

The Florida Senate
BILL ANALYSIS AND FISCAL IMPACT STATEMENT

(This document is based on the provisions contained in the legislation as of the latest date listed below.)

Prepared By: The Professional Staff of the Committee on Communications, Energy, and Public Utilities

BILL: CS/SM 1174

INTRODUCER: Environmental Preservation and Conservation Committee and Senator Gibson

SUBJECT: Power Plant Carbon Dioxide Emissions

DATE: March 27, 2014

REVISED: _____

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	<u>Gudeman</u>	<u>Uchino</u>	<u>EP</u>	Fav/CS
2.	<u>Wiehle</u>	<u>Caldwell</u>	<u>CU</u>	Favorable

Please see Section IX. for Additional Information:

PLEASE MAKE SELECTION

I. Summary:

CS/SM 1174 urges the United States Congress to allow Florida to develop its own performance standards for regulating carbon dioxide emissions from existing coal-fired power plants, which take into account the unique policies, energy needs, resource mix, and economic priorities of the state.

II. Present Situation:

Congress passed the Clean Air Act (CAA) in 1970, with major revisions in 1977 and 1990.¹ The CAA requires the U.S. Environmental Protection Agency (EPA) to establish national ambient air quality standards for certain common and widespread pollutants based on the latest science.² The EPA has set air quality standards for six common “criteria pollutants”: particulate matter, ozone, sulfur dioxide, nitrogen dioxide, carbon monoxide, and lead.³ For these common pollutants, the law requires the EPA to establish health-based national air quality standards to protect people and the states are responsible for developing enforceable state implementation plans to meet the standards.⁴

¹ U.S. Environmental Protection Agency, Clean Air Act Requirements and History, <http://www.epa.gov/air/caa/requirements.html> (last visited Mar. 27, 2014).

² *Id.*

³ *Id.*

⁴ *Id.*

The Florida Department of Environmental Protection (DEP) is responsible for implementing air pollution programs that are in compliance with federal requirements. The DEP adopted Rule 62-204, F.A.C., which incorporates the CAA air pollution requirements by reference and identifies Florida's state implementation plan.⁵

Carbon dioxide is naturally present in the atmosphere as part of the Earth's carbon cycle (the natural circulation of carbon among the atmosphere, oceans, soil, plants, and animals).⁶ Carbon dioxide is not a pollutant but is a greenhouse gas of concern in connection with climate change.⁷ The main human activity that emits carbon dioxide is the combustion of fossil fuels (coal, natural gas, and oil) for energy and transportation.⁸ The combustion of fossil fuels to generate electricity is the largest single source of carbon dioxide emissions in the nation, accounting for about 38 percent of total U.S. carbon dioxide emissions and 32 percent of total U.S. greenhouse gas emissions in 2011.⁹ The type of fossil fuel used to generate electricity will emit different amounts of carbon dioxide, but to produce a given amount of electricity, burning coal will produce more carbon dioxide than oil or natural gas.¹⁰

In May 2010, the National Research Council (NRC), the operating arm of the National Academy of Sciences, published an assessment which concluded that "climate change is occurring, is caused largely by human activities, and poses significant risks for - and in many cases is already affecting - a broad range of human and natural systems."¹¹ The NRC stated that this conclusion is based on findings that are consistent with several other major assessments of the state of scientific knowledge on climate change.¹²

Under the CAA, the EPA is taking the following "initial common sense steps" to limit greenhouse gas pollution from large sources:

- EPA and the National Highway and Traffic Safety Administration between 2010 and 2012 issued the first national greenhouse gas emission standards and fuel economy standards for cars and light trucks, and for medium- and heavy-duty trucks.
- EPA and states in 2011 began requiring preconstruction permits that limit greenhouse gas emissions from large new stationary sources – such as power plants, refineries, cement plants, and steel mills – when they are built or undergo major modification.¹³

On June 25, 2013, the President released a Presidential Memorandum that recognized that the EPA had already begun rulemaking for new power plants and directed the EPA to issue

⁵ See Rule 62-204, F.A.C., see also EPA, *Florida State Implementation Plan*, <http://www.epa.gov/region4/air/sips/fl/contents.htm> (last visited Mar. 27, 2014).

⁶ U.S. Environmental Protection Agency, Overview of Greenhouse Gases, <http://www.epa.gov/climatechange/ghgemissions/gases/co2.html> (last visited Mar. 27, 2014).

⁷ *Id.*

⁸ *Id.*

⁹ *Id.*

¹⁰ *Id.*

¹¹ U.S. Environmental Protection Agency, Air Pollution Challenges: Climate Change, (citing National Research Council (2010), *Advancing the Science of Climate Change*, National Academy Press, Washington, D.C., p. 3) <http://www.epa.gov/air/caa/challenges.html> (last visited Mar. 27, 2014).

¹² *Id.*, (citing National Research Council (2010), *Advancing the Science of Climate Change*, National Academy Press, Washington, D.C., p. 286).

¹³ *Id.*

standards, regulations, or guidelines that address carbon dioxide emissions from existing, modified, and reconstructed coal-fired power plants. The EPA must finalize the rule by June 1, 2015, and the states must submit a state implementation plan to the EPA no later than June 30, 2016.¹⁴

In September 2013, the EPA proposed carbon “pollution” standards for new power plants built in the future, and began the process of engagement with states, stakeholders, and the public to establish carbon “pollution” standards for existing power plants.¹⁵

III. Effect of Proposed Changes:

The memorial contains 15 whereas clauses, several of which make reference to coal or coal-fueled power plants. The issue, however, is broader than coal. As noted above, combustion of any fossil fuel produces carbon dioxide, coal simply produces more per unit of electricity generated than natural gas or oil. Additionally, municipal solid waste or waste-to-energy power plants also produce carbon dioxide.¹⁶ The EPA rules will impact almost every type of facility producing electricity in Florida that meets any threshold criteria.¹⁷

The memorial urges the United State Congress to direct the EPA to take certain steps in developing guidelines for regulating carbon dioxide emissions from existing fossil-fueled electric generating units. These steps include:

- allowing state regulators to develop performance standards which take into account the unique policies, energy needs, resource mix, and economic priorities of the state;
- allowing Florida to set less stringent performance standards or longer compliance schedules; and
- giving Florida maximum flexibility to implement standards.

A copy of the memorial must be delivered to the President of the United States, EPA administrator, President of the United States Senate, Speaker of the United States House of Representatives, and to each member of the Florida delegation to the United State Congress.

¹⁴ Memorandum to the Environmental Protection Agency from President Barak Obama, (June 25, 2013), *available at* <http://www.whitehouse.gov/the-press-office/2013/06/25/presidential-memorandum-power-sector-carbon-pollution-standards> (last visited Mar. 27, 2014).

¹⁵ U.S. Environmental Protection Agency, Air Pollution Challenges: Climate Change, <http://www.epa.gov/air/caa/challenges.html> (last visited Mar. 27, 2014).

¹⁶ US Environmental Protection Agency, Clean Energy, Air Emissions, <http://www.epa.gov/cleanenergy/energy-and-you/affect/air-emissions.html> (last visited March 28, 2014); *See*, also, Energy Recovery Council, Waste-to-Energy Reduces Greenhouse Gas Emissions, <http://energyrecoverycouncil.org/waste-energy-reduces-greenhouse-gas-emissions-a2966> (last visited March 28, 2014); Wheelabrator Technologies Inc., Climate, <http://www.wheelabratortechnologies.com/environment1/climate/> (last visited March 28, 2014).

¹⁷ Wind and geothermal produce negligible emissions in generating electricity because no fuels are combusted; however, Florida has very little of either, and no utility-scale wind turbines or what is commonly thought of as geothermal. Solar also produces negligible emissions, and Florida does have some solar, both utility owned and privately owned. Landfill gas used as a fuel to generate electricity, of which Florida has a small amount, does produce carbon dioxide, however, it is considered to be a part of the natural carbon cycle of the earth. Biomass, which Florida also has, also produces carbon dioxide emissions, which may not result in a net increase in carbon emissions if the biomass resources are managed sustainably, but it is not safe to assume biomass power plants are carbon neutral. US Environmental Protection Agency, Clean Energy, Air Emissions, <http://www.epa.gov/cleanenergy/energy-and-you/affect/air-emissions.html> (last visited March 28, 2014).

IV. Constitutional Issues:**A. Municipality/County Mandates Restrictions:**

None.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

V. Fiscal Impact Statement:**A. Tax/Fee Issues:**

None.

B. Private Sector Impact:

The EPA's rules will require Florida's electric utilities to incur costs of compliance which will be passed on to the ratepayers. Reliability of the fuel supply and electricity supply, and fuel prices and price stability may also be impacted.^{18, 19} Florida already has a large reliance on natural gas as a generation fuel. Currently more than 65 percent of the electricity in Florida is generated from natural gas, with 21 percent generated from coal and oil. Peninsular Florida can only import approximately 3,800 megawatts of electricity from other states.²⁰

Additionally, Florida has unique weather, customer base, and high reliance on electricity for cooling and heating. Florida has the highest number of cooling degree days of any state in the continental U.S. Florida's customers rely more heavily on electricity to meet their energy needs, rather than the direct use of natural gas or other fuels, for cooling and heating. Approximately 85 percent of Florida's residential customers' energy needs are met with electricity. Residential consumers make up almost 89 percent of Florida's

¹⁸ The Florida Public Service Commission has written that it "is concerned that under the provisions of the proposed [Carbon Pollution Standard for New Power Plants] rule, electric utilities will be precluded from constructing coal-fired generation to meet future needs because the standard can be met solely with costly and unproven carbon capture and sequestration (CCS) technology. CCS at this time is costly and has not been adequately demonstrated on the scale necessary for deployment by the electric generation utility industry." Florida Public Service Commission, COMMENTS OF THE FLORIDA PUBLIC SERVICE COMMISSION, in the US Environmental Protection Agency's Docket ID No. EPA-HQ-OAR-2013-0495, page 1, <http://www.psc.state.fl.us/dockets/federal/PDFs/EPA-HQ-OAR-2013-495.pdf> (last visited March 28, 2014).

¹⁹ The PSC has also written about its concerns that the EPA may treat any modified plant as a new plant under the proposed rule. "Requiring modified plants to meet the proposed standards for new sources would necessitate the requirement of CSS installations at existing coal, oil, and some natural gas-fired plants." These expenses may be in addition to expenses necessary for "modification to meet the requirements of other EPA rules, including the Cross-State Air Pollution rule, the Mercury and Air Toxics rule, the Cooling Water Intake Structures rule, and the Coal Residuals rule." *Id.*, page 4.

²⁰ *Id.*

electricity customers, including a large population of senior citizens on fixed incomes.²¹ Each of these factors magnifies the impact of any increase in the cost of electricity.

If the memorial is successful, Florida electric utility customers should have a more reliable supply of electricity at lower costs relating to regulation of carbon emissions from existing fossil-fueled power plants than if the emission standards were set by the EPA.

C. Government Sector Impact:

If the memorial is successful, the Florida Department of Environmental Protection will be required to set performance standards for carbon dioxide emissions from existing fossil-fueled power plants. The Florida Public Service Commission should participate in this process due to its responsibility for planning, development, and maintenance of a coordinated electric power grid throughout Florida to assure an adequate and reliable source of energy for operational and emergency purposes.

VI. Technical Deficiencies:

None.

VII. Related Issues:

None.

VIII. Statutes Affected:

None.

IX. Additional Information:

A. Committee Substitute – Statement of Changes:

(Summarizing differences between the Committee Substitute and the prior version of the bill.)

B. Amendments:

None.

This Senate Bill Analysis does not reflect the intent or official position of the bill's introducer or the Florida Senate.

²¹ *Id.*