable energy resources will allow existing industrial electricity customers to operate their facilities more efficiently from both a cost and environmental perspective. It is important to recognize that allowing these renewable assets to be developed to their full output capacity effectively displaces electricity that would otherwise be produced from fossil fuel based power plants. Since there are no emissions associated with the expanded renewable energy production facilities, this policy revision would also result in the elimination of emissions that would otherwise be associated with the fossil fuel power plant.

The Florida Legislature has made significant progress in allowing these renewable energy expansions in the past, including the 2006 revision to the Power Plant Siting Act that allows single expansions of less than 35 megawatt nameplate capacity. However, even this change does not allow expansion projects to proceed that are within the capacity of existing waste heat recovery industrial operations. Further, capping exports to the grid at less than 75 megawatts preserves the intent of the Power Plant Siting Act to allow the Public Service Commission oversight of major generation facilities that supply 75 megawatts or more to the Florida electricity grid.

Recommendation 45:
Energy Efficiency Standards and Financing Options
for Generators, Boilers and Waste Heat (Combined Heat & Power)

It is recommended that the Florida Legislature direct the appropriate agency or entity to adopt standards for generators and boilers requiring new installations to meet certain efficiency and/or performance levels, and that the Legislature provide fiscal and financing incentives, such as a Florida Climate and Energy Fund to increase deployment of high efficiency industrial generators and to utilize waste heat (e.g. combined heat and power systems).

BACKGROUND INFORMATION:

Greenhouse gas emissions in the state come from two major sources. Power generating plants rank first in the amount of GHGs that are emitted into the atmosphere. Second would be tail pipe emissions from vehicles. After that, there is a wide host of industries that use generators or boilers in their manufacturing processes. There are no regulated efficiency or performance standards for these energy producers. As new businesses enter the marketplace, inefficiency is perpetuated.

Many manufactures fail to capture and utilize the waste heat that is generated during their manufacturing process. This may be due to inadequate information, institutional barriers, or a lack of financing as new businesses try to enter competitive markets and strive to keep their production costs as low and possible.

One method to take advantage of this situation is to capture the waste heat and use it for industrial or domestic purposes. The combined heat and power process is the simultaneous production of electricity and heat using a single fuel. Heat produced from the electricity generating process is captured and used to produce high and low level steam. The steam can be used as a heat source for both industrial and domestic purposes and in steam turbines to generate additional electricity.

This recommendation calls for efficiency or performance standards for generators and boilers. A financing mechanism that would allow manufacturers to make better use of combined cycle units is also recommended.

Recommendation 46:
Avoided Cost Premium

It is recommended that the Florida Legislature:

To incent utilities to meet the requirements of a renewable portfolio standard and strengthen the market for renewable power, provide for the Florida Public Service Commission to allow investor-owned utilities flexibility in the amount of the payments made to qualifying renewable projects for capacity and energy and provide the opportunity for the utility to earn an “adder” to the utility’s allowed Return on Equity for meeting or exceeding renewable targets set by the Public Service Commission. The adder and any payments over and above the utility’s avoided cost would be recovered through a cost recovery clause in the utility’s rates.

BACKGROUND INFORMATION:

It is in Florida’s best interest to encourage to production of renewable energy. Reduction of greenhouse gasses and dependence on foreign oil together with local economic development are all benefits accruing to Florida from renewable generation projects. Presently, non-utility renewable generation projects are paid “avoided cost” for their power. The level of these payments has not resulted in the emergence of a robust renewable market in Florida.

The cost of capacity and energy purchased from renewable projects is “passed through” to the customer through a fuel cost recovery clause in the utility’s rates. The utility’s owners do not benefit from such transactions. In order to increase the investor-owned utilities’ motivation to purchase non-utility generated power at a higher rate; their stockholders should be provided an opportunity to benefit. This recommendation provides for utility stockholder motivation to foster and expand the renewable generation market within the state.

RECOMMENDATION 47:
Farm to Fuel Initiative

It is recommended that the Florida Legislature fund the Farm to Fuel Initiative for the upcoming fiscal year.

BACKGROUND INFORMATION:

The Farm to Fuel initiative, s. 570.954, FS, passed by the Florida Legislature in 2006, was created to enhance the market for and promote the production and distribution of renewable energy from Florida-grown crops, agricultural wastes and residues, and other biomass and to enhance the value of agricultural products or expand agribusiness in the state. Together with the Florida Renewable Energy Technologies and Efficiency Act, the initiative is intended to stimulate capital investment in the state, enhance the market for and promote the production and distribution of bioenergy technologies in the state, attract additional bioenergy production in Florida, and in particular, technologies or processes that convert Florida grown crops, agricultural wastes and residues, or other biomass into bioenergy.

The statute also provides that the Department may conduct a statewide comprehensive information and education program aimed at educating the general public about the benefits of renewable energy and the use of alternative fuels.

Florida has an abundance of biomass that could, with productive research and development, contribute to a significant swing in the way we view energy needs in Florida. The state has some 383,000 acres in sugar cane production, some 160,000 acres of peanuts, 85,000 acres of cotton, 65,000 acres of field corn and 11,000 acres of soybeans; all of which have potential for producing bioenergy. Additionally the state has 15.5 million acres of timber, 749,000 acres of citrus and 193,000 acres of vegetables whose byproduct alone offers huge potential for conversion into bio-fuels.

The Department is requesting funding to conduct a statewide comprehensive information and education program contemplated by the law.

RECOMMENDATION 48:
Farm to Fuel Grants Program

It is recommended that the Florida Legislature continue, and fund, the Farm to Fuel Grants Program.

BACKGROUND INFORMATION:

In 2006, the Florida Legislature appropriated \$15 million to the Department of Environmental Protection for the purpose of funding the Renewable Energy Technologies Grants program authorized in s. 377.804, Florida Statutes, to provide matching grants for renewable energy technology demonstration, commercialization, research, and development projects. Five million dollars of the appropriation was contingent upon the coordination between the Department of Environmental Protection and the Department of Agriculture and Consumer Services (Department) pursuant to s. 377.804(6), Florida Statutes, to fund bioenergy-related projects. The program was very successful with 148 renewable energy applications requesting more than \$185 million with more than \$412 million cost share and 74 bioenergy applications requesting more than \$87 million with more than \$353 million cost share.

RECOMMENDATION 49:
Biofuel Retail Sales Incentive Program and Florida Biofuel
Production Incentive Program

It is recommended that the Florida Legislature establish, and fund, the Biofuel Retail Sales Incentive Program and the Florida Biofuel Production Incentive Program.

BACKGROUND INFORMATION:

The Federal government has provided the following incentives for ethanol and biodiesel:

- A partial federal excise tax exemption of 51 cents per gallon for ethanol blended into gasoline; and
- An excise tax credit for biodiesel and biodiesel blends of a penny per percentage point of biodiesel blended with petroleum diesel for “agri-biodiesel,” such as that made from soybean oil, and a half-penny per percentage for biodiesel made from other sources, like recycled cooking oil.

There do not exist incentives at the federal level or in the State of Florida for producers or retailers of ethanol and/or biodiesel (biofuels). Section 220.192, F.S., provides an investment tax credit for the production and distribution of ethanol and biodiesel. However, the law is silent as to an incentive for the production of alternative fuels produced from Florida-grown products. Similarly, there is no incentive provided for retail sale of alternative fuels.

In 2007, the Legislature, created a Biofuel Retail Sales Incentive Program and Florida Biofuel Production Incentive Program (HB 7123).

The bill established the Biofuel Retail Sales Incentive Program under the Department for the purpose of encouraging the retail sale of biofuels in this state and replacing petroleum consumption in the state by a certain percentage over a specified period. Subject to specific appropriation, the program would provide incentive payments to qualified retail dealers for biofuels offered for sale.

The Florida Biofuel Production Incentive Program was established under the Department to encourage the development and expansion of facilities that produce biofuels in this state from crops, agricultural waste and residues, and other biomass produced in Florida. Subject to appropriation, the program would provide incentive payments to a producer based on Florida biofuel production.

HB 7123 was ultimately vetoed by the Governor.

RECOMMENDATION 50:
Renewable Energy Technologies Investment Tax Credit

It is recommended that the Florida Legislature revise the Renewable Energy Technologies Investment Tax Credit to enable the transfer of tax credits.

BACKGROUND INFORMATION:

SB 888 (2006 Legislative Session) created s. 220.192, F.S., which established a corporate income tax credit program for any investments associated with hydrogen vehicles and hydrogen vehicle fueling stations; commercial stationary fuel cells; and biofuels, including biodiesel and ethanol; including construction, installation, and equipping the technologies in the state. The bill provided the following:

- The credit for stationary fuel cells, hydrogen vehicles and hydrogen vehicle fueling stations will be for 75% of the capital, operational, maintenance, research and development costs;
- The cap for hydrogen vehicles and hydrogen vehicle fueling stations is \$3 million per fiscal year;
- The cap for the corporate tax credit on stationary fuel cells is \$1.5 million per fiscal year; and
- The cap for an investment in the production and distribution of biodiesel and fuel ethanol is \$6.5 million per fiscal year.

This credit program is administered by the Department of Environmental Protection. Each taxpayer must apply to the Department of Environmental Protection for an allocation of each type of annual credit. The certificate of tax credit issued by the Department of Environmental Protection must be attached to the Florida corporate income tax return on which the credit is claimed. Credits are granted on a first-come, first served basis based upon the date a completed application is received by the Department of Environmental Protection. Credits may be used by a taxpayer against its Florida corporate income tax liability for tax years beginning on or after January 1, 2007, and may be carried forward until tax years ending on or before December 31, 2012.

A number of prospective investors in renewable energy technologies have noted that a relatively small number of Florida-based companies currently have the tax liability status that would enable them to directly benefit from these tax credits. Allowing recipient entities to transfer or sale the credits to companies that are subject to the corporate income tax could stimulate additional interests in this program.

HB 7123 (2007 Legislative Session) included a provision allowing the transfer of tax credits allowed under this program. HB 7123 was ultimately vetoed by the Governor.

RECOMMENDATION 51:
Florida Renewable Energy Production Tax Credit

It is recommended that the Florida Legislature amend the Renewable Energy Production Tax Credit (s.220.143, F.S.) to include energy used by the producer.

BACKGROUND INFORMATION:

In 2006, the Legislature created a Florida Renewable Energy Production Tax Credit (s. 220.193, F.S.) to encourage the development and expansion of facilities that produce renewable energy in Florida. The credit is available to new or expanded (increases its electrical production by more than 5 percent) facilities placed in service after May 1, 2006. A credit against the tax imposed is available to a taxpayer, based on the taxpayer's production and sale of electricity production. The credit is \$0.01 for each kilowatt-hour of electricity produced and sold by the taxpayer to an unrelated party during a given tax year and the credit may be claimed for electricity produced and sold on or after January 1, 2007.

In 2007, HB 7123 expanded the tax credit so that it may be earned both for electricity "sold" and electricity "used" by the producer.

This bill was ultimately vetoed by the Governor.

RECOMMENDATION 52:
Sales Tax Exemption for Biofuel

It is recommended that the Florida Legislature increase the cap on the sales tax exemption for materials used in the distribution of biodiesel and ethanol fuels from \$1 million to \$2 million.

BACKGROUND INFORMATION:

In the United States, ethanol is largely a corn-based fuel ranging from E10, a 10 percent gasoline additive (used to reduce vehicle emissions that works without engine modifications), to E85 that contains just 15 percent gasoline and 85 percent ethanol (used to power flexible fuel vehicles that can run on any kind of fuel).

Biodiesel is a clean-burning alternative fuel made primarily from soybeans. It can also be made from other materials such as vegetable oils, animal fats and spent cooking oils. The pure form of biodiesel is commonly referred to as B100. The most common blend for biodiesel, B20, is 20 percent biodiesel and 80 percent petroleum diesel. It has none of the toxic or environmental hazards of fossil diesel fuel. Biodiesel operates in conventional combustion-ignition engines, from light to heavy-duty, just like petroleum-based diesel.

In 2004, alternative fuels accounted for 1.2 percent of the total market for transportation fuels (177,562 thousand gasoline-equivalent gallons). Although a relatively small percentage of the total transportation fuel market, biofuels consumption has increased rapidly in recent years. In 1994, biofuels consumption stood at 846 thousand gasoline-equivalent gallons or 0.6 percent of the transportation (140,719 thousand gasoline-equivalent gallons) fuels market. Increased production of biofuels as well as increases in the number of fueling stations which provide bio-based fuels are due to federal and state incentives that encourage the use of alternative fuel or flex-fuel cars as well as increased public education and awareness.

SB 888 (2006 Legislative Session) created a sales tax exemption for materials used in the manufacturing, blending, fueling and distribution of biodiesel and ethanol fuels. There is a cap of \$1 million per fiscal year for the period 2006-2008.

HB 7123 (2007 Legislative Session) included a provision increasing the cap from \$1 million to \$2 million. HB 7123 was ultimately vetoed by the Governor.