



# Energy

---

## TABLE OF CONTENTS

ENERGY TRENDS AND CONDITIONS .....	1
REGIONALLY SIGNIFICANT RESOURCES AND FACILITIES.....	16
OBJECTIVES AND POLICIES.....	18
ENERGY MEASURES.....	20

*This page intentionally left blank*

## ENERGY TRENDS AND CONDITIONS

### *INTRODUCTION AND OVERVIEW*

The Energy Element includes information about energy use, available energy sources and recommendations to help Northeast Florida become more energy independent. Energy independence is vitally important for national security and economic stability because of our reliance on fuel imported from other nations and sources of energy that have become increasingly scarce and costly to obtain. Ways to achieve energy independence include: conserving energy; using energy efficiently; utilizing renewable and alternative energy sources; and utilizing local resources.

The Northeast Florida Regional Council (NEFRC) and the North Central Florida Regional Planning Council partnered on Energy Workshops in August 2012. These forums were used to determine the energy-related issues of importance to Northeast Florida.

The workshops were designed in consultation with a group of energy stakeholders from the Regions. The stakeholder group included representatives of:

- energy providers: oil, natural gas, solar, biofuel and utilities
- universities with programs or research related to energy
- transportation planners and providers
- builders, contractors and consultants with interest or expertise in energy systems and efficiency
- local government representatives

The stakeholder groups provided input into the issues to be discussed at the summit or workshop and the format to be used. In the case of Northeast and North Central Florida, the stakeholders recommended a two workshop format instead of a single summit, and one was held in each Region.

The stakeholder groups were invited to all summits, and stakeholders frequently participated as presenters and experts in their areas of expertise.

The workshops addressed the following issues:

- Overview of the current state of energy in Florida and the Region.
- Overview of the 2012 Florida Energy Summit.
- Vulnerabilities of the Region to energy related changes. Price increase and supply disruption were always discussed, and specific vulnerabilities such as port or road closures were addressed case by case.
- Discussion of strategies appropriate to the Regions in the following areas:

- power alternatives and resiliency
  - motor fuel alternatives and resiliency
  - energy conservation and efficiency
  - investments
- Given the range of strategies, recommended priority approaches for the Region.

This chapter—especially the strategic issues, objectives, and policies and measures—is based on the input of the stakeholders who attended the North Florida Energy Policy workshops.

---

### ***ENERGY IN THE STATE OF FLORIDA***

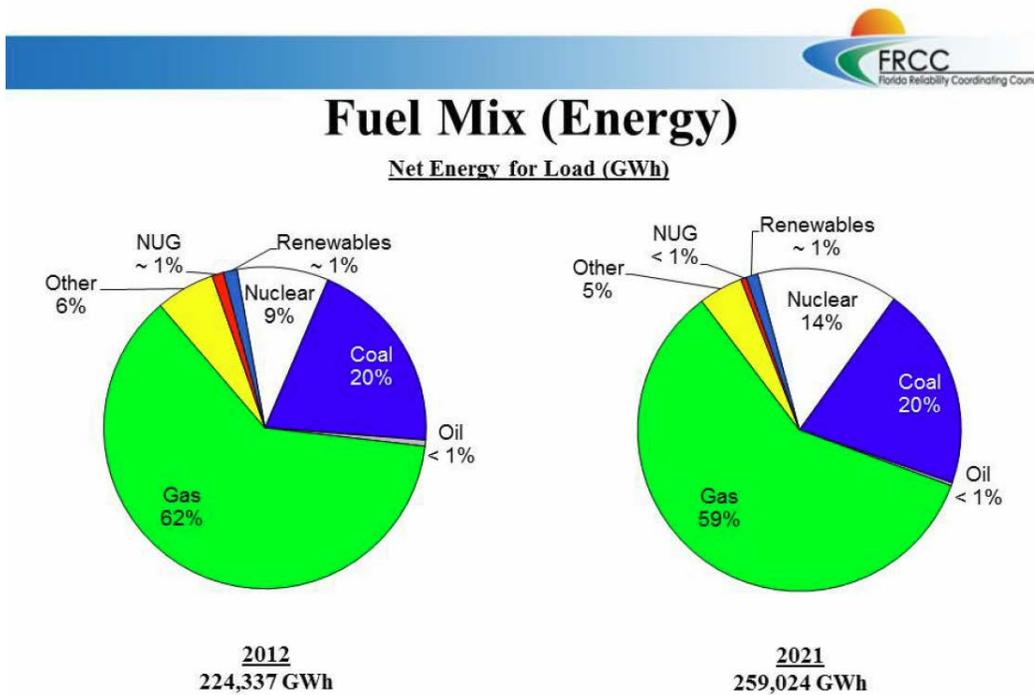
The State of Florida has its concerns and responsibilities toward energy, which stems from the following facts:

- a. Florida’s energy usage is in part for transportation and electric power generation
- b. The State depends on petroleum, ranking third after California and Texas
- c. The State’s dependency on electricity ranks third in all states
- d. Florida is one of the nation’s largest net fossil fuel consumers

Energy resources and infrastructure are critical to Northeast Florida’s ability to expand, diversify, and compete economically. This energy document is divided into two sections. The first discussion is power or electric generation and the second discussion is on transportation energy.

As shown in the chart in Figure 1, the main source of electric energy in Florida is currently natural gas. Natural gas will continue to be the main source of energy in the future. Florida is expected to increase its dependency on natural gas, nuclear energy, coal, and oil by 2020. The use of “other” sources of fuel is forecasted to decrease by one (1%) percent from 2012 to 2021.

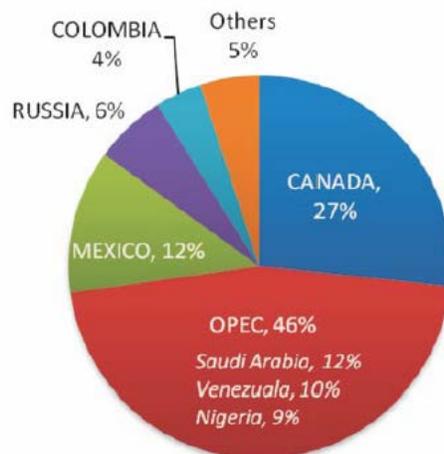
**Figure 1 – Fuel Mix in Florida**



Source: Florida Reliability Coordinating Council

The United States imports a large amount of the oil it consumes. The US imports forty-six percent (46%) of its oil from OPEC and twenty-seven percent (27%) from Canada.

**Figure 2 – Sources of US Oil Imports**



Source: EIA, September

2011

### ***STRATEGIC ISSUE: POWER ALTERNATIVES AND RESILIENCY***

Currently the Region does not have data sets or statistical information to formulate a relationship between greenhouse gas reductions, alternative fuel sources, and land use decisions.

The following discussion is divided into three areas: provider, consumption, and forecast for each energy source. The energy sources included in the following discussion are electricity, natural gas, and gasoline. These may be considered traditional energy sources. Later discussion pertains to other sources including nuclear power and renewable energy.

There are nine providers of electricity within Northeast Florida. They are:

- Jacksonville Electric Authority (JEA)
- Florida Power & Light (FPL)
- Clay Electric Cooperative
- Beaches Energy Services
- Seminole Electric
- Progress Energy Florida, Inc.
- Florida Public Utilities
- Green Cove Springs Electric Utility
- Okefenokee Rural Electric Membership Corporation (REMC)

#### ***Investor-Owned Electric Utilities***

The chart below depicts the number of customers served by Florida Power & Light Company, Progress Energy Florida, and Florida Public Utilities Corporation. These are the three investor-owned utilities that operate in the Northeast Florida Region. The numbers included in the table account for customers in the entire service area of the utility corporation, not just in Northeast Florida. Investor-owned utilities are those that generate power and sell. Municipals and cooperatives are non-generating companies that purchase power.

***Figure 3 – Investor-Owned Utility Customers***

UTILITY	RESIDENTIAL	COMMERCIAL	INDUSTRIAL	TOTAL
Florida Power & Light Co.	4,004,367	503,484	8,912	4,516,763
Progress Energy Florida	1,451,466	161,674	2,481	1,615,621
Florida Public Utilities Co.	23,589	4,332	2	27,923

*Source: Facts and Figures of the Florida Utility Industry, Florida Public Service Commission, April 2012.*

**Florida Power and Light (FPL)** is an investor-owned electric utility company that services portions of Northeast Florida. FPL is the largest electric utility in Florida and serves

approximately 4.5 million customers in Florida. Florida Power and Light operates a steam generation plant in Putnam and St. Johns Counties.

**Progress Energy Florida** serves the southwestern portion of Flagler County. Progress Energy merged with Duke Energy in July 2012. The new Duke Energy is the largest regulated utility in the U.S., with approximately seven million customers across six states.

**The Florida Public Utilities Corporation** covers the eastern half of Nassau County.

### ***Power Generating Plants***

#### **Coal**

##### **Seminole Electric**

Seminole Member Cooperative includes Clay Electric Cooperative. The Seminole Generation Station (SGS) Units 1 and 2 are 650 MW coal-fired units located five miles north of Palatka in Putnam County. SGS Unit 3 is a 750 MW coal-fired electrical generating unit located near Units 1 and 2.

##### **Jacksonville Electric Authority (JEA)**

JEA is the eighth largest municipally-owned electric utility in the United States in terms of number of customers. JEA's electric service area covers all of Duval County and portions of Clay and St. Johns Counties. JEA's service area covers approximately 900 square miles and serves more than 420,000 electric customers.

JEA owns and operates an electric system that includes five generating plants, and all transmission and distribution facilities, including 729 miles of transmission lines and 6,547 miles of distribution lines.

JEA operates five coal-fired power plants in the Northeast Florida Region. All five are located in Duval County. The five power plants are Kennedy Generation Station, Northside Generating Station, Brandy Branch Generation Station, Southside Generation Station, and the St. Johns River Power Park.

#### **Municipal and Cooperatives**

The **Beaches Energy Services** has a non-generating power plant at Jacksonville Beach and the Green Cove Springs Electric Utility has a non-generating power plant in Green Cove Springs.

**Clay Electric Cooperative** and **Okefenoke Rural Electric Membership Corporation** are two rural electric cooperatives in the Region. The Clay Electric Cooperative covers most of

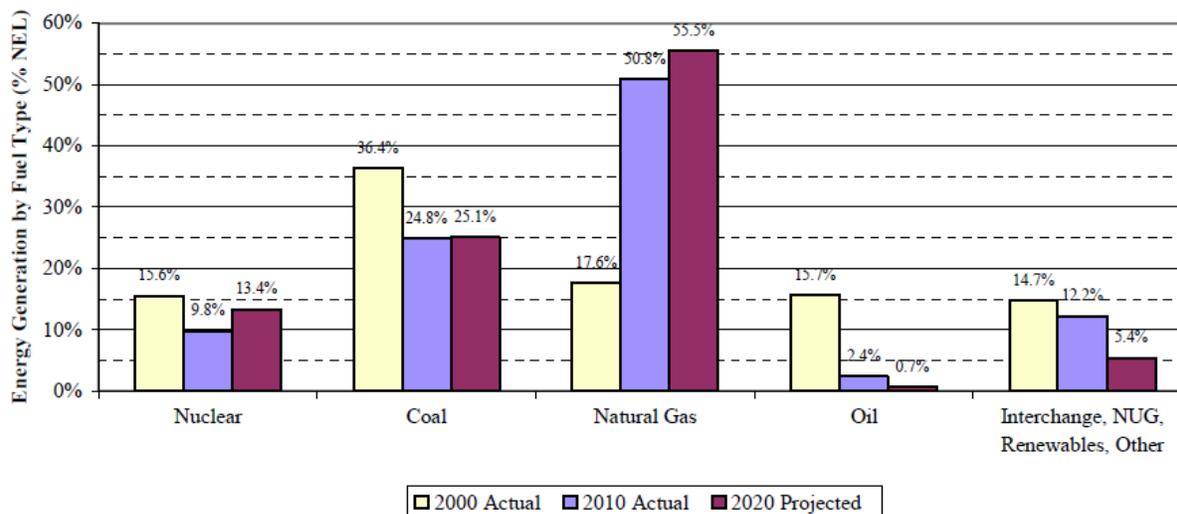
Clay and Putnam Counties, the southern half of Baker County, and a southwestern portion of Duval County. The Okefenoke REMC covers the western half of Nassau County and the northern half of Baker County.

### Natural Gas

Northeast Florida Utilities get a portion of their power from natural gas. Northeast Florida is dependent on two natural gas distribution systems, the Florida Gas Transmission Pipeline, which traverses Clay, Duval, and Nassau Counties, and the Southern Natural Gas Pipeline, which traverses Baker and Nassau Counties. A municipal and a gas district are located in Putnam County. The Peoples Gas System is an investor-owned company in Nassau, Duval, and Clay Counties. Much of the natural gas supplied to this Region come from the Gulf Coast states. The natural gas pipelines in this Region are energy resources of Regional significance.

U.S. natural gas production was up ten percent (10%) from January 2011 to January 2012. The production of natural gas in 2011 was at its highest level in 25 years.<sup>1</sup> In 2000, natural gas was eighteen percent (18%) of energy generation in Florida. That number increased to fifty-one percent (51%) in 2010 and is projected to be fifty-six percent (56%) by 2020.<sup>2</sup> Based on this increase in demand, natural gas continues to be an important energy resource in Florida.

**Figure 4 – State of Florida: Energy Generation by Fuel Type (Percent of Total)**



Source: FRCC's 2001 and 2011 Load & Resource Plans

<sup>1</sup> US Energy Information Administration, 2011

<sup>2</sup> Florida Reliability Coordinating Council, 2011

The economic impact of an increase in natural gas prices is shown in Figure 4. This table assumes natural gas triples in price. This increase would cause the economy in Northeast Florida to lose about 30,000 jobs by 2017, a loss of about 3%.

**Figure 5 – Impact of Natural Gas Price Increase**

SCENARIO: NATIONWIDE TRIPLING OF NATURAL GAS PRICES (TO EARLY 2000s PRICES)					
REGION: NORTHEAST FL RC	TODAY (2012)	LOSS OVER 5 YEARS (2017)	DIFFERENCE OVER 5 YEARS	LOSS OVER 20 YEARS (2031)	DIFFERENCE OVER 20 YEARS
Total Employment	866,085	-30,882	-3.16%	-194,152	-18.07%
Gross Domestic Product (billions of 2005 dollars)	\$69.0	-\$2.870	-3.54%	-\$30.526	-30.76%
Real Disposable Personal Income (billions of 2005 dollars)	\$54.9	-\$6.426	-9.93%	-\$44.634	-30.76%
Population	1,588,643	-45,401	-2.66%	-493,022	-25.83%

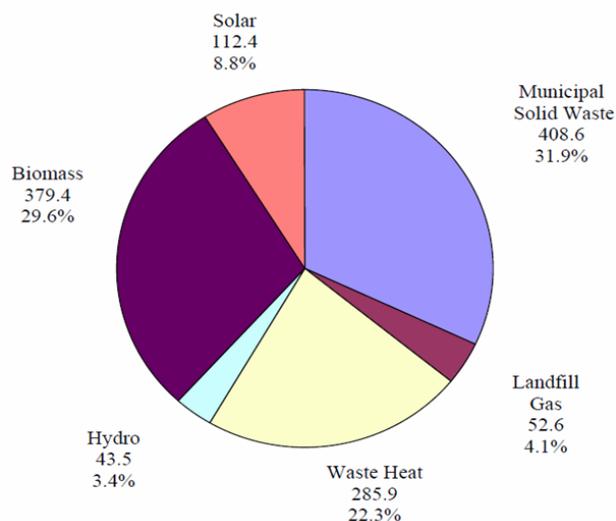
Source: REMI PI+, Regional Planning Councils, Florida 2012.

With the current economic downturn and volatile energy prices, the Region’s vulnerability to price increases has both an economic and security impact. The diversification of alternative fuel sources and efficient technologies will provide more stability and support a growing Regional economy.

**Other Sources**

This section provides an overview of solar, wind, biomass, biofuel, and other renewable energy sources available to utilities in Northeast Florida. While there are other providers/distributors of energy to the Region, JEA and Seminole Electric are the only producers of electricity in this Region. Therefore, when applicable, the following section focuses on these two utility generators and their programs related to alternative sources. Seminole Electric does not have any alternative fuel sources in this Region.

**Figure 6 – Renewable Energy Sources in Florida**



Source: EIA, State Energy Data System

## Solar

Solar photovoltaic (SV) may be high in price initially and require large installations but there are no fuel costs and the carbon emissions are generally non-existent. A utility must consider the costs and benefits. JEA is the only electric utility provider in this Region that has a solar program. JEA purchased a power agreement with Jacksonville Solar, LLC to provide energy from a 15.0 MW DC-rated solar farm. The facility is located in western Duval County, and consists of 200,000 photovoltaic panels on 100 acres and generates approximately 22,340 MW of electricity per year. JEA has installed 36 solar Photo Voltaic (PV) systems, totaling 220 kW, on all of the public high schools in Duval County. JEA has one of the largest solar PV systems in the Southeast at the Jacksonville International Airport. In addition, JEA has provided incentives for over 400 solar domestic hot water systems.

## Landfill

This energy source is predominantly methane collected from landfills. JEA owns three internal combustion engine generators that are fueled by the methane gas produced by the landfill. JEA also receives landfill gas from the Northside landfill, which is fed to the Northside Generating Station and is used to generate power at Northside Unit 3.

## Wind

JEA purchases 10MW of wind capacity from Nebraska Public Power District (NPPD) and in turn the NPPD buys back the energy at specified on/off peak charges. JEA and other utilities receive federal environmental credits associated with green projects.

## Biomass

Biomass is material collected from wood processing, forestry, urban wood waste, agricultural waste, and other plant and biological sources. JEA continues to conduct research and evaluate the feasibility of this energy source.

## Nuclear

In March 2008, JEA approved the policy of pursuing nuclear energy partnerships with the goal of providing ten (10%) percent of JEA's power from nuclear sources. In June 2008, JEA entered into a purchase power agreement with the Municipal Electric Authority of Georgia (MEAG) for a portion of MEAG's entitlement to the Vogtle Units 3 and 4, new nuclear units proposed to be constructed at the existing Plant Vogtle located in Burke County, Georgia. JEA is actively exploring the possibility of participation in new nuclear power generation

projects that may be constructed at the latter end of this ten-year site plan or in the subsequent ten-year period.

Based on the trends for electric energy sources for Northeast Florida it can be stated that Northeast Florida is not diverse in fuel sources and has a disproportionate dependency on coal to generate the Region's electricity. The Region is in its early stages of alternative fuel source development.

---

## ***STRATEGIC ISSUE: MOTOR FUEL ALTERNATIVES AND RESILIENCY***

### ***Introduction and Overview***

Affordable transportation of people and goods is vital to the nation's economic health. When the price of oil rises, the United States suffers as costs for transportation, food, and other goods increase. Because 95% of the country's transportation is powered by oil, few options are available when prices jump, causing the nation's welfare to be dependent upon the whims of the global oil market. Supply disruptions, or even the threat of disruption in the Middle East or elsewhere can cause price shifts that cost consumers and industries billions of dollars.

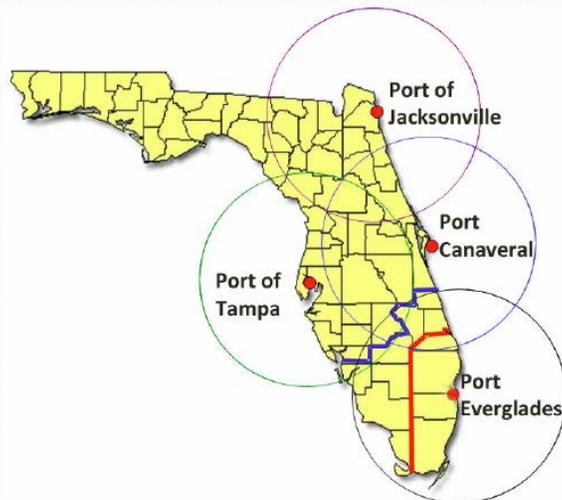
The North Florida Clean Cities Coalition is working to bring more viable alternative fuels and energy-efficient vehicles to this Region. This non-profit organization serves business, government, and non-profit agencies in Baker, Clay, Duval, Nassau, Putnam, and St. Johns Counties. The Coalition advocates using alternative fuels and advanced vehicle technologies to achieve a triad of missions: reduce dependence on imported petroleum, develop Regional economic opportunities, and improve air quality.

### **Petroleum**

Oil provides nearly forty (40%) percent of total U.S. energy demand and the transportation sector used seventy (70%) percent of all oil consumed in the U.S. In 2010, the U.S. imported 49% of the petroleum it used. The U.S. Government Accountability Office reports that oil production will likely peak by 2040.

*Figure 7 – Florida’s Major Petroleum Ports*

## Florida’s Major Petroleum Ports



FLORIDA SEAPORTS  
CHARTING OUR FUTURE

Source: Florida’s Seaports

### Gasoline

Gasoline sales in the Northeast Florida Region were about 707.9 million gallons in 2008 and 726.5 million gallons in 2010. Looking at data at the County level, all Counties increased gasoline consumption except Duval and Putnam Counties. The largest increases in consumption came from Nassau and St. Johns Counties, with an increase in both of approximately 11% from 2008 to 2010.<sup>3</sup>

In metropolitan Jacksonville, the average pump price for a gallon of regular grade gasoline in 2010 was \$2.660. In 2011, the average price was \$3.602.<sup>4</sup>

Northeast Florida and the State depend on the Port of Jacksonville (JaxPort) for the import of gasoline and other fuels. The following tables summarize the volume of commodities imported and the ranking of import customers using the JaxPort.

<sup>3</sup> Florida Statistical Abstract 2011, Table 15.67

<sup>4</sup> Florida Statistical Abstract 2011, Table 15.66

**Figure 8 – Import Commodities**

Top 15 Import Commodities By Tonnage		
All Cargo Types	M/Tons	% Total
1 COAL & COKE	3,363,440	34%
2 GASOLINE & AVIATION FUEL	1,413,039	14%
3 PETROLEUM/CRUDE & FUEL OIL	1,344,254	14%
4 LIMESTONE CHIPS	905,177	9%
5 AUTOMOBILES	325,248	3%
6 PAPER & PAPERBOARD INC WASTE	322,698	3%
7 WOOD PULP	252,852	3%
8 STONES & PEBBLES	241,681	2%
9 LIMESTONE	95,377	1%
10 COFFEE	74,742	1%
11 KEROSENE, NAPHTHA	68,522	1%
12 GENERAL CARGO, MISC	66,477	1%
13 PHOSPHORIC, SULFURIC ACIDS	57,018	1%
14 STEEL WIRE RODS	56,546	1%
15 SOD CMP, CYANIDE-HYDROXIDE	56208.6	1%
Other	1,232,883	12%
<b>Grand Total</b>	<b>9,876,163</b>	<b>100%</b>

Source: JPA (JaxPort) Fiscal Year 2010, [www.jaxport.com](http://www.jaxport.com)

**Figure 9 – Import Customers**

Top 15 Import Customers By Tonnage		
All Cargo Types	M/Tons	% Total
1 JEA SJRPP	3,345,914	34%
2 ORDER	711,540	7%
3 AMERADA HESS PIPELINE CORPORATION	545,194	6%
4 MARTIN MARIETTA MATERIALS INC	540,547	5%
5 VULCAN CONSTRUCTION MATERIALS LP	455,729	5%
6 COLONIAL OIL INDUSTRIES INC	443,585	4%
7 HESS CORP	427,859	4%
8 VITOL SA	308,419	3%
9 UPM-KYMMENE CORP	295,711	3%
10 MARTIN MARIETT MATERIALS	170,492	3%
11 AMERADA HESS	151,224	2%
12 FORTIS CAPITAL CORP	146,101	2%
13 MARTIN MARIETTA MAGNESIA SPECALITIE	95,359	1%
14 BP PRODUCTS NORTH AMERICA	71888.89	1%
15 CHEVERON TEXACO PRODUCTS CO	53377.88	1%
Other	2,113,222	21%
<b>Grand Total</b>	<b>9,876,163</b>	<b>103%</b>

Source: Compiled from PIERS/Journal of Commerce, Fiscal Year 2010

The economic impacts of an increase in the price of gasoline are provided in Figure 8. If the price of gasoline were to double by 2020, the economy would suffer and there would be an estimated loss of about 11,000 jobs in Northeast Florida, which would be about one (1%)

percent of the 2020 workforce. Gross Regional Product and personal income would also decrease by about one (1%) percent.

**Figure 10 – Economic Impacts of Increasing Gasoline Prices**

NORTHEAST	TODAY	2020	LOSS IN 2020	DECREASE IN 2020
Employment	828,649	1.05 million	-11,000	1%
GRP	71 billion	123 billion	993 million	0.8%
Personal Income	60 billion	110 billion	1.1 billion	0.9%

Source: REMI PI+, NEFRC 2012.

## Biofuels

Biofuels are projected to become a larger portion of the nation's fuel supply in the coming years. In 2010 just over 4% of the nation's fuel supply came from biofuels. The Energy Information Administration forecasts that that number will increase to at least 12% within 25 years.

Biofuels can be produced from plants, algae, agricultural waste, food waste, municipal solid waste, and other sources. Ethanol and biodiesel are the two most common types of biofuel produced in the U.S.

In this Region, St. Johns County has a biodiesel fuel program. Residents can bring used cooking grease to five collection points to be recycled into biodiesel fuel.

At the Federal level, the policy is to look into ethanol. However, this Region does not produce any ethanol as a fuel source.

## Natural Gas

Natural gas is an attractive transportation fuel because it burns cleaner than other fossil fuels. Natural gas vehicles produce up to thirty (30%) percent less greenhouse gas emissions than comparable gas or diesel vehicles.

Natural gas use in vehicles nearly doubled between 2003 and 2009 and according to the American Public Transit Association, about eighteen (18%) percent of transit buses run on natural gas. More than 100,000 natural gas vehicles (NGVs) are operating on U.S. roads, but they account for less than 1 percent of NGVs worldwide.

Domestic natural gas production is predicted to grow in the coming decades, reducing the need for natural gas imports. Shale gas is expected to be the largest source of natural gas in

the future, accounting for nearly fifty (50%) percent of total U.S. natural gas production in 2035, compared to 16 percent in 2009.

Depending on vehicle size and type, natural gas vehicles can provide better fuel efficiency, lower operating costs, and reduced emissions compared to conventional fuels. They emit fewer harmful greenhouse gas pollutants. The following are considered greenhouse gas particulates/air pollutants.

- Carbon dioxide (CO<sub>2</sub>)
- Methane (CH<sub>4</sub>)
- Nitrous Oxide (N<sub>2</sub>O)
- Fluorinated gasses

Policymakers have encouraged natural gas vehicle development with tax incentives, rebate programs, and fleet requirements. AT&T has made efforts to incorporate alternative fuel vehicles into their fleet. Approximately six (6%) percent of their alternative fuel vehicles are located in Florida. Four of these are located in Northeast Florida.

The per gallon price of natural gas is typically half that of traditional fuels. In 2011, the compressed natural gas cost was approximately \$1.80 less than gasoline per gallon on average.

## Electric Vehicles

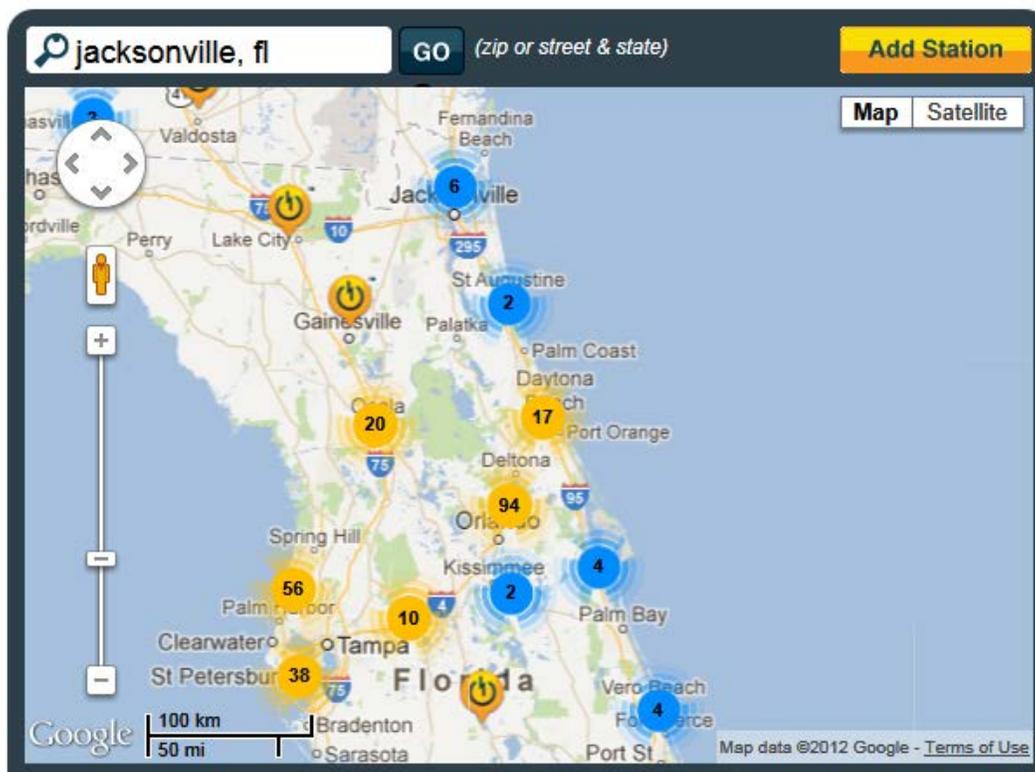
Electric vehicles (EVs) are becoming more popular nationally due to incentives, advanced motor and battery technologies, higher gasoline prices, and environmental concerns. Electricity prices fluctuate far less than oil prices, so increased reliance on electricity for transportation could help make transportation costs more predictable and reduce the negative economic effects of oil price fluctuations.

Electric vehicles themselves have zero emissions, although generating the electricity to power the vehicle may produce emissions. Depending on where the EV is charged, its power will come from a varying mix of coal, natural gas, nuclear and renewable energy. The dominant source of electrical generation in Northeast Florida is dependent on coal.

Electric or hybrid vehicles are charged with charging units that can be installed at home, the workplace, or in public areas. There are very few charging stations in this Region, so operating a purely electric vehicle for long trips requires drivers to plan by estimating mileage and identifying charging station locations. For EVs to appeal to a wider range of consumers, a broader charging infrastructure in workplaces, malls, and other public places will be necessary.

In this Region, there are eight public charging stations. This is very few in comparison to other areas in Florida. The majority of charging stations in the Region are at Chevrolet and Nissan dealerships. The drivers of these vehicles qualify to participate in the project and may receive residential charges at no cost. Figure 11 depicts the number of public charging stations in various locations in north and central Florida.

*Figure 11 - Number of Public Charging Stations*



Source: [www.carstations.com](http://www.carstations.com)

### ***STRATEGIC ISSUE: ENERGY CONSERVATION AND EFFICIENCY: NEW AND EXISTING HOMES AND BUSINESSES***

Many homes in this Region do not have insulation that meets current building codes and many existing housing codes do not address energy efficiency. Landlords have no incentives to upgrade existing homes to provide minimum insulation and energy efficient standards to low income renters (or any income renters).

HERS (Home Energy Rating Systems) provide a standardized evaluation of a home's energy efficiency and expected energy costs. HERS ratings provide a relative energy use index called the HERS Index – a HERS Index of 100 represents the energy use of the “American

Standard Building” and an Index of 0 (zero) indicates that the proposed building uses no net purchased energy (a Zero Energy Building).

For a 1,600 square foot home with an R-30 value, the average annual energy cost is about \$1,475. An older home of the same size with an R-13 value (assumed to be an un-insulated older home) has an average annual energy cost of \$1,690. Based on this example the HERS score will vary and is a possible gauge for the cost savings to a homebuyer.

Under Executive Order 05-241 on Energy Efficiency and Conservation (Leadership by Example), all new construction and renovation of State buildings must follow the guidelines of LEED or other green building rating systems, including Green Globes and the Florida Green Building Coalition standards. The bill requires the same of the following public entities in the State of Florida entering building design after July 1, 2008: Counties, municipalities, school districts, water management districts, state universities, community colleges, and Florida state courts.

A Property Assessed Clean Energy (PACE) program allows local governments to finance renewable energy and storm resistance improvements for homeowners and businesses. Adding the storm resistance retrofits for Florida homes is a plus. Property owners can finance renewable onsite generation installations and energy efficiency improvements through a voluntary assessment on their property tax bills.

NEFRC has adopted a policy for all Developments of Regional Impact to include the Florida Water Star Program and Energy Star appliances, or other water and energy saving programs. The Region continues to assist the St. Johns River Water Management District and JEA in the distribution of literature for public education. The literature may include xeriscaping techniques and home energy audits.

---

### ***STRATEGIC ISSUE: INVESTMENTS: ELECTRIC GRID, POWER PLANT SITING, 3<sup>RD</sup> PARTY, FINANCE, INCENTIVES***

The Region is challenged by the levels at which energy policy and investment decisions are made. There are approaches that may be implemented locally and Regionally, and these are the areas where Northeast Florida will focus. The willingness of stakeholders to convene and develop strategies that will work in the near term is evident from the 2012 Energy Policy workshops, along with an openness to a diversity of energy sources.

## REGIONALLY SIGNIFICANT RESOURCES AND FACILITIES

The Energy Resources of Regional Significance map shows the natural gas pipelines, the major electric transmission lines as defined by 403.522 F.S., and the power generation plants in the Northeast Florida Region. There are two pipelines, the Southern Natural Gas and the Florida Gas Transmission pipeline. There are six power plants, five JEA plants, all in Duval County and one Seminole Electric Plant in Putnam County.

Pipelines, distribution facilities, power generation sites, and major transmission lines are of Regional significance. The map is just an illustration and may not include all such resources or facilities.

Figure 12 – Energy Resources and Facilities of Regional Significance



## OBJECTIVES AND POLICIES

(Pillar: Infrastructure and Growth Leadership, SCP: 187.201(11)F.S.)

---

***OBJECTIVE: A REGION THAT CAPITALIZES ON ITS REGIONAL STRENGTHS, WHERE ENERGY IS RELIABLE, AVAILABLE, AND ABUNDANT***

***OBJECTIVE: A FOCUS ON WHAT WORKS FOR NORTHEAST FLORIDA TODAY, WITH STRATEGIES THAT ARE FREQUENTLY RE-EXAMINED TO ADDRESS CHANGE***

### ***Policies***

**Policy 1:** NEFRC will serve as a clearinghouse with Regional partners to identify energy incentives, opportunities, and barriers that are relevant to Northeast Florida.

**Policy 2:** NEFRC and Regional partners will evaluate state policies and local ordinances for their ability to help the Region achieve its energy goals and objectives and for use as best practices when appropriate.

**Policy 3:** Form a Regional task force structure to develop 5-10 year strategies and solutions and to assess their success in implementation.

**Policy 4:** The Region encourages development through universities, entrepreneurs, and a network of Regional expertise.

**Policy 5:** Regional summits shall be conducted to identify strengths and share findings.

**Policy 6:** NEFRC shall consider the objectives and policies of the SRPP in its utility ten-year site plan and electric substation reviews.

**Policy 7:** Engage the public in the energy planning process.

---

***OBJECTIVE: REDUCED DEPENDENCY ON FOREIGN OIL******OBJECTIVE: PRIORITIZED AND INCENTIVIZED ENERGY INVESTMENTS******OBJECTIVE: A REGION THAT USES A DIVERSITY OF ENERGY SOURCES, INCLUDING RENEWABLES******Policies***

**Policy 8:** Expand the natural gas infrastructure.

**Policy 9:** The Region supports use of natural gas for transportation.

**Policy 10:** The Region supports the identification of resources that are sustainable and economically efficient.

**Policy 11:** NEFRC uses its clearinghouse function to gather building stock data for analysis.

**Policy 12:** The Region encourages the use of the Home Energy Rating System (HERS) to address the HVAC and insulation characteristics of residential structures. Local governments are supported in requiring HERS disclosure upon sale or resale, to educate the public on the implications of HERS, to incentivize or require use of HERS, and to subsidize HERS rating and retrofit to improve systems for low-income residents.

**Policy 13:** The Region encourages the education and ongoing engagement of key stakeholders in energy issues.

**Policy 14:** NEFRC supports the use of the Energy Star program and appliances that are energy efficient or other water and energy saving programs.

---

***OBJECTIVE: CONSISTENCY WITH THE STRATEGIC REGIONAL POLICY PLAN***

**Policy 15:** NEFRC considers impacts to resources of regional significance and extra jurisdictional impacts as it reviews consistency with the SRPP. Local governments and proposers of projects should include best available data gathered using professionally acceptable methodology in support of their proposals, sufficient to determine impacts. Where mitigation is proposed, using strategies outlined in local government policies or plans, the SRPP or a combination is encouraged.

**Pillar: Infrastructure and Growth Leadership, SCP: 187.201(15)(a)**

## ENERGY MEASURES

Air pollutants (to be replaced by greenhouse gas emissions when this data is available)

**Figure 13 - 2005 Air Pollution**

AIR POLLUTANT	REGIONAL TOTAL
Particulate Matter 24-hour	335 $\mu\text{g}/\text{m}^3$
Sulfur Oxides 24-hour	.07 ppm
Carbon Monoxide	2 ppm
Nitrogen Dioxide	.013 ppm
Ozone (8-hour)	.144 ppm

Source: [www.city-data.com](http://www.city-data.com)

Air pollutants are not monitored on a yearly basis. The last year monitored was 2005 and some Counties were excluded. These are air pollutant monitoring sites, which cover a larger area than the County. While monitoring sites are only in Duval, Nassau, and Putnam Counties the coverage area extends beyond the County.

**Figure 14 - Electricity Sales to Customers**

UTILITY PROVIDER	MEGAWATTS
Green Cove Springs (Clay)	118,068
Jacksonville Beach (Duval, St. Johns)	758,554
JEA (Clay, Duval, St. Johns)	13,103,903
Clay Electric (Baker, Clay, Duval, Flagler, Putnam)	3,327,933
Okefenokee (Baker, Nassau)	142,692
*Florida Power and Light	104,790,401
*Florida Public Utilities	745,949
*Progress Energy	38,925,066
Total (power generation plants located in NE FL)	17,451,150
Total	161,912,566

Source: BEBR 2011, Table 15.14

**\*Includes customers outside of Northeast Florida**

**Figure 15 – 2010 Northeast Florida Power Generation Site Fuel Sources**

**JEA**

Nuclear	12.20%
Coal	40.40%
Natural Gas	21.60%
Renewables (Includes Girvin Landfill Solar)	00.60%
Petroleum Coke	26.00%
Steam	00.10%

Source: 2011 JEA Annual Report, JEA Ten Year Site Plan 2011, Seminole Ten Year Site Plan

**SEMINOLE ELECTRIC**

Unit 1 & 2 Putnam County	100% Bituminous Coal and Petroleum Coke
-----------------------------	---

Source: 2011 JEA Annual Report, JEA Ten Year Site Plan 2011, Seminole Ten Year Site Plan

*This page intentionally left blank*