

APPENDIX 10.8

**NEXTERA ENERGY, INC.'S AND FLORIDA POWER & LIGHT COMPANY'S
GREENHOUSE GAS STRATEGY**

PORT EVERGLADES NEXT GENERATION CLEAN ENERGY CENTER

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NextEra Energy, Inc. is a leading clean energy company with nearly 43,000 megawatts of generating capacity, and approximately 15,000 employees in 28 states and Canada. Headquartered in Juno Beach, Florida., NextEra Energy's principal subsidiaries are NextEra Energy Resources, LLC, which together with its affiliated entities is the largest generator in North America of renewable energy from the wind and sun, and Florida Power & Light Company (FPL), which serves approximately 4.5 million customer accounts in Florida and is one of the largest rate-regulated electric utilities in the country. NextEra Energy operates the third largest U.S. nuclear power generation fleet. FPL consistently outperforms national averages for service reliability while its typical customer bills are more than 20 percent below the national average. A clean energy leader, FPL has one of the lowest emissions profiles and one of the leading energy efficiency programs among utilities nationwide.

Part I highlights specific actions that FPL is taking now in Florida to address greenhouse gas (GHG) emissions and how modernizing Units 1 through 4 at the Port Everglades Plant to a next generation clean energy center will be incorporated into FPL's plan for reducing GHG emissions. In fact, the modernization of the Port Everglades Plant Units 1 through 4 to the Port Everglades Next Generation Clean Energy Center (PEEC) will contribute to an overall increase in efficiency of FPL's generation portfolio, thereby reducing the expected system-wide carbon dioxide (CO₂) emissions. Part II highlights the multiple alliances that NextEra Energy has joined to address GHG emissions and NextEra Energy Resources' leading role in generating electricity from renewable fuels.

PART I. FPL'S COMMITMENT TO REDUCING GREENHOUSE GAS EMISSIONS IN FLORIDA

FPL is committed to reducing GHG emissions. FPL's plan for addressing GHG emissions has been formulated by considerable experience, and includes the following elements:

- State-of-the-art, energy-efficient generation technologies to reduce fleet-wide greenhouse gas emissions and use less fuel,
- Existing nuclear generation that avoids GHG emissions,
- Power plant modifications, such as modernizing older FPL oil-fired steam generation plants with cleaner natural gas fired advanced combined-cycle technology,

- Additional generation at two existing nuclear plants (Turkey Point and St. Lucie Power Plants), which have an impressive record of both clean energy and safety and New nuclear generation development at the existing Turkey Point Power Plant site in south Miami-Dade County,
- Energy efficiency using cost-effective demand-side reductions in electric usage, particularly at peak times,
- Renewable energy, including significant investments in solar thermal and photovoltaic facilities.

FPL'S STATE-OF-THE-ART GENERATION FLEET

FPL operates one of the cleanest generating fleets in the nation. Over the past decade, FPL has voluntarily made significant reductions in power plant emissions. Today, FPL has one of the lowest CO₂ emission rates in the country. Of the 119 utilities in power control areas in the U.S., FPL ranks 98th lowest in CO₂ emissions with an average lb/MWh CO₂ emission rate 45 percent lower than the national average. FPL's rank is illustrated in Figure 10.8-1 that presents the CO₂ (equivalent) emission rates for all electric utilities generating more than 10 million MWh per year. As shown in this figure, FPL has one of the lowest CO₂ emission rates in the U.S. For emissions of sulfur dioxide (SO₂) and nitrogen oxides (NO_x), FPL ranked 77th and 87th lowest in average lb/MWh emissions and was 53 percent and 64 percent lower, respectively than the national utility average. PEEC will continue this reduction in air emissions.

FPL is also the nation's leader in modernizing older oil-burning power plants to highly efficient natural gas operations, which significantly increases the efficiency of the plants and reduces emissions. PEEC will further exemplify FPL's commitment to environmental sustainability.

FPL'S EXISTING NUCLEAR GENERATION HAS AVOIDED GREENHOUSE GAS EMISSIONS

FPL's generating fleet includes considerable nuclear generating capacity and nuclear additions are planned for the future. The operation of FPL's existing nuclear units has resulted in a significant amount of air emissions being avoided as compared to the same amount of electric generation being produced using fossil fuels.

To place these avoided CO₂ emissions in perspective, it is important to consider the magnitude of such emissions in Florida. FPL's nuclear units in 2010 avoided about 12 million tons of CO₂ an amount equivalent to about 5 percent of Florida's total CO₂ emissions. The avoided emissions from FPL's nuclear units are considerable by any measure.

Although FPL has one of the cleanest fossil fuel-fired fleets, FPL's nuclear units have further served to significantly decrease FPL's air emissions profile when all sources of generation are considered. FPL's nuclear units have, in effect, reduced emissions across FPL's system with an overall air emissions reduction of about 30 percent.

INCORPORATING THE PORT EVERGLADES ENERGY CENTER INTO FPL'S COMMITMENT TO REDUCING GHG EMISSIONS

Consistent with FPL's trend of leading the industry in clean energy investments for customers, this modernization would cut the current plant's CO₂ emissions rate in half and slash its air emissions rate by approximately 90 percent. Use of natural gas as the primary fuel, along with using the most efficient combined cycle technology, PEEC will result in one of the lowest CO₂ emission rates on a pound-per-megawatt-hour (lb/MW-hr) basis of any fossil fuel-fired power plant in the country. Moreover, PEEC will be among the most efficient natural gas-fired generating units in FPL's system. As a result, the electricity generated by PEEC will displace generation produced by less efficient units in FPL's system and concomitantly reduce the amount of CO₂ emissions.

The increased efficiency for CO₂ emission rate in lb/MW-hr before and after the modernization of Units 1 through 4 at the Port Everglades Plant to combined cycle technology is shown in Figure 10.8-2. As shown in this figure, the CO₂ emission rate for the existing FPL Port Everglades Plant is 1,738 lb/MW-hr, while the CO₂ emission rates for the new combined cycle units will be about 795 lb/MW-hr, or less than half as much.

The total impact of the modernization Project is a projected reduction in FPL's system emissions of CO₂ by 22 million tons from 2016 through 2047 as shown in Figure 10.8-3. These significant reductions in CO₂ emissions in FPL's system are a direct result of the modernization of the Port Everglades Plant Units 1 through 4.

Highly efficient generating facilities such as PEEC will assist FPL in achieving CO₂ reductions and maintaining electric generation reliability. In addition, FPL has constructed and is operating 110 MW of new zero emitting solar thermal and photovoltaic facilities in Florida. These new facilities, combined with base load electric generation from PEEC, will provide low-emitting and zero-emitting electric generation.

FPL'S PLANNED ADDITION OF NUCLEAR GENERATION WILL HELP REDUCE GREENHOUSE GAS EMISSIONS

FPL's generation plans include nuclear extended power uprates and two new nuclear units. FPL's nuclear uprate projects involve improvements at the existing Turkey Point Units 3 and 4 and St. Lucie Units 1 and 2 to add about 100 MW per unit or 400 MW total. Each of the two nuclear uprate projects will result in avoided CO₂ emissions of approximately 0.6 million tons per year.

The proposed new nuclear units, Turkey Point Units 6 & 7, would add about 1,100 MW per unit. These nuclear units combined will result in avoided CO₂ emissions of approximately 266 million tons over 40 years.

FPL CUSTOMER ENERGY CONSERVATION PROGRAMS

FPL operates one of the largest energy-efficiency programs in the United States. The U.S. Department of Energy ranks FPL No. 2 in the nation, out of more than 3,000 utilities, in cumulative demand reduction from demand side management (DSM). FPL has proven year after year that efficiency is the "first fuel," not the last. FPL believes in implementing cost-effective DSM programs that benefit all of its customers, and has the nation's leading track record to prove it. These industry-leading programs have allowed FPL to avoid building 13 medium-sized power plants since 1980, saving customers billions of dollars and avoiding millions of tons of GHG emissions.

With FPL facing continued customer growth and growth in usage among existing customers, cost-effective conservation and load management programs are integral to helping keep customer rates stable while providing reliable service. To the extent these measures help to reduce FPL's energy requirements, they help reduce overall CO₂ emissions.

Since the inception of its DSM programs through 2010, FPL has achieved 5,245 MW (at the generator) of summer peak demand reduction and an estimated cumulative energy savings of approximately 55,462 GWh (at the generator). This amount of peak demand reduction has eliminated the need for the equivalent of 13 new 400 MW generating units, after accounting for reserve margin requirements. FPL has achieved this level of demand reduction through DSM programs designed to reduce electric rates for all customers, DSM participants and non-participants alike. FPL's DSM programs in 2010 alone avoided approximately 2.4 million tons of CO₂ emissions.

FPL's forecasted resource needs takes into account all projected DSM from cost-effective programs approved by the FPSC. This assumes that 179 MW of capacity will be avoided as a result of DSM in 2011 and an additional 817 MW of capacity will be avoided by DSM in the period from 2012 through 2016. Thus, FPL and its customers will have avoided a total of 6,241 MW of generating capacity by 2016 as a result of DSM programs. Indeed, without any DSM additions FPL's total 2016 generation capacity need would be 1,101 MW, and the 817 MW avoided through DSM additions in this period are equivalent to almost 74 percent of that total capacity need.

FPL is also offering programs to spur clean energy investment and renewable research in our state. Rebates are available for installations of new photovoltaic systems (which convert sunlight directly into electricity) and solar water heating systems (which collect sunlight to heat water) in homes and businesses. The rebates are part of a five-year program authorized by the Florida Public Service Commission (PSC).

FPL provides optional load management programs that help reduce power usage by predictable and specific levels during times when energy demands are highest. These On Call[®] programs allow participating residential and business customers to receive a credit on their electric bills for allowing FPL to occasionally "interrupt" major appliances. More than 785,000 customers have enrolled in the On Call[®] program.

In July 2007, FPL began offering a new Online Business Energy Evaluation (OBEE) as a quick, easy-to-use, and free way to help business customers control electricity usage. The do-it-yourself interactive energy survey offers practical, energy-saving recommendations customized to each customer's business and building type.

FPL has also embarked upon an initiative to install advanced electronic meters that utilize Internet Protocol with radio frequency communication to provide remote meter communications on customer homes and small businesses. The new technology will allow FPL to remotely collect and analyze electricity-related data, help customers be able to better monitor and manage their energy usage, as well as provide opportunities to improve customer services and employee safety. The initiative may also allow FPL to improve its own operating effectiveness in systems planning, load management and increase the ability to identify and correct electric service issues once the system is fully activated. (See more at FPL's website at www.fpl.com/ami/qa.shtml)

FPL RENEWABLE ENERGY ACTIVITIES IN FLORIDA

In an effort to add new renewable energy resources, FPL is pursuing several initiatives in Florida. FPL is actively evaluating and pursuing renewable energy technologies that may be suitable for the State. FPL believes that greater use of conservation and cost-effective renewable resources is good for our customers and the environment. In addition, ongoing evaluation and implementation of emerging clean energy technologies is a necessary pursuit. The following renewable energy activities are underway in Florida:

- FPL is involved in activities to maintain and add renewable resources produced by generators that generate electricity from biomass and municipal waste. FPL currently has contracts to purchase firm capacity and energy from cogeneration and small power production facilities (qualifying facilities or “QFs”) totaling 595 MW. FPL projects that about 740 MW of firm generation capacity from renewable resources and QFs will be available to FPL in 2016.
- FPL is also fostering the expansion of renewable energy sources through development of its own renewable generation projects. FPL operates three commercial-scale solar generation facilities in Florida including two utility-scale solar photovoltaic plants and the first “hybrid” energy center that combines solar thermal technology with an existing combined-cycle generation unit. This 75 MW “hybrid” facility is the Martin Next Generation Solar Energy Center (MSEC) that consists of more than 190,000 mirrors on about 500 acres at the Martin Plant site and generates about 155,000 MW-hr of electricity annually from solar energy. FPL also operates a 10 MW solar photovoltaic facility in Cape Canaveral at the Kennedy Space Center, and a 25 MW solar-photovoltaic facility in DeSoto County.
- Through alliances with Florida universities, such as Florida Atlantic University, FPL is exploring technologies that produce electricity from ocean current, ocean thermal, and hydrogen commercial technologies.

In another commitment to reducing GHG emissions, FPL will replace select corporate passenger vehicles with hybrid-powered vehicles. FPL also has been at the forefront of a national industry program to develop a line of hybrid trucks capable of running in pure electric or conventional mode, or a combination of both, and has committed to an all-hybrid service fleet by 2020. FPL has been using a B20 biodiesel mix in increasing amounts since 2001. The use of biodiesel has reduced CO₂ emissions by 20 percent per truck.

PART II. NEXTERA ENERGY’S ADVOCATING GHG REDUCTION

Generating electricity can be done in a sustainable way that minimizes impacts and reduces GHG emissions. NextEra Energy Resources produces electricity using zero-carbon and low-carbon

emitting fuels – the wind, sun, water, uranium (nuclear energy) and natural gas – to fight climate change. In 2010, NextEra’s total wind energy installed capacity was about 8,300 megawatts. Every megawatt hour of electricity generated from a wind, solar or hydroelectric plant is a megawatt hour of electricity that does not contribute to climate change.

In 2003, NextEra Energy was the first electric energy company to join the Environmental Protection Agency’s “Climate Leaders” program. As a participant, NextEra Energy committed to achieving an 18 percent reduction in its CO₂ emissions rate – the main greenhouse gas blamed by scientists for warming the Earth – by 2008, compared to a 2001 baseline. NextEra Energy achieved and, in fact, surpassed that goal.

NextEra Energy is also a Pioneer Partner in the World Wildlife Fund’s “PowerSwitch[®]” program, which is designed to reduce greenhouse gas emissions through the use of cleaner fuels and more efficient electricity generation. NextEra Energy has committed to a 15 percent improvement in the efficiency of its power plants by 2020, from a 2002 baseline. FPL exceeded its improvement goal in 2009, 11 years ahead of target, avoiding 6.5 million tons of CO₂ emissions in 2009 and an estimated 14 million tons of CO₂ emissions annually in the target year 2020.

NEXTERA ENERGY’S PARTNERS IN ADDRESSING CLIMATE CHANGE

NextEra Energy has participated in multiple alliances to strengthen the call for action on a comprehensive approach to climate change, including the following:

The Carbon Disclosure Project – The Carbon Disclosure Project (CDP) is an independent not-for-profit organization that seeks information on the business risks and opportunities presented by climate change and greenhouse gas emissions data from the world’s largest companies. NextEra Energy voluntarily provided information to the CDP for disclosure on their website to facilitate the activities of policymakers, consultants, accountants and marketers. In 2010, NextEra Energy was named to the Carbon Disclosure Leadership Index for the third year in a row in recognition of the company’s transparency and voluntary reporting of its GHG emissions.

United States Climate Action Partnership (USCAP) – In January 2007, NextEra Energy joined a diverse group of United States-based businesses and leading environmental organizations calling upon the federal government to quickly enact mandatory economy-wide legislation to achieve significant reductions of greenhouse gas emissions. USCAP members believe any delay today in

action to control emissions increases the risk of unavoidable consequences that could require even steeper reductions in the future.

In January 2007, USCAP issued a landmark set of principles and recommendations to highlight the urgent need for a policy framework on climate change. The solutions-based report, titled “A Call for Action” (NextEra Energy, Inc., 2010), lays out a blueprint for a mandatory economy-wide, market-driven approach to climate protection.

Global Roundtable on Climate Change – NextEra Energy has also endorsed the Joint Statement of the Global Roundtable on Climate Change (GROCC). GROCC brings together more than 150 critical stakeholders from all regions of the world – including senior executives from the private sector and leaders of international governmental and non-governmental organizations – to discuss and explore areas of consensus regarding core scientific, technological, and economic issues critical to shaping sound public policies on climate change.

The statement lays out a proactive framework for global action to decrease climate change risks and impacts, while also meeting the need for energy, economic growth, and sustainable development around the world. It outlines cost-effective technologies that exist today and others that could be developed and implemented to improve energy efficiency and to help reduce emissions of CO₂ and other greenhouse gases in major sectors of the global economy.

Those endorsing the Joint Statement represent the fields of energy, government, air transport, manufacturing, banking, insurance, technology, religious organizations, and many others.

The Clinton Global Initiative (CGI) – CGI is a non-partisan organization that brings together a community of global leaders from various backgrounds to devise and implement innovative solutions to address some of the world’s most pressing challenges. The organization is reaching even more leaders in diverse regions, including future leaders from college campuses and global citizens through a community of projects evolving from CGI’s unique model that focuses on taking action. NextEra Energy’s Clean Energy 2007 Commitment at the Clinton Global Initiative in September 2007 included a commitment to build new solar generation facilities over the next 7 years, representing a total capital cost of approximately U.S. \$1.5 billion.

NextEra Energy was named to the Dow Jones Sustainability Index (DJSI) of the leading companies in North America for corporate sustainability in 2009, 2010 and 2011. The DJSI North America selects

the top 20 percent of companies in sustainability performance from the 600 largest companies in North America. According to Dow Jones, corporate sustainability leaders achieve long-term shareholder value by “gearing their strategies and management to harness the market’s potential for sustainability products and services while successfully reducing and avoiding sustainability costs and risks” (Earthera, LLC, 2010).

NEXTERA ENERGY RESOURCES – OUT IN FRONT ON RENEWABLE ENERGY

Long before clean energy became a popular choice in the United States, FPL’s sister company, NextEra Energy Resources had been leading the way in generating electricity from renewable fuels. Harnessing the power of the sun, wind and water to produce electricity is environmentally friendly – and NextEra Energy Resources is involved in this worthwhile endeavor. Renewable energy conserves fossil fuels, provides diversity to our nation’s traditional energy resources, and produces no air emissions. NextEra Energy Resources’ renewable and clean energy mix includes:

Solar – NextEra Energy Resources is the largest utility-scale generator of solar power in the country. NextEra Energy Resources co-owns and operates seven Solar Electric Generating Systems (SEGS) facilities in California’s Mojave Desert, collectively known as the world’s largest solar site with a generating capability of 310 megawatts. The SEGS plants use solar thermal technology and are capable of powering more than 230,000 homes during peak demand periods, particularly during hot summer afternoons.

In the coming years, NextEra Energy Resources plans to continue the expansion of its solar generation portfolio.

Wind – Wind is the fastest growing renewable energy resource in the world, and NextEra Energy Resources remains the largest owner and operator of U.S. wind generating facilities. NextEra Energy Resources has approximately 85 wind facilities in operation in 17 states and Canada capable of producing approximately 8,300 (net) megawatts of electricity. NextEra Energy Resources’ wind facilities have enabled our customers who have purchased the renewable attributes to reduce 2010 emissions that would have otherwise been released into the atmosphere from other sources of power generation, including:

- More than 18 million tons of CO₂,
- More than 43,000 tons of SO₂, and

- More than 24,600 tons of NO_x.

In the coming years, NextEra Energy Resources plans to continue the expansion of its wind generation portfolio.

Hydroelectric – NextEra Energy Resources is a leading producer of hydroelectric power in Maine with 81 generating units, totaling approximately 360 megawatts of renewable energy. The hydroelectric plants have been in operation for decades and were acquired by NextEra Energy Resources in 1999. The dams, which store water to make electricity, present unique challenges to the various species of native fish that must return to their native spawning ground. Demonstrating its commitment to environmental stewardship, NextEra Energy Resources is employing creative measures to help the fish navigate the dams, such as fish lifts, ladders, and pumps.

Natural Gas – NextEra Energy Resources has incorporated the cleanest burning fossil fuel into its portfolio with natural gas facilities. Combined-cycle technology that uses waste heat to drive an additional power generator for increased energy efficiency and lower emissions than conventional fossil-fueled units are often installed. This type of plant is about 30 percent more efficient than a traditional steam plant.

Nuclear Energy – NextEra Energy Resources also added clean nuclear energy into the fuel mix through the acquisition of Seabrook Station in New Hampshire, Duane Arnold Energy Center in Iowa, and Point Beach Nuclear Plant in Wisconsin. Nuclear power plants produce virtually no air emissions during operation, representing a responsible energy choice for the future as GHG emissions and climate change concerns intensify. All three NextEra Energy Resources nuclear power plants have excellent safety records and are focused on reliable operation.

CONCLUSION

NextEra Energy has taken a leadership role to address GHG emissions and climate change. The decision to step into the forefront of this issue goes hand-in-hand with NextEra Energy's longtime commitment to managing operations with sensitivity to the environment.

FPL's nationally recognized leadership in the implementation of cost-effective conservation and load management programs within its system has avoided the need to build the equivalent of 13 mid-sized power plants. FPL is also the nation's leader in modernizations, significantly increasing the

efficiency of many of its existing power plants while reducing emissions. The modernization of the existing Units 1 through 4 at the Port Everglades Power Plant to PEEC, along with the Cape Canaveral and Riviera Next Generation Clean Energy Centers, exemplifies FPL's commitment to efficient, clean energy, utilizing state-of-the-art technology. In addition, FPL's future generation plans include nuclear uprates and two new nuclear units. Additional nuclear energy will result in a significant amount of air emissions being avoided as compared to the same amount of electric generation being produced using fossil fuels.

On a lb/MW-hr basis, the CO₂ emission rate for PEEC will be among the lowest of any fossil fuel-fired units in the country. PEEC will also reduce FPL's system emissions of CO₂ by 22 million tons from 2016 through 2047. Highly efficient generating facilities such as the PEEC will greatly assist Florida and FPL in reducing CO₂ emissions and maintaining electric generation reliability.

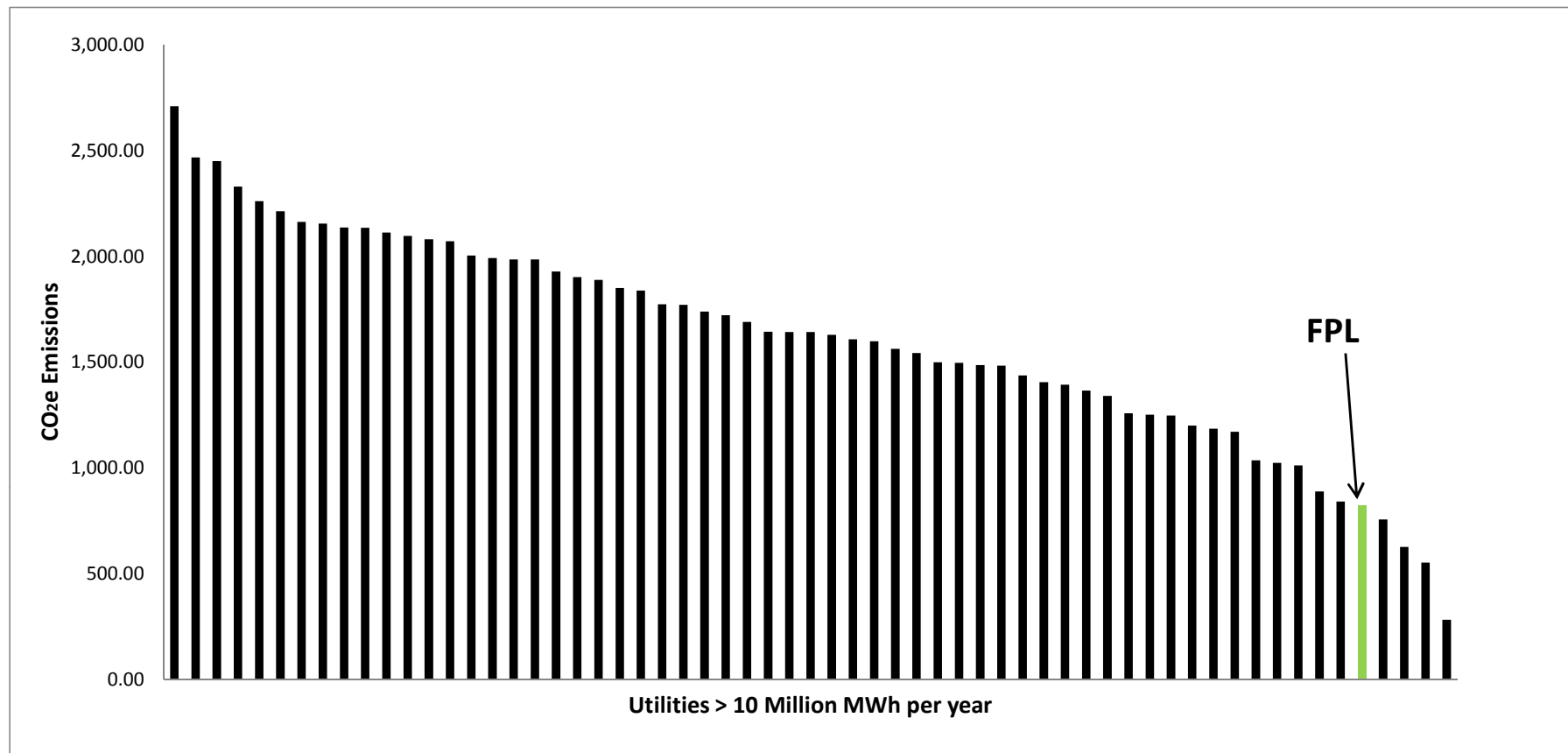
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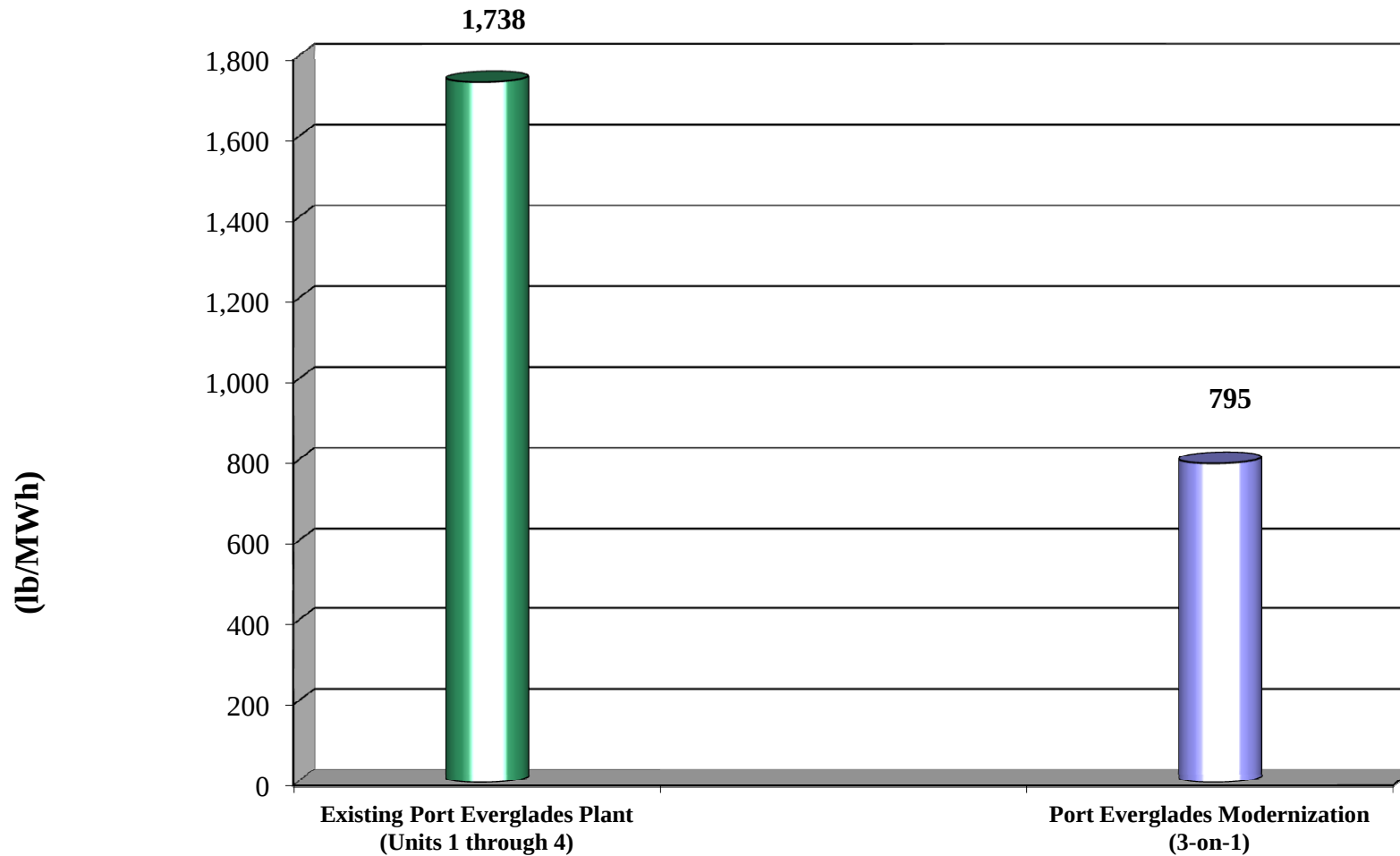
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FIGURES

Figure 10.8-1. GHG Emissions (CO₂e) for Utilities Generating more than 10 Million MWh per Year



Source: U.S. EPA. 2011. Emission Generation Resource Integrated Database (eGRID).
<http://www.epa.gov/cleanenergy/energy-resources/egrid/index.html>

Figure 10.8-2. CO₂ Air Emissions Rate (lb/MWh)

Notes: Existing Port Everglades based on 2007 eGrid Data from EPA (2010).
Modernization based on 90% capacity factor on natural gas and light oil;

Figure 10.8-3. Cumulative CO₂ Reductions in FPL's System with PEEC

