

HOUSE OF REPRESENTATIVES STAFF ANALYSIS

BILL #: CS/HB 821 Renewable Energy Cost Recovery

SPONSOR(S): Energy, Communications & Cybersecurity Subcommittee, Yeager

TIED BILLS: **IDEN./SIM. BILLS:** SB 1162

REFERENCE	ACTION	ANALYST	STAFF DIRECTOR or BUDGET/POLICY CHIEF
1) Energy, Communications & Cybersecurity Subcommittee	18 Y, 0 N, As CS	Walsh	Keating
2) State Administration & Technology Appropriations Subcommittee			
3) Commerce Committee			

SUMMARY ANALYSIS

The Public Service Commission (PSC) has broad jurisdiction over the rates and service of public (investor-owned) electric and natural gas utilities in Florida. The PSC sets rates for these utilities through various mechanisms to allow the utilities to recover their legitimate costs of providing service, including a return on the utility's prudent capital investments.

Currently, the fuel required by public utilities to provide service in Florida is purchased from competitive providers in an open market. These purchases, if deemed prudent by the PSC, are passed through to utility customers with no markup for profit to the utility. Generally, public utility investments in fuel production projects are not included in the rates of electric or natural gas public utilities.

Renewable natural gas (RNG) is the gaseous product of the decomposition of organic matter, processed into a pipeline-quality gas that is fully interchangeable with conventional natural gas. Primary sources of RNG include landfills, livestock operations, and wastewater treatment facilities. Hydrogen fuel is produced predominantly from natural gas but can also be produced, at a greater cost, by electrolysis powered by renewable energy.

The bill allows electric and natural gas public utilities, subject to PSC approval, to recover through rates the costs of RNG and hydrogen purchases and the costs of specified capital investments in RNG and hydrogen fuel infrastructure projects. The bill provides factors for the PSC consider when reviewing such purchases and infrastructure projects for approval and provides standards for approval. Under the bill, the PSC must determine the appropriate mechanism for recovery of approved infrastructure project costs, which may include an existing or new mechanism.

The bill requires the PSC, beginning January 1, 2025, to annually submit a report to the Governor, the President of the Senate, and the Speaker of the House of Representatives that includes specified information related to approved infrastructure projects.

The bill provides that the provisions related to cost recovery for RNG and hydrogen fuel infrastructure projects will be repealed on June 30, 2028, unless reviewed and saved from repeal by the Legislature. Public utilities may continue to recover the costs of projects approved before this date.

The bill does not appear to impact state or local government revenues or expenses.

The bill provides an effective date of July 1, 2023.

FULL ANALYSIS

I. SUBSTANTIVE ANALYSIS

A. EFFECT OF PROPOSED CHANGES:

Current Situation

Rate Setting for Public Utilities

The Public Service Commission (PSC) has broad jurisdiction over the rates and service of public (investor-owned) electric and natural gas utilities in Florida.¹ Under this broad grant of authority, and through more specific grants of authority in Chapter 366, F.S., the PSC sets rates for such utilities through various mechanisms, each of which is established in a separate administrative proceeding:

- Base rates (set for electric and natural gas utilities)
 - Adjusted as needed in a general rate case, conducted through a formal evidentiary hearing for electric utilities and either a formal or informal proceeding for natural gas utilities.²
 - Designed to recover most operations and maintenance expenses, depreciation expense (recovery of capital investment over time), and a return on capital investment.
- Fuel and purchased power cost recovery charges (set for electric utilities only)
 - Adjusted annually through a formal evidentiary hearing.
 - Designed to recover the costs of fuel and the energy component of wholesale power purchases.
 - By PSC order, may include recovery of certain capital investments, including a return on investment.
- Purchased gas adjustment charges (set for natural gas utilities only)
 - Adjusted annually through a formal evidentiary hearing.
 - Designed to recover the costs of wholesale natural gas purchases.
- Capacity cost recovery charges (set for electric utilities only)
 - Adjusted annually through a formal evidentiary hearing.
 - Designed to recover costs of the capacity component of wholesale power purchases.
 - By statute, may include recovery of certain costs related to development of new nuclear power plants, including a return.³
- Environmental cost recovery charges (set for electric utilities only)
 - Adjusted annually through a formal evidentiary hearing.
 - Designed to recover costs to comply with government-mandated environmental standards.
 - By statute, may include recovery of certain capital investments, including a return on investment.⁴
- Storm protection plan cost recovery charges (set for electric utilities only)
 - Adjusted annually through a formal evidentiary hearing.
 - Designed to recover costs to implement PSC-approved storm protection plans.
 - By statute, may include recovery of certain capital investments, including a return on investment.⁵
- Energy conservation and efficiency cost recovery charges (set for electric and natural gas utilities)
 - Adjusted annually through a formal evidentiary hearing.
 - Designed to recover costs of implementing PSC-approved energy conservation and efficiency programs.

¹See, e.g., ss. 366.01, 366.04(1), 366.041, 366.05(1), and 366.06, F.S.

²A natural gas utility or a public electric utility whose annual sales to end-use customers amount to less than 1,000 gigawatt hours may request that the PSC process the utility's petition for rate relief using an informal "proposed agency action" procedure. S. 366.06(4), F.S.

³S. 366.93, F.S.

⁴S. 366.8255, F.S.

⁵S. 366.96, F.S.

As required by law, the PSC sets base rates to allow utilities to recover their legitimate costs of providing service (not otherwise recovered through another cost recovery mechanism), including a return on the utility's prudent capital investments ("rate base").⁶ In each rate case, the PSC sets a "reasonable" rate of return on equity for each utility to apply to its rate base. This rate is typically applied to the utility's investments that the PSC allows to be recovered through cost recovery mechanisms other than base rates.

Currently, the fuel required by public utilities to provide service in Florida is purchased from competitive providers in an open market. As noted above, public utilities recover their fuel costs through one of two mechanisms; electric public utilities recover their fuel costs through fuel and purchased power cost recovery charges, and natural gas public utilities recover their wholesale natural gas costs through purchased gas adjustment charges. The PSC determines the prudence of a utility's fuel costs largely by determining whether the utility contracted for fuel on reasonable terms based on what was known or should have been known by purchasers in the market at that time. These costs are passed through to utility customers with no markup for profit to the utility.

Generally, public utility investments in fuel production projects are not included in the rates of electric or natural gas public utilities. In 2021, the PSC approved a comprehensive Stipulation and Settlement Agreement to resolve a pending proceeding to set base rates for Florida Power & Light Company (FPL). Among other things, the settlement authorized FPL to implement a "Green Hydrogen"⁷ pilot project to evaluate how its combustion turbine units operate with a hydrogen fuel mix and learn how a hydrogen fuel production facility can be effectively used on-site with combustion turbine units. The project uses energy from a solar-powered facility to convert water into green hydrogen through electrolysis, which will then be burned as fuel in a nearby FPL natural-gas powered generator. The settlement allowed FPL to include in its base rates estimated costs of \$65 million for the project.⁸

Renewable Energy

Florida law provides that it is in the public interest to promote the development of renewable energy resources to help diversify fuel types for electric production, minimize the volatility of fuel costs, encourage investment within the state, improve environmental conditions, and make Florida a leader in new and innovative technologies.⁹ The law defines renewable energy as energy produced from a method that uses one or more of the following fuels or energy sources: hydrogen produced or resulting from sources other than fossil fuels, biomass, solar energy, geothermal energy, wind energy, ocean energy, and hydroelectric power.¹⁰

Hydrogen

Hydrogen can be produced using a process called electrolysis, which splits water into hydrogen and oxygen.¹¹ When renewable energy is used as the source of electricity to power an electrolyzer,¹² the resulting hydrogen can result in zero greenhouse gas emissions¹³ and is referred to as green hydrogen. Electrolyzers range in size, varying from small appliance-sized units to larger-scale central production facilities that can be tied directly to renewable forms of electricity production to power the unit.¹⁴ The

⁶ Ss. 366.041(1) and 366.06(1), F.S.

⁷ See *Hydrogen*, below.

⁸ *Order No. PSC -2021-0446-S-EI*, issued December 2, 2021, in PSC Docket No. 20210015.

⁹ S. 366.91, F.S.

¹⁰ S. 366.91(2)(e), F.S. The term also includes waste heat from sulfuric acid manufacturing operations and electrical energy produced using pipeline-quality synthetic gas produced from waste petroleum coke with carbon capture and sequestration.

¹¹ *Id.*

¹² The process of electrolysis uses an electrolyzer, which is a system that uses electricity to break water into hydrogen and oxygen. Cummins, Inc., *Electrolyzers 101: What They Are, How They Work, and Where They fit in a Green Economy*, <https://www.cummins.com/news/2020/11/16/electrolyzers-101-what-they-are-how-they-work-and-where-they-fit-green-economy> (last visited Mar. 18, 2023).

¹³ Office of Energy Efficiency & Renewable Energy, *Hydrogen Production: Electrolysis*, U.S. Department of Energy, <https://www.energy.gov/eere/fuelcells/hydrogen-production-electrolysis> (last visited Mar. 18, 2023).

¹⁴ *Id.*

production cost of green hydrogen must significantly decrease for it to be competitive with more mature carbon-based pathways of energy production.¹⁵

Some alternative methods of producing hydrogen, mainly grey hydrogen¹⁶ and blue hydrogen,¹⁷ use methane or coal to power the production process.¹⁸ Another alternative method of producing hydrogen, turquoise hydrogen, uses methane through the process of pyrolysis, which creates a reaction to generate hydrogen and solid carbon, which means that there are no carbon dioxide emissions associated with the reaction.^{19, 20} The vast majority of hydrogen is currently produced using fossil fuels, mostly natural gas. Overall, less than 0.7% of current hydrogen production utilizes renewable energy.²¹

As noted above, the PSC authorized FPL, as part of a comprehensive rate case settlement in 2021, to implement a green hydrogen pilot project. In 2022, the Legislature created a sales tax exemption for the purchase of certain machinery and equipment used in the production and handling of green hydrogen.²²

Renewable Natural Gas

Renewable natural gas (RNG) is the gaseous product of the decomposition of organic matter, processed into a pipeline-quality gas that is fully interchangeable with conventional natural gas. Primary sources of RNG include landfills, livestock operations, and wastewater treatment facilities.²³

In 2021, the Legislature added the term “renewable natural gas” to Florida law and defined it as “anaerobically generated biogas, landfill gas, or wastewater treatment gas refined to a methane content of 90 percent or greater which may be used as a transportation fuel or for electric generation or is of a quality capable of being injected into a natural gas pipeline.” The legislation authorized the PSC to approve cost recovery for the purchase of RNG by natural gas public utilities, even if pricing exceeds the current market price of natural gas, if the PSC deems the purchase to be reasonable and prudent.²⁴

In 2021, Peoples Gas Company announced an agreement with Alliance Dairies to build, own, and operate a facility on the dairy’s property in Trenton, Florida, to produce 105,000 MMBtu²⁵ of RNG.²⁶ In 2023, FPU Renewables LLC, a subsidiary of Florida Public Utilities Company, announced plans to construct, own, and operate an RNG facility at Full Circle Dairy in Madison County, Florida. The project will capture and clean methane from manure generated by cows, producing 100,000 average MMBtu of RNG annually.²⁷

Effect of the Bill

¹⁵ *Id.*

¹⁶ Grey hydrogen is traditionally produced from methane that is split with steam into carbon dioxide and hydrogen.

¹⁷ Blue hydrogen production follows the same process as grey hydrogen production, but also includes the technology necessary to capture the carbon dioxide produced when hydrogen is split from methane.

¹⁸ Despite the colorful names used for the different ways hydrogen is produced, the gas itself is invisible to the human eye. National Grid, *Energy Explained – Hydrogen Colour Spectrum*, <https://www.nationalgrid.com/stories/energy-explained/hydrogen-colour-spectrum> (last visited Mar. 19, 2023).

¹⁹ Rachel Meidl & Kenneth Medlock, *The Advanced Carbon Economy: A Sustainable Hydrogen Pathway*, Rice University’s Baker Institute for Public Policy, Jun. 22, 2021, p. 3, available at <https://www.bakerinstitute.org/media/files/files/ec39c09c/bi-brief-062221-ces-carbonecon-4.pdf> (last visited Mar. 18, 2023).

²⁰ When utilizing pyrolysis to produce turquoise hydrogen, the reaction does produce a solid carbon by-product that can be used in applications ranging from construction to farming. *Id.*

²¹ Florida Public Service Commission, Agency Analysis of HB 821, p. 2 (Mar. 14, 2023).

²² S. 23, ch. 2022-97, Laws of Fla., codified at s. 212.08(7)(ppp), F.S.

²³ Office of Energy Efficiency & Renewable Energy, *Alternative Fuels Data Center – Renewable Natural Gas Production*, U.S. Department of Energy, https://afdc.energy.gov/fuels/natural_gas_renewable.html (last visited Mar. 18, 2023).

²⁴ Ch. 2021-178, Laws of Fla., codified at s. 366.91(2)(f) and (9), F.S.

²⁵ A British thermal unit (Btu) is the amount of heat required to increase the temperature of a pound of water by one degree Fahrenheit at a specific temperature. MMBtu is the abbreviation for one million British thermal units. It is a common unit to measure heating content and the value of a fuel.

²⁶ Peoples Gas, Media Center, *Peoples Gas and Alliance Dairies Partnering to Bring Florida Renewable Natural Gas*, <https://www.peoplesgas.com/mediacenter/2021/Peoples-Gas-and-Alliance-Dairies-Partnering-to-Bring-Florida-Renewable-Natural-Gas/> (last visited Mar. 22, 2023).

²⁷ PRNewswire, *Chesapeake Utilities Corporation to Develop its First RNG Facility in Florida*, <https://www.prnewswire.com/news-releases/chesapeake-utilities-corporation-to-develop-its-first-rng-facility-in-florida-301751834.html> (last visited Mar. 22, 2023).

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The bill allows electric and natural gas public utilities, subject to PSC approval, to recover through rates the costs of RNG and hydrogen purchases and the costs of specified capital investments in RNG and hydrogen fuel infrastructure projects.

Purchases of RNG and Hydrogen Fuel

The bill provides that a public utility contract for the purchase of RNG or hydrogen fuel, with pricing above the current market value of natural gas, is eligible for cost recovery if the PSC finds that the contract provides net benefits to the public utility and its customers and is therefore in the public interest. In making this determination, the PSC may consider the contract's impact on:

- The overall diversity of the public utility's natural gas commodity supply or other fuel supply;
- The potential to reduce the impact of volatility in the natural gas commodity market upon the public utility and its customers;
- Any reliability benefits associated with the in-state production of these fuel supplies; and
- The public utility's cost of fuel.

RNG and Hydrogen Fuel Infrastructure Projects

The bill also authorizes a public utility to recover costs prudently incurred for an RNG or hydrogen fuel infrastructure project at a location in this state for use in providing utility service within this state, if the PSC determines that approval for cost recovery provides net benefits to the state and is therefore in the public interest. In reviewing a request for cost recovery, the PSC must consider:

- The estimated volume and reliability of renewable natural gas or hydrogen fuel that the project will produce for use by the public utility, and the comparative cost of the same volume of natural gas purchases;
- The estimated rate impact of the project over time, including estimated savings, if any, to the public utility and its customers;
- The service and reliability benefits to be derived from the project;
- The proposed mechanism for recovery of project costs;
- The impact of the project on fuel diversity in this state and fuel cost volatility; and
- Any other matter it deems relevant.

Under the bill, the PSC must determine the appropriate mechanism for recovery of approved infrastructure project costs, which may include an existing or new mechanism. Costs approved by the commission are not subject to disallowance or further prudence review except for fraud, perjury, or intentional withholding of material information by the public utility.

The bill provides that the following costs of RNG and hydrogen fuel infrastructure projects are eligible for recovery:

- Capital investment in projects necessary to prepare or produce RNG and hydrogen fuel for pipeline distribution and usage;
- Capital investment in facilities, including pipelines, necessary to inject and deliver RNG and hydrogen fuel throughout this state;
- RNG and hydrogen fuel storage facilities;
- Operation and maintenance expenses associated with any such RNG and hydrogen fuel infrastructure projects; and
- An appropriate return on investment consistent with the return allowed for other utility plants used to provide service to customers.

Under the bill, recovery of costs incurred by a public utility for an RNG or hydrogen fuel infrastructure project approved for cost recovery may not be allowed until the facility is placed in service. Upon approval of cost recovery, costs incurred before the facility is placed in service may be deferred on the public utility's books for recovery once the facility is in service, though this does not preclude application of any other appropriate regulatory accounting rules that are otherwise deemed appropriate, including, but not limited to, normal recovery of costs for construction work in progress.

The bill requires the PSC, beginning January 1, 2025, to annually submit a report to the Governor, the President of the Senate, and the Speaker of the House of Representatives indicating, for the 12-month reporting period and cumulatively:

- The investment made in RNG and hydrogen fuel infrastructure projects;
- The eligible costs incurred and the amount of such costs recovered;
- The volume of renewable natural gas or hydrogen fuel used to provide utility service; and
- An analysis of the price of RNG or hydrogen fuel used to provide utility service as compared to the market cost of gas, including actual rate impacts of such projects.

The bill specifies that its provisions related to cost recovery for RNG and hydrogen fuel infrastructure projects will be repealed on June 30, 2028, unless reviewed and saved from repeal by the Legislature. Public utilities may continue to recover the costs of projects approved before this date.

The bill authorizes the PSC to adopt implementing rules.

The bill provides an effective date of July 1, 2023.

B. SECTION DIRECTORY:

Section 1. Amends s. 366.91, F.S., relating to renewable energy.

Section 2. Provides an effective date.

II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT

A. FISCAL IMPACT ON STATE GOVERNMENT:

1. Revenues:

None.

2. Expenditures:

None.

B. FISCAL IMPACT ON LOCAL GOVERNMENTS:

1. Revenues:

None. See Fiscal Comments.

2. Expenditures:

None.

C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:

Public utilities that are permitted by the PSC to recover the costs of RNG or hydrogen fuel infrastructure projects will expand the base upon which they earn a return on investment. Owners of assets from which RNG may be produced will realize additional revenue streams.

To the extent that the cost to produce and transport renewable natural gas from an RNG infrastructure project is more expensive over a project's lifetime than the production and transport of natural gas from other sources would have been, customers of public utilities will pay higher rates than they would otherwise have paid. To the extent that the cost to produce and transport hydrogen fuel from a hydrogen fuel production infrastructure project is more expensive over a project's lifetime than the cost of fuel it replaces (e.g., natural gas), customers of public utilities will pay higher rates than they otherwise would have paid.

D. FISCAL COMMENTS:

If new RNG or hydrogen fuel infrastructure projects are subject to local property taxes, the bill may create additional revenues for the local government jurisdictions in which those facilities are located, if sited within Florida.

III. COMMENTS

A. CONSTITUTIONAL ISSUES:

1. Applicability of Municipality/County Mandates Provision:

Not Applicable. The bill does not appear to affect county or municipal governments.

2. Other:

None.

B. RULE-MAKING AUTHORITY:

The bill authorizes the PSC to adopt implementing rules.

C. DRAFTING ISSUES OR OTHER COMMENTS:

None.

IV. AMENDMENTS/COMMITTEE SUBSTITUTE CHANGES

On March 21, 2023, the Energy, Communications & Cybersecurity Subcommittee adopted an amendment to the bill and reported the bill favorably as a committee substitute. The amendment:

- Specified factors that the PSC may consider in determining whether a public utility contract for the purchase of renewable natural gas (RNG) or hydrogen fuel is in the public interest.
- Specified factors that the PSC must consider in determining whether a public utility's RNG or hydrogen fuel infrastructure project is in the public interest.
- Clarified that an eligible RNG or hydrogen fuel infrastructure project must be located in Florida for use in providing utility service in Florida.
- Specified that costs incurred by a public utility for an RNG or hydrogen fuel infrastructure project approved for cost recovery shall not be allowed until the facility is placed in service.
- Required an annual report from the PSC to provide information related to approved RNG and hydrogen fuel infrastructure projects.
- Provided for repeal of certain provisions on June 30, 2028, unless reviewed and saved by the Legislature, but allows for continued recovery of previously approved costs after the repeal date.

This analysis is drafted to the committee substitute as passed by the Energy, Communications & Cybersecurity Subcommittee.