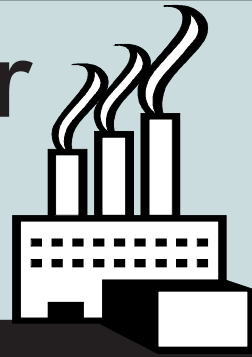




# Consumer Bulletin

Braulio L. Baez, Chairman



## Fuel Diversity In Florida

In Florida, electric utilities generate electricity using several different types of fuels, including natural gas, coal, uranium, oil, biomass, and methane. When utilities produce electricity from a diverse variety of fuels, this action is viewed as a benefit because fuel diversity is associated with increased electric reliability and reduced production costs. For example, if a disruption were to occur in the supply of one fuel type, other fuel sources may be available for use in greater amounts to compensate for any differences in production needed to maintain the typical flow of electricity.

If a utility has the choice of generating electricity from two plants that burn two different types of fuels because both fuels are readily available, it will often choose to burn the fuel type with the lowest cost to reduce its overall costs of production. In addition, many power plants in Florida have fuel-switching capability, meaning that a single power plant is capable of burning multiple fuels. Overall, a utility's choice of which fuel to burn at any point in time is usually not only a function of availability and cost, but utilities have also sought to actively maintain or develop fuel diversity to ensure reliability and minimize costs.

### Fuel Diversity In Florida Over The Years

The following overview describes how the use of major fuel sources has evolved in Florida over the years:

#### Oil

Prior to the early 1970s, electric generating plants in Florida were fueled primarily by oil. However, the oil embargoes of the 1970s forced utilities to turn more to domestic fuels such as coal, uranium, and natural gas to generate electricity. Currently, oil-fired generation accounts for approximately 11.6 percent of Florida's electric generation.

#### Coal

The use of coal for electric generation increased significantly starting in the mid-1970s. In 1975, 16 percent of Florida's energy was produced from coal. However, coal-based electric generation increased to 33 percent in 1985, and continued to increase up to a peak of 38 percent in 1997. Today, coal accounts for 28.5 percent of the electric generation in Florida.

#### Uranium

Uranium is one of the main elements used to produce nuclear power. In 1972, the first of five nuclear plants in Florida began serving the state. The latest nuclear plant went into service in 1983. Today, nuclear power accounts for about 14 percent of Florida's electric generation.

#### Natural Gas

The use of natural gas in the production of electricity has increased significantly over the past 10 years from 12.7 percent in 1993 to 32 percent in 2004. During this time frame, there have been several advantages when using natural gas compared to other fuel sources. Primarily, natural gas power plants have been more economic to build and operate than other types of power plants. Also, natural gas power plants have produced much less pollutants (emissions) when compared to coal-burning power plants. In addition, newer power plant technologies have allowed highly-efficient natural gas plants to be built relatively more quickly than coal plants, and at a lower capital cost per unit of energy. Finally, natural gas power plants have not given rise to the same level of safety concerns associated with nuclear power plants.

### Fuel Diversity Outlook In Florida

The outlook for fuel diversity in Florida is somewhat uncertain at this time. Currently, Florida's electric utilities favor natural gas generation for future resource additions. For example, the 2004 resource addition plans of the utilities serving Peninsular Florida (the entire state except the area west of the Apalachicola River) indicate that 52.2 percent of total generation in 2013 will come from natural gas, with a decline in the percent of use of other fuel types, especially oil.

Generally speaking, utilities find that natural gas technology has costs and risks that are well-understood, whereas new coal generation technologies may represent costs and risks that are not as well-known or understood.

One large electric utility, Florida Power & Light, is currently seeking to address these uncertainties by comparing natural gas-fired to coal-fired alternatives. These uncertainties not only include the forecasted fuel price differences between natural gas and coal-fired generation, but also future emissions control technologies and requirements, as well as the capital costs and the feasibility of developing and constructing a coal-fired generating plant in Florida. Florida Power & Light will be providing a report to the Public Service Commission (PSC) by December 2004, which will include an evaluation of coal-fired versus natural gas-fired future generation. Another electric utility, JEA (formerly known as the Jacksonville Electric Authority), has included a coal-fired power plant in its planned resource additions.

Whatever the case, it is important to recognize that many of these uncertainties are occurring on an industry-wide basis throughout the nation. As an example, declining natural gas production has recently resulted in significant fluctuations in natural gas prices, and has likely stimulated much of the interest in the planned development of liquefied natural gas (LNG) import facilities.

The PSC is actively monitoring all of these issues in order to find the answers to Florida's fuel diversity questions. Currently, these questions are being addressed at the PSC both through the review of utilities' annual resource plans, known as Ten-Year Site Plans, and through formal proceedings that determine the need for each new resource addition proposed by one of Florida's electric utilities.

If you require additional information about the energy industry or are interested in learning how to conserve energy safely and efficiently, please contact the PSC's Division of Regulatory Compliance and Consumer Assistance toll-free at **1-800-342-3552**, or by e-mail at [contact@psc.state.fl.us](mailto:contact@psc.state.fl.us). The PSC's Web site is located at [www.floridapsc.com](http://www.floridapsc.com) and offers information on a variety of energy topics. Please feel free to visit this Web site to review our many brochures and reports about electric safety and conservation education.

**Braulio L. Baez is the Chairman of the Florida Public Service Commission. The PSC sets the rates regulated utility companies charge for natural gas, electric and telephone service within the state. In 37 counties, it sets the price you pay for the water you drink, if your water company is privately owned.**