The Florida Senate

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Committee on Communications and Public Utilities

REVIEW OF FACTORS TO BE CONSIDERED IN MAKING FURTHER CHANGES TO ENERGY POLICY

Statement of the Issue

Over the past decade, Florida policymakers have increasingly focused on broad, general public-policy purposes and goals relating to electric energy, including: increasing reliability, fuel diversity, and economic development, while minimizing dependence on foreign oil and detrimental environmental impacts, and mitigating climate change. In the 2008 regular session, the Legislature passed a bill (HB 7135, ch. 2008-227, Laws of Florida) requiring further policymaking through agency rulemaking to increase use of renewable energy and conservation and decrease greenhouse gas emissions to meet these general public-policy goals. Nothing in this bill directly addressed or changed either the existing system for producing and distributing electricity or the existing system for regulation of these activities. However, the rulemaking that is currently taking place is likely to require significant and far-reaching changes to these systems. Developing the policy changes in these rules without express consideration of the policy underlying current law and the changes to this policy that rulemaking may necessitate carries a significant risk of unintended consequences. Before deciding on any significant policy changes, due consideration should be given to all the factors underlying both current policy and proposed policy changes, including the potential impacts on the current systems of producing electricity and of regulating this industry. This issue brief will identify these factors and related potential impacts.

Discussion

A. Policy Underlying Current Law

To explain the significance of the factors and the potential impacts of future policy making, it is first necessary to briefly and very generally discuss the current systems of producing and delivering electricity and of regulating these activities.

The electricity industry in Florida consists of vertically-integrated utilities, in which one entity owns and operates all the facilities for the entire process of producing, selling, and delivering the electricity to the end-use customer, functioning as a regulated monopoly provider within a prescribed service territory.[1] This system is the historical model in which the electric industry is seen as a "natural monopoly," an industry in which, due to economies of scale, one company can produce a product at a lower cost to society than multiple companies can. Typical natural monopoly characteristics include high capital costs and a situation in which redundant or duplicative systems, such as transmission lines, are wasteful or undesirable. When a natural monopoly industry's product is deemed a necessity, and demand for that product is therefore relatively inflexible, the industry is frequently subjected to economic regulation.[2]

[1] Chapter 366, F.S., requires that each "electric utility" comply with its requirements, and defines that term to include every person or entity supplying electricity to the public. s. 366.02, F.S. The Florida Supreme Court has interpreted this to mean that a non-utility can produce electricity for its own use, but cannot sell any excess at retail to any other person or entity. *PW Ventures, Inc. v. Nichols*, 533 So. 2d 281 (Fla. 1988).

Additionally, to build a power plant with a capacity of 75 megawatts or more requires a determination of need. s. 403.506, F.S. To petition for a determination of need, the proposed power plant owner must be a regulated electronic company, a municipal electric utility, or a cooperative electric utility serving retail customers. s. 403.519, F.S., *Tampa Electric Co. v. Garcia*, 767 So. 2d 428 (Fla. 2000), and *Panda Energy International v. Jacobs*, 813 So.2d 46 (Fla. 2002).

[2] Under the Florida Statutes, municipal utilities and cooperative utilities are not subject to economic regulation by the Florida Public Service Commission. They are subject to regulation by a body elected by the customers.

The foundation of economic regulation of the electricity industry is an implied "regulatory compact." Under the concept of a regulatory compact, a utility is granted a protected monopoly within a defined service territory, recovery of all prudent and reasonable costs, and the ability to earn a profit within a regulator-determined range of levels of return on investment. The ability of the utility to recover all costs and make a profit protects its financial wellbeing and its ratings for purposes of obtaining financing for capital expenses. Without this protection, the utility would pay a higher interest rate or obtain a lower stock price, which would also result in additional cost to the ratepayers. The utility's rates must be fair, reasonable, and just to both parties.

In exchange for these protections, the utility assumes the duty to provide electric service to all paying customers within that service territory, called the utility's "obligation to serve." The obligation to serve includes a requirement to meet standards specified or approved by the regulator as to reliability of electricity production and delivery, including standards for: time to provide service to a new customer, providing for peak demand, providing for a reserve margin, and limitations on the number of service outages and the time for restoration of service.

Additionally, as a part of the regulatory compact, a regulated utility may be required to take actions to provide for public services and public priorities that would not otherwise be considered the responsibility of a business in an open, competitive market. One example of an additional public responsibility requirement placed on regulated utilities is the requirement in the Federal Public Utility Regulatory Policies Act of 1978 and s. 366.051, F.S., that utilities sign long-term contracts to purchase power from non-utility alternative energy producers at a price equal to the utility's avoided cost, which is the cost the utility would have incurred to produce the electricity itself if not for the purchase.

B. Factors to consider in evaluating proposed changes in policy and law

The 2008 legislation contained requirements for additional policymaking through rulemaking to increase the use of methods of renewable energy and conservation and efficiency and to decrease greenhouse gas emissions from electric generating plants. As an initial point, some of the underlying goals of these requirements may overlap or conflict, as may some means of reaching the goals. There are potential conflicts, for example, even within increasing the use of renewable energy. Section 366.91, F.S., which contains the requirement for development of a renewable portfolio standard (RPS) rule, sets forth the legislative intent underlying Florida renewable energy policy. Among the goals listed are diversifying the types of fuel used to generate electricity in Florida, lessening Florida's dependence on natural gas and fuel oil for the production of electricity, and minimizing the volatility of fuel costs. One method of meeting these goals would be increased use of coal, which would offset the recent increase in use of natural gas, thereby diversifying fuel types, lessening dependence on natural gas, and reducing price spikes in natural gas. This would also have the benefit of significant increases in generation capacity and economies of scale. Increased use of coal would, however, directly conflict with a goal of reduction of greenhouse gas emissions. In light of the potential for overlap and conflict, all current underlying policy must be clearly identified and all policy changes and resulting programs should be coordinated to maximize the achievement of the benefits intended as a part of these goals, to minimize costs, to avoid or minimize detriments, and, where the underlying goals conflict, to prioritize these goals.

Consideration should also be given to what the effect will be of the inclusion of the costs of these requirements in electricity rates. What will be the effects on the different customer classes, residential, commercial, and industrial? What effects will higher electricity prices have on businesses in Florida, including those relating to development and tourism? What will be the net effect on the economy of the State of Florida and of its residents?

1. Renewable energy

The 2008 legislation, s. 42, ch. 2008-227, L.O.F., requires that the Public Service Commission adopt rules for a RPS requiring each investor-owned electric utility to supply renewable energy to its customers directly, by

procuring, or through renewable energy credits.[3] In evaluating RPS proposals and their possible effects, there are both broad, system-wide considerations and more narrowly-focused, detailed considerations.

a. Broad, systemic considerations

- An aggressive RPS requirement ultimately could have far-reaching impacts on both the existing system of production and delivery of electricity and the existing system of regulating these activities. Currently, the electric utilities produce almost all the electricity they sell. The relevant exceptions occur due to statutory requirements that utilities purchase electricity from specified types of non-utility power producers. These statutes require that investor-owned utilities purchase electricity at wholesale from specified producers[4] and that investor-owned utilities, municipal utilities, and cooperative utilities purchase electricity from producers of renewable energy.[5] A successful, aggressive RPS could potentially affect ratepayer cost, reliability, and ratemaking.
    - The current wholesale transactions do not impact ratepayers' costs because the statutes expressly provide for sales at the regulated utility's full avoided cost, which is the cost the utility would have incurred to produce that amount of electricity if not for the purchase. However, even with rising prices for traditional fuels, renewable energy currently costs more than energy produced using traditional fuels. If use of renewable energy is increased, market forces and further technological improvements may decrease prices. For now, however, to be successful, an RPS will have to require that a higher purchase price be paid to the renewable energy producers. Under future policy changes, this increased cost will be paid by one or a combination of the following two alternatives. First, the amount of the cost increase could be passed on to ratepayers, as under the current system. Second, it could be absorbed by the utility, with a risk of detriment to its financial standing, resulting in higher costs of raising capital which will also be paid by ratepayers.
    - Currently, renewable energy comprises two percent or less of total electricity sold at retail. An aggressive RPS, of up to perhaps 20 percent, will result in a tremendous increase in the proportion of electricity produced by non-utility sources. As was discussed above, as a part of the regulatory compact, a regulated utility has an obligation to serve which includes a duty to provide a reliable system of generating and delivering the electricity, including avoiding unreasonable outages and restoration periods. Non-utility power producers do not have a similar obligation. This is not a problem currently. If a renewable energy producer ceases to produce the planned electricity, the utility can absorb this loss using its reserve margin, which is the excess capacity required to provide a reliable supply of electricity in case of a problem with generation normally used to supply the need. However, when 20 percent of the electricity that a utility sells comes

[3] The value of electricity produced by use of renewable resources has two components, the value of the generic electricity itself and the value of the environmental and other societal benefits of producing that electricity by using the renewable resources instead of traditional fuels and methods. To create a renewable energy certificate, the two components are "unbundled" or separated, with the renewable energy certificate representing the second value component. To enable widespread sales of the certificates, they must be standardized as to what quantity of renewable energy they represent. The typical standard is the one megawatt-hour standard adopted in the 2008 legislation. Thus, a renewable energy certificate represents the economic value of the environmental and other societal benefits associated with producing one megawatt-hour of electricity using renewable resources instead of traditional fuels and methods. http://www.awea.org/greenpower/gp_how2.html

The amount produced or used over time is measured in kilowatt hours, calculated by multiplying the number of kilowatts produced or used by the length of time of production or use. To illustrate in the familiar context of residential electricity use, one kilowatt-hour of electricity would be used by either burning ten 100-watt light bulbs for one hour or operating one two-kilowatt air conditioner for one-half hour.

One megawatt is 1,000 kilowatts, thus, a renewable energy certificate standard of one megawatt-hour represents one megawatt, or 1,000 kilowatts, of electricity produced steadily for one hour.

[4] This statute, s. 366.051, F.S., was enacted based on requirements of the Federal Public Utility Regulatory Policies Act of 1978. It requires that investor-owned utilities purchase electricity from cogenerators and small power producers. A cogenerator is a facility sequentially producing both thermal energy and electrical or mechanical power from the same fuel source. For example, a manufacturing plant that produces heat as a part of the manufacturing process then uses that heat to produce steam to make electricity. Small power producers generate electricity using biomass, solid waste, geothermal energy, or renewable resources (wind, solar, small hydroelectric) as their primary energy sources. Definitions taken from the PSC's *Florida's Electric Utilities: A Reference Guide*, 1994 edition, pages 30 and 188.

[5] s. 366.91, F.S.

from a resource outside its control, reliability issues arise. To address these issues, policy makers will have to choose among the following options:

- require the renewable energy producers to assume an obligation to serve, like that of the existing utilities;
- require that the existing utility continue to provide all electricity generation facilities necessary for reliability purposes, thereby requiring that they duplicate the amount of generation capacity of the renewable energy providers just in case one of these providers fails to provide the necessary electricity, resulting in redundant, or duplicative, generation capacity, with the accompanying costs to be recovered from ratepayers; or
- relieve or partially relieve the utility of its reliability requirements, leaving customers subject to potential shortages of electricity and power outages.

- Recently, there have been proposals to allow a renewable power producer to make retail sales directly to a designated group of customers. This raises additional obligation to serve issues. If one of these renewable energy producers ceased operations, the only penalties, and the customers' only recourse, would be that provided in the contract, which would require a private lawsuit to enforce. Should any new policy leave recourse to the contract and the courts? Should it create a non-utility obligation to serve these customers, with penalties to ensure compliance? Should the utility be required to step in and provide service? If so, the utility may incur additional costs to insure that energy-production and transmission infrastructure is safe and reliable. Who should bear these costs, the previous customers of the defunct renewable energy producer, or the utility's ratepayers?
- A substantial increase in non-utility power producers could also create issues related to transmission and distribution lines. If a new renewable facility is in a location that has inadequate utility-owned power lines to carry this new electricity onto the grid, who should be required to site, construct, and maintain these new lines, and who is to pay for these activities? Similar issues could arise if an existing renewable energy producer significantly increased its production, resulting in a need to increase the number or size of existing transmission or distribution lines. Another issue relates to a producer of renewable energy that uses some of that energy at separate locations and wants lines between these locations. Who should be required to site, construct, and maintain these new lines and who is to pay for these activities? Finally, eminent domain issues could arise in all of these circumstances.

b. More narrowly-focused, detailed considerations

- What should be considered to be "renewable energy?" Should the definition in the RPS rule statute, which uses the definition set out in s. 366.91(2)(d), F.S., be maintained, or should it be amended?[6] For example, one issue that has arisen in the PSC rule-making proceedings is whether nuclear fuel should be included in the definition, with credit awarded toward an RPS requirement perhaps only for new nuclear facilities.
- What are the underlying goals of the RPS requirement? How much renewable energy will it take to reach these goals?
- An RPS would require that each investor-owned electric utility supply renewable energy to its customers directly, by procuring, or through renewable energy credits (RECs), a certificate representing the value of the societal benefit attributed to one megawatt-hour of electricity produced by renewable energy. Should the RPS requirement give credit only for renewable energy or RECs produced in Florida, or should it allow purchases of energy and RECs produced out-of-state?
- If the RPS allows credits for only energy and RECs produced in Florida, how much renewable energy is currently available in Florida? How much more can reasonably be expected to be developed in Florida, in what time frame, and at what cost?
- Renewable energy currently is more expensive than that produced by traditional means. How is this additional cost to be paid, and by whom?

[6] Paragraph 366.91(2)(d), F.S., defines "renewable energy" as ". . . 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."

- The electricity produced by renewable energy is itself no different than electricity produced by traditional means, and therefore has no additional value. The additional value attributed to renewable energy is the societal value related to the benefits associated with the underlying goals. As such, identification of the goal to be achieved by adoption of the RPS is crucial.
- After the societal benefit is identified, how is its value to be quantified? Should the price of the electricity itself be kept at avoided costs, with the societal benefit compensated in an additional payment for a renewable energy credit? How should the price for a REC be set, by statute or rule based upon the societal benefit obtained, or left to supply and demand? What price should be set, how is this price to be paid, and by whom?
- Recognizing that incentive funds are limited as ratepayers cannot pay an unlimited amount for renewable energy and RECs, how are the incentives, the REC payments, to be allocated? If a standard price is set for a REC of so much per megawatt, then the least expensive forms of renewable energy will be used to satisfy the requirement. If it is determined that a more-expensive form of renewable energy should be given special incentive, this will require either that the REC valuation be done in such a way as to provide this additional incentive, or that an additional incentive be created. What criteria should be used to distinguish among renewable energy sources in this context?
- If the price for the renewable energy itself is increased, how will this increased price be reconciled with the existing statutory standards of "full avoided costs"[7] and "fair and reasonable rates," [8] given that the electricity itself has no additional value over that produced by traditional means? How will the additional charge for recovery of REC payments comport with fair and reasonable rates?
- Some producers of what may be labeled renewable energy place no additional energy onto the grid. This includes the owner of a solar thermal system that heats hot water for use on the premises, offsetting the need for electricity to heat the water, but producing no electricity. It also includes those who do produce electricity as part of a manufacturing process, but use all or most of that electricity on-site. Should either of these types of energy producers be able to obtain and sell a REC? How would this fit within the underlying goals? How should the REC incentives compare with those of renewable energy producers who sell energy onto the grid? How should the energy production be measured?
- How will the RPS and accompanying policy changes be reconciled with existing cogeneration and renewable statutes and contracts?
- How should existing renewable energy resources be treated?
- How will the RPS requirements be coordinated with other incentives such as tax credits and grants?
- What will the impact of a RPS be on the availability of land for other purposes, including growing food and feedstocks for ethanol and biodiesel?

2. Conservation & Efficiency

"Conservation' can be defined as the intentional use of less energy (for example by adjusting the thermostat or reducing lighting) which always brings less of the good things that energy brings (the air conditioning and light). "Efficiency" means squeezing more of the good things that energy makes possible out of every ounce of fuel and every appliance.[9]

No matter what type of program is created, it is crucial to identify the goals underlying additional requirements to increase conservation and efficiency.

a. Utility-operated programs

- It is frequently said that the cheapest kilowatt is the one not produced. This statement will be true for some conservation or efficiency projects, but not for others. It depends on the cost of avoiding use of electricity or using it more efficiently relative to the cost of producing it.
- Generally, for a utility to recover the costs of a specific proposed conservation or efficiency program, it must establish that the program meets the criteria of the cost-effectiveness test applied in that state.

[7] s. 366.051, F.S.
[8] s. 366.041, F.S.
[9] Vaitheeswaran, Vijay, Power to the People, New York, Farrar, Straus, and Giroux, 2003, page 83.

Although there are a variety of these tests, the two that are relevant are the Ratepayer Impact Measure Test and the Total Resource Cost Test.

- The Ratepayer Impact Measure Test (RIM test) is sometimes referred to as the Non-Participant Test, as it measures benefits and costs from the perspective of the utility's ratepayers who do not participate in the program. This test focuses on the impact on rates; therefore, a program will not be deemed cost-effective if it results in a rate increase, even if it would result in considerable savings to participating ratepayers. The test is also referred to as the "no losers" test because a program that fails this test would require non-participating ratepayers to subsidize the benefits gained by those ratepayers who do participate in the program.
- The Total Resource Cost Test (TRC) measures the net benefits and costs from the perspective of the utility and its ratepayers as a whole in order to maximize welfare. (Another test sometimes discussed is the Societal Cost Test, which is sometimes equated with the TRC and sometimes described as the TRC plus environmental externalities. Utilizing this test would require identifying and quantifying these externalities.)

- PSC rules require use of the RIM test in determining cost effectiveness of conservation and efficiency programs. Because the RIM test does not allow cost recovery on programs that involve one group of ratepayers subsidizing another group, it is more restrictive than the TRC test, which does permit this cross-subsidization. As such, if the goal of any new policy is to expand utility-operated conservation and efficiency programs, the RIM test will have to be abandoned and a new test substituted, likely a form of the TRC. This new test will necessarily allow cross-subsidization among ratepayer groups, and any change in policy to adopt a new test will have to address potential limitations, if any, on the amount of cross-subsidization. The cross-subsidies could be allowed without limitation, or could be limited in one of the following ways:
  - a limit on the amount of any cross-subsidization, measured on the basis of either each single project or program, or the total amount of cross-subsidies;
  - a limit on either the classes or types of ratepayers that can obtain the subsidies or that have to pay for them;
  - a limit on the types of programs that can be approved, probably on the basis of cost; or
  - a limit based on the cost-benefit ratio.
- Aggressive utility-operated conservation and efficiency requirements may have potential impacts on ratepayer cost, reliability, and ratemaking similar to those for an aggressive RPS. Aggressive conservation and efficiency requirements may substantially reduce the amount of energy produced and sold by regulated utilities. Also, the utilities may have no control over ratepayers' continued participation in such programs, resulting in potential consequences to the utilities' ability to reliably meet their obligation to serve.
- Should a new policy on utility-operated conservation and efficiency programs allow some form of decoupling of sales and profit to provide an incentive for utilities to participate?[10]

[10] Speaking *very* generally, decoupling can be described as follows.

The amount of a utility's total revenue is the product of its rate, or price per kilowatt-hour, multiplied by the number of kilowatt-hours sold. Under rate of return economic regulation, utility rates are set in two steps: first, a determination of the utility's revenue requirement, in other words, how much revenue it needs to recover all capital costs and operating expenses, plus a reasonable return on its capital investments; second, a determination of the rate necessary to provide this level of revenue. As a part of the second step, projections must be made of future sales per year. *See*, definition of "rate design" in *Florida's Electric Utilities: A Reference Guide*, 1994 edition, page 170.

So, if a rate has been set based, in part, on a projected level of sales and this level decreases due to conservation and efficiency programs, revenue decreases. A utility could lose a significant amount of its rate of return, or could even incur a net loss. One method of addressing this possibility is to decouple the amount of revenue from the amount of sales, so a utility can continue to earn a profit while voluntarily creating and operating conservation and efficiency programs that reduce its sales. Under decoupling, the regulator establishes an exact amount of revenue a utility is to receive for a specified time period. At the end of each such time period, the regulator compares that amount to actual revenues received and adjusts rates up or down for the next time period to collect or refund the difference. This requires the regulator, or the Legislature, to identify an alternative factor upon which to base changes in revenue. The major disadvantages of decoupling are the difficulty of establishing a fair and reasonable level for revenue and the shifting of the risk of changes in sales from economic or weather conditions from the utility to the ratepayers. Under the current system, if a hurricane or economic turndown

- What is the best method of encouraging conservation and efficiency? Is it use of utility-operated programs, which have the advantage of simplicity? Would it be better to create incentives that are independent of the utility and that are available directly to those who use the electricity, and who would be the ones to actually have to cut back on its use or use it more efficiently for a program to be effective? Would a combination of these two types of incentives be best?

b. Non-utility-operated programs

- These types of programs would not provide any incentive to the utilities but would provide them directly to owners of real property and purchasers of appliances, the end-users of the electricity. These are the people who would actually have to reduce energy use for any program to be successful, not the utility, and so are the ones whose behavior must be changed. As such, this is a more direct approach.
- Many efficiency programs involve improving property owned by a single ratepayer, such as improvements to the building itself, including more energy-efficient air conditioning and heating systems and other electronics and appliances, more insulation, better windows, and improved lighting. Would it be more effective to give an incentive, such as tax breaks, grants, or low interest loans, directly to those property owners or purchasers of appliances who meet specified cost-benefit criteria for a conservation or efficiency project? Alternatively, should incentives be given to businesses providing these goods or services to assist them in reducing prices to property owners, thereby encouraging a market for these products and services? Should such an incentive be provided without regard to the type of technology used, leaving the choice of technologies to the economics of the marketplace, or should an additional incentive be given for technologies that are more expensive at the time but have a greater potential to meet the underlying goals?
- Would a conservation and efficiency program based on providing incentives to electricity users or the manufacturers and sellers of conservation and efficiency products and services create a marketplace for providers of goods that conserve energy or are more energy-efficient, thus creating economic development and competition to decrease prices?
- Should the new policy allow and encourage the use of smart meters, together with the real time or variable pricing? This may give users of electricity an incentive, based on the real cost to produce electricity at a given time or in a given time period, to use the types of improvements listed above to decrease electricity usage or to shift it to lower-cost times?[11]
- Would it be necessary for a policy creating these types of programs to address decoupling, as they also would decrease utility sales and revenues?

c. Other considerations for efficiency and conservation policies

- Should conservation and efficiency be included in an RPS requirement? If so, how is it to be identified and measured?
- How will additional conservation and efficiency policies be coordinated with requirements from the 2008 legislation such as increased requirements for building efficiency standards, increased requirements for appliance efficiency standards, and the adoption by the PSC of goals for demand-side renewable energy systems?[12]

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results in less sales, the utility has less revenue. Under decoupling, the utility is protected from this revenue decrease at the ratepayers' expense. *See*, definition of "decoupling" in *Florida's Electric Utilities: A Reference Guide*, 1994 edition, page 46.

[11] Speaking generally, the first power plant a utility utilizes to meet actual demand at any given time are the plants that produce electricity at the lowest cost. As demand increases, for example as it gets hotter on a summer day, the utility has to use plants with higher production costs. So, as demand increases, the cost of production increases. If a utility bills based on a real cost of production basis as opposed to an average cost, this can cause customers to reduce use during high-demand times. It cannot do so, however, if the customer does not have a meter that indicates what the cost is. An example would be a utility billing a customer on the basis of the cost to produce the power mid-afternoon on a hot summer day, and the customer using a programmable thermostat to shift the use of electricity for cooling to later in the day.

[12] ss. 109, 110, and 38-39, respectively, ch. 2008-227, L.O.F.

3. Cap and trade

Under the Florida Climate Protection Act, the Legislature found it in the best interest of the state to pursue a market-based emissions abatement program, such as cap and trade, to address greenhouse gas emission reductions. The act provides certain definitions[13] and guidelines and allows the Department of Environmental Protection to adopt rules after January 1, 2010, that shall not become effective until ratified by the Legislature.[14]

Cap and trade considerations

- What is the underlying goal of the cap and trade requirement and what level of reduction of greenhouse gas emissions is necessary to meet this goal?
- Will the rule be effective as implemented in reaching the stated goals?
- What are the variables (for example, time frame, phase in of that time frame, and quantity of reduction during a phase-in period) that have been included in the rule? Are there other variables that should have been included in the rule that were not? Are there variables that should not be included in the rule? Do the variables require quantification, and, if so, what is the value given? What were the criteria used in assigning values?
- Are costs recovered through other mechanisms or programs? (For example, a renewable portfolio standard and cap and trade.)
- How should any costs affect the utilities? Does the rule affect all utilities equally? Unequally (e.g., some pay, others earn)? Does the rule affect the utilities such that, as a whole, the impact is revenue neutral?
- Does the rule add costs to the utility ratepayer? Are all ratepayers affected equally? Should all ratepayers be affected equally? Should shareholders share in any of the costs? How much should the price increase be? How should the costs be collected?
- Is there an opportunity to produce carbon credits through the use of publicly-owned land as carbon sinks?[15]

The considerations identified in this issue brief are not, and cannot be, all-inclusive. As initial decisions are made, other questions and considerations likely will arise.

[13] The legislation provided the following definitions.

- "Cap and trade" or "emissions trading" means an administrative approach used to control pollution by providing a limit on total allowable emissions, providing for allowances to emit pollutants, and providing for the transfer of the allowances among pollutant sources as a means of compliance with emission limits.
- "Greenhouse gas" or "GHG" means carbon dioxide, methane, nitrous oxide, and fluorinated gases such as hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.
- "Major emitter" means an electric utility regulated under chapter 403, F.S. Section 403.503, F.S., provides definitions of terms relating to the Florida Electrical Power Plant Siting Act, including at subsection (15) the definition of the term "electric utility" to mean "cities and towns, counties, public utility districts, regulated electric companies, electric cooperatives, and joint operating agencies, or combinations thereof, engaged in, or authorized to engage in, the business of generating, transmitting, or distributing electric energy."

[14] s. 403.44(1), F.S.

[15] Trees and other plants soak up carbon dioxide and temporarily store it in wood, roots, leaves, and the soil. In some cap and trade markets, this process can be used to earn carbon reduction credits.