What will power Florida?

By Lauren Mayk

If Florida Power & Light builds another power plant in Southwest Florida, there's a good chance it won't burn natural gas.

The utility company and state regulators are backing away from the clean-burning fuel that juices up 37 percent of FPL's power plants, saying Florida might just be getting too dependent on a fuel that has become too expensive.

Along with oil, skyrocketing natural gas prices helped push monthly residential electricity bills up nearly 20 percent this winter.

With prices not expected to drop anytime soon and power plant decisions made years in advance, FPL President Armando Olivera has said he'd like the natural gas projects FPL has in development to be the company's last.

"To continue on a track to increase the number of plants we have that are gas perhaps is not the wave of the future," said FPL spokesman Mayco Villafana.

The likely alternatives: coal and nuclear power.

Both options could alarm community groups because of environmental and safety concerns, giving FPL and other Florida utilities an uphill battle in the trenches.

But in a recent report, state regulators said plants powered by the state's most popular fuel - natural gas -- won't have such an easy time getting approvals until utilities come up with a more balanced mix of fuels to run their power plants.

"I think the state has learned its lesson that you can't put all your eggs in one basket," said Brian Youngberg, a senior utility analyst with Edward Jones.

Generally more expensive to build but less costly to run, coal plants could make a resurgence in the Sunshine State using new technologies that could clean up -- though not eliminate -- their dirty image. Coal makes up only 6 percent of FPL's portfolio now, a striking difference from the nearly 50 percent stake it has in national power generation.

Three nuclear power plants generate 21 percent of the power FPL passes on to customers. Nuclear plants can take as long as 10 years to build, but can pay off with cheap power. It's one reason why FPL has said that even if it doesn't build more nuclear power plants, it would be interested in buying them.

Nuclear power has at least one fan in Southwest Florida.

Clarence Troxell of Manatee County Citizens Against Pollution thinks natural gas is fine, but nuclear is better. It's cheaper, better for the environment and safer, he said.

"Florida Power & Light asked the question, 'Would you object to nuclear if it were built next to your home in Parrish, Florida?'" Troxell said. "I said, 'Let me tell you something, I would..."
Powering by gas

Florida's love affair with natural gas stems in part from a relationship with another fuel -- oil.

The energy crisis of the 1970s sent utilities across the country looking for alternatives to oil. Florida's high growth rate made the search particularly urgent.

Utilities were looking for something fairly easy to permit and quick to construct, said Ralph Fehr, who worked at TECO and the company now known as Progress Energy before becoming an instructor at University of South Florida's College of Engineering.

"That points to natural gas," Fehr said. "That's why all the natural gas plants were springing up in that time period."

Natural gas was also relatively cheap -- a fraction of today's prices -- and palatable to environmentalists because it created less pollution than the oil and coal alternatives.

As the push for natural gas-fired plants continued, some planning engineers may have been aware that utilities could become too dependent on that one fuel, but "it's a little hard to get that message across when people are more concerned about the economics than anything," Fehr said.

"If it's cheap at the time, nobody really wants to think about it that much."

In 1990, natural gas produced 11.4 percent of the state's power. By 2004 that stake had nearly tripled to 29.9 percent, and in 2014 natural gas is expected to make up 44.4 percent of the state's fuel mix.

That means Floridians could be in for a bit of déjà vu. When the Public Service Commission took a look at the 10-year plans of Florida utilities this year, it said that "current utility plans indicate a level of dependence on natural gas that is similar to Florida's dependence on oil during the 1970s."

And to the horror of consumers, the price for natural gas has made the same steep climb. Increased demand and supply disruptions caused by hurricanes in the Gulf of Mexico this year have pushed up the cost of natural gas.

FPL has fuel-switching capability at some of its plants that would let it use another fuel when natural gas gets too expensive or hard to find. But the alternative in those cases is oil, another resource with a rising price tag.

Not only has fuel been expensive, but utilities have had a hard time predicting the prices. They have been significantly underestimating what it will cost to keep things running, leading to sudden spikes on customer bills.

In its recent report, the PSC pointed out that Florida utilities were off on their estimates so much the last three years that the total came to more than the cost of a $2 billion coal plant.

A better option?

Although environmental concerns can come into play, Florida's PSC says fuel price is the primary factor determining what kind of plant gets built.
The lower the natural gas prices, the more likely it is that a utility will add a natural gas plant, which has some of the lowest capital costs and shortest prep time. But the higher the natural gas prices are, the more likely it is that coal and nuclear options will be on the table.

Villafana said FPL needs to start discussions about its options, and start educating its customers about different types of fuel.

"We are constrained by the use of energy sources that are continuing to spiral and cost the customer more and more money," Villafana said.

FPL's Olivera has said that boosting nuclear's claim on the fuel mix from 21 percent to 40 percent or 50 percent could be a "viable alternative to the high cost of fuel, of natural gas and petroleum," Villafana said.

"The big plus behind nuclear technology is fuel is very cheap," Fehr said. "It's almost nothing."

Although powering a nuclear plant isn't as expensive, getting one permitted and built can be a costly and lengthy project.

Florida hasn't seen a new nuclear plant since 1983. Despite its low emissions, nuclear power still draws some criticism from environmentalists concerned about how to deal with waste.

Youngberg, the analyst, expects nuclear power to make a resurgence, but notes that "you're not going to see any of these plants built for five years."

FPL, which is already part of a consortium looking into future nuclear development, will likely seek out existing nuclear plants to buy and eventually build new nuclear units at its St. Lucie and Turkey Point locations, he said.

David Dismukes doesn't buy nuclear power as a realistic option for feeding Florida's demand.

"It's just too risky, and it takes too long," said Dismukes, associate director for Louisiana State University's Center for Energy Studies.

Dismukes suspects Wall Street would punish any utility company that wades into new nuclear development unless it is working as part of a larger consortium to spread the risk (but also the reward).

"Your share prices will tumble a couple dollars the day you announce it," he said.

Dismukes says coal is "the solid fuel for real meaningful opportunities right now."

New technologies can make coal plants cleaner with processes that gasify the stuff or use it in ways considered more efficient and environmentally friendly.

To Troxell, a Manatee County resident, "clean coal" technology might not be clean enough.

"I'd like to know, how much CO2 will they produce?" he said.

Aside from their dirty reputation, coal plants can come with some other baggage. Since coal isn't mined in Florida, utilities would have to factor in transportation costs for the solid fuel. If the government imposes stricter environmental controls, coal plants could be cleaner but...
Dismukes says that although a coal plant could lower the portion of customers' bills that covers fuel costs, it could raise the base rate. The utility building the plant would probably want to recoup the cost.

"Four hundred megawatts of coal is a lot more expensive than 400 megawatts of gas," said Dismukes, who noted that coal plants tend to be larger than natural gas plants.

Utilities could absorb the cost of this more expensive route, but Dismukes doubts it would happen. Under a deal with the state's attorney general, FPL's base rates are frozen until 2007.

"They could, in their good nature, decide to do that, but I would be surprised to see a utility do that."