JEA Action Items for 6-7-18 JEA Special Committee Meeting

Tab 8
Revenue projections associated with previously provided sales projection charts requested by CM Anderson.

Tab 4
Revised rate comparison chart requested by the Council Auditor.

Tab 2
Follow-up information regarding SJRPP costs to operate vs. power purchase agreement as a result of public comment.

Tab 12
Additional solar installation information requested by CM Becton.

Tab 6
Technology services project list requested by CM Anderson.

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- Council President Brosche referenced an email received by all council members this week from the JEA stating that absent any future board action, no further action would be taken on potential privatization of JEA. Ms. Brosche asked whether that implied that the JEA would not be providing information or otherwise cooperating with the Special Committee or other on-going studies of the JEA. Nancy Kilgo of the JEA said that she will convey that question to the board but understands that the JEA will continue to be cooperative with the ongoing studies.

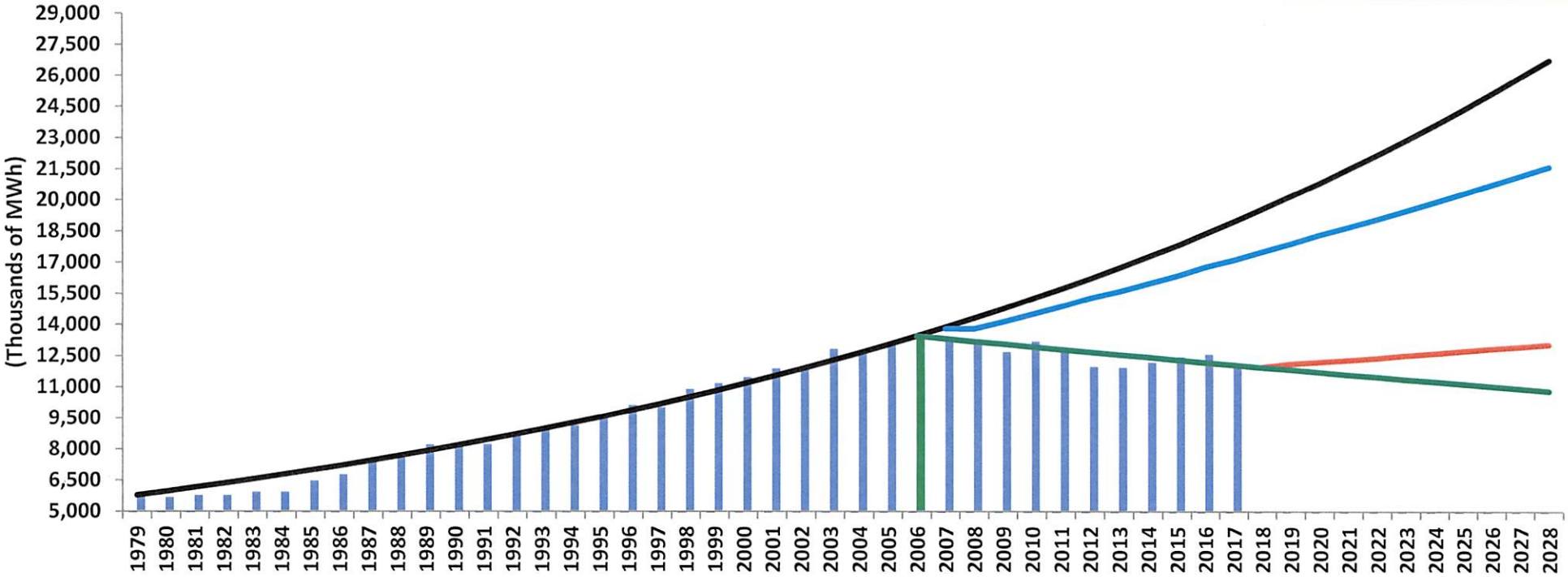
- Council Member Dennis requested information from the JEA on how the JEA board established the compensation for Aaron Zahn and Melissa Dykes, the Interim CEO and COO.

Tab 8

Revenue Projections associated with previously provided sales projection charts requested by CM Anderson.

JEA Electric Sales

Revised to show 10 year projection – May 2018

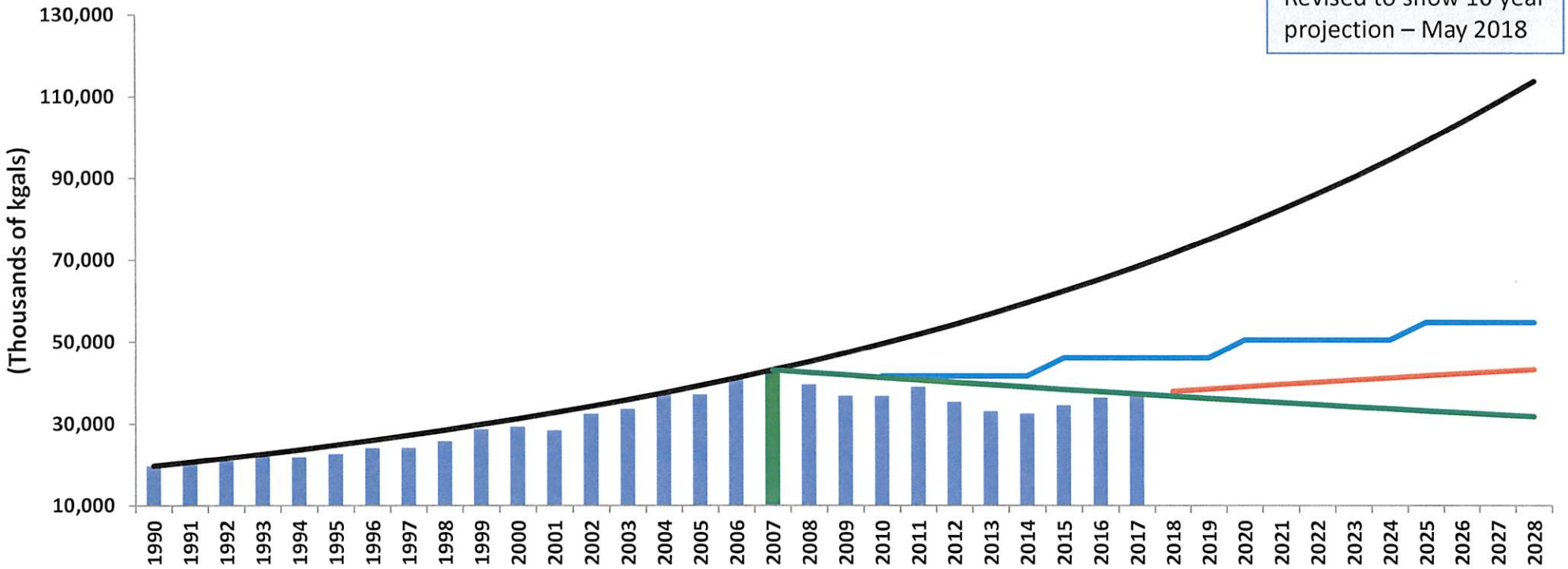


- Projection based on Annual Growth Rate 1979-2006
- 2006 Sales Projection (IRP-Based)
- 2017 Sales Projection (TSP-Based)
- Projection Based on Annual Growth Rate 2006-2017

IRP = Integrated Resource Plan
TSP = Ten Year Site Plan

JEA Water Sales

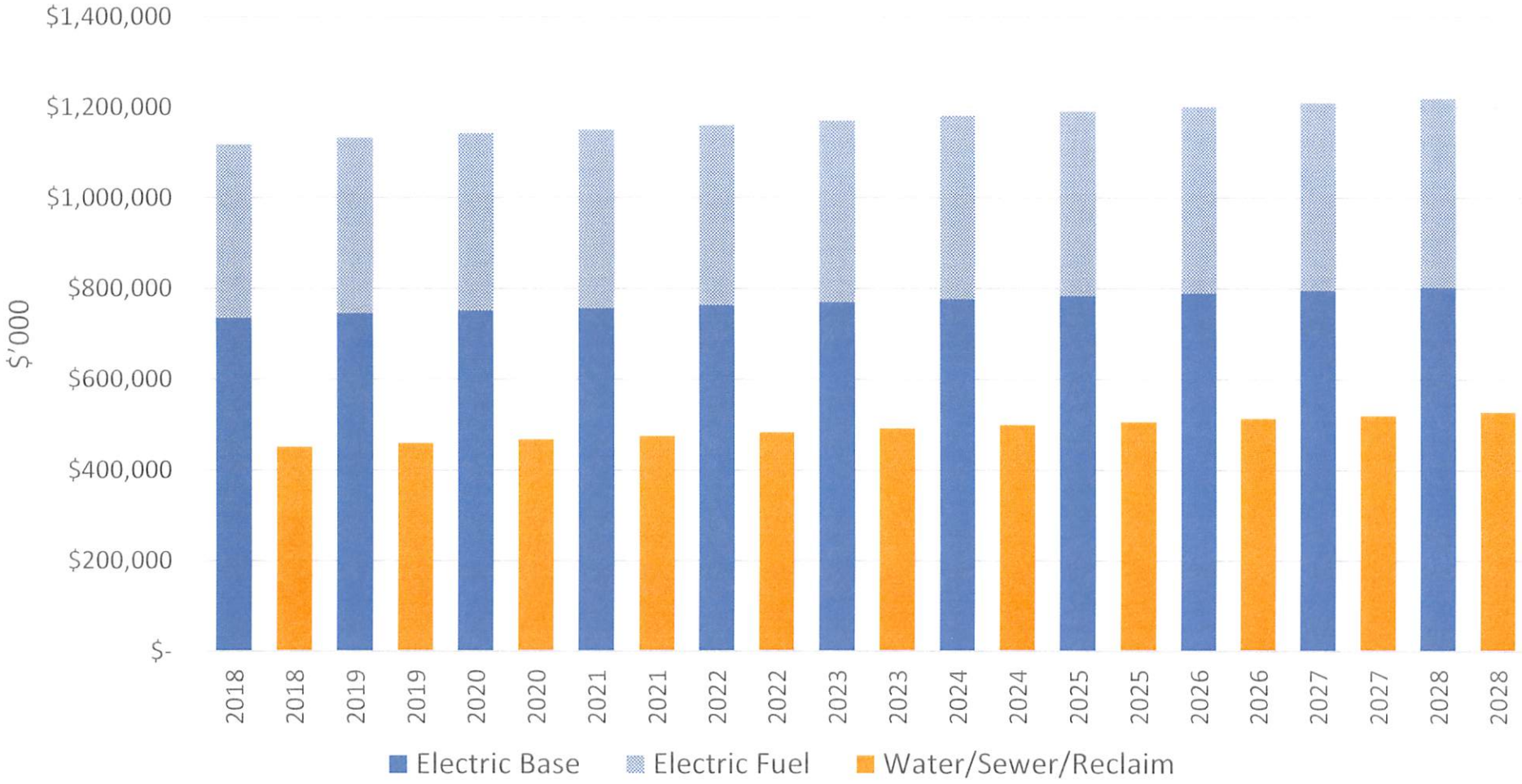
Revised to show 10 year projection – May 2018



- Projection based on Annual Growth Rate 1990-2007
- 2008 Sales Projection based on Water Resource Master Plan
- 2017 Sales Projection based on Water Resource Master Plan
- Projection based on Annual Growth Rate 2007-2017

Revenues

Projected Revenues Based On 2017 Sales Projections

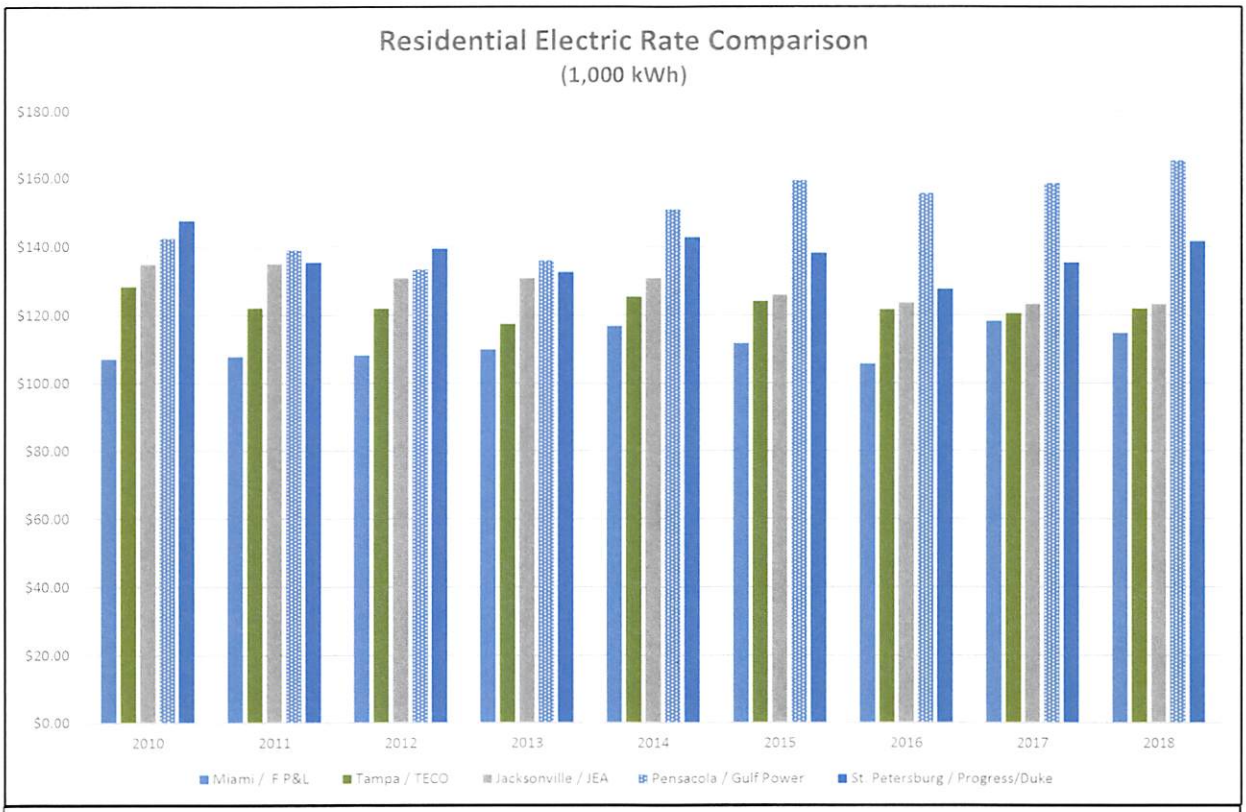


Tab 4

Revised rate comparison chart requested by the Council Auditor.

Revised Residential Electric Rate Comparison to reflect 1,000 kWh across all years

	2010	2011	2012	2013	2014	2015	2016	2017	2018	'10 - '18 Variance
Miami / F P&L	$107.31	$107.89	$108.25	$110.01	$116.85	$111.70	$105.72	$118.34	$114.77	7%
Tampa / TECO	$128.50	$122.11	$122.01	$117.43	$125.41	$124.13	$121.68	$120.60	$121.98	-5%
Jacksonville / JEA	$134.91	$135.01	$130.90	$130.90	$130.90	$125.91	$123.63	$123.34	$123.34	-9%
Pensacola / Gulf Power	$142.56	$139.08	$133.44	$135.95	$150.93	$159.30	$155.65	$158.56	$165.37	16%
St. Petersburg / Progress/Duke	$147.53	$135.39	$139.49	$132.62	$142.74	$138.16	$127.71	$135.38	$141.65	-4%



* **FPL** rates include: energy, fuel, base charge, conservation, environmental, capacity, storm charges, gross receipts tax, public service tax, and franchise fee.

***TECO** rates include: energy, fuel, base charge, conservation, environmental, capacity, gross receipts tax, public service tax, and franchise fee. *No storm charges.*

***Gulf Power** rates include: energy, fuel, base charge, conservation, environmental, capacity, gross receipts tax, public service tax, and franchise fee. *No storm charges.*

***Duke Energy** rates include: energy, fuel, base charge, conservation, environmental, capacity, gross receipts tax, public service tax, and franchise fee. *No storm charges.*

***JEA** rates include: energy, fuel, base charge, conservation, environmental, gross receipts tax, public service tax, and franchise fee. *No storm or capacity charges.*

(August data except 2018)

Tab 2

Follow-up information regarding SJRPP costs to operate vs. Power Purchase Agreement as a result of public comment.

SJRPP Comparison - Updated 6/7/18

SJRPP	FY16	FY17
Base Cost	$ 44,198,946	$ 38,649,918
Fuel cost	78,688,492	101,511,597
Total Cost	$ 122,887,437	$ 140,161,515
Energy (MWH)	2,150,016	2,559,076
$Total/MWH	**$57.16**	**$54.77**

Wansley	FY18	FY19
Base Cost	$ 7,249,500	$ 9,666,000
Fuel cost	27,990,131	34,417,000
Total Cost	$ 35,239,631	$ 44,083,000
Energy (MWH)	1,223,987	1,546,300
$Total/MWH	**$28.79**	**$28.51**

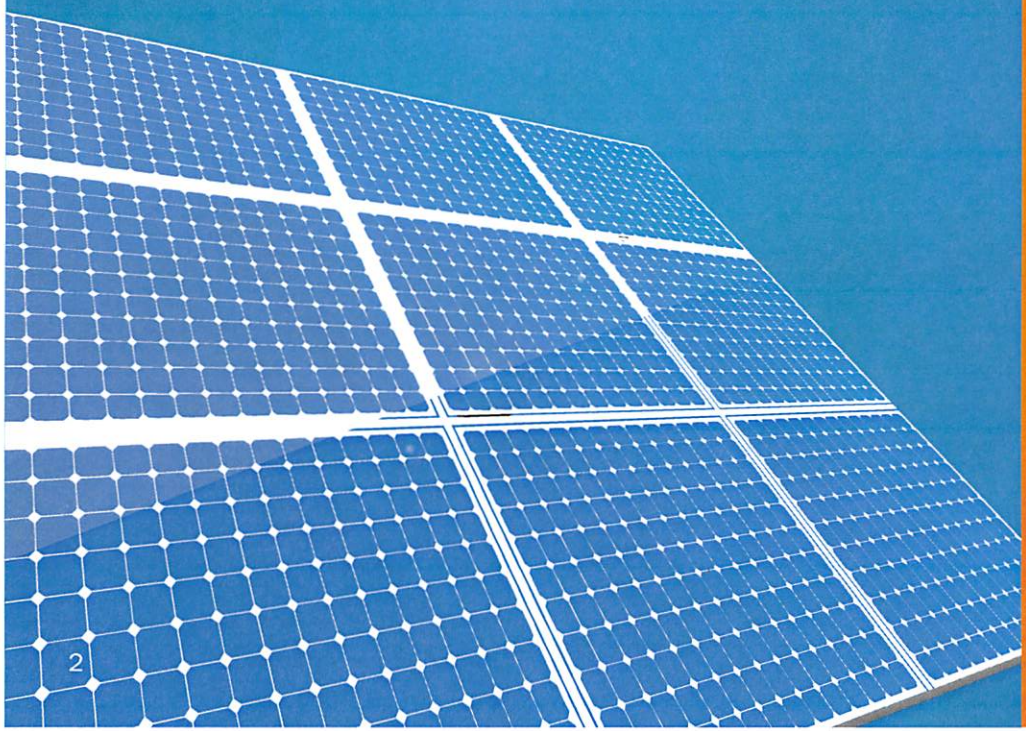
Tab 12

Additional solar installation information requested by CM Becton.

Consumer's Guide to Solar Power

JEA
Building Community®

JEA Consumer's Guide to Solar Power



What is Solar Energy?

Technological advances have made solar power an increasingly popular option for generating electricity. Using solar-powered photovoltaic (PV) panels, we can use photons of light from the sun's rays to release and capture electrons, producing electricity to power everything from wristwatches to homes, businesses and, on a larger scale, power plants that serve entire communities.

Benefits of Solar Power

Generating power from the sun is one of the cleanest and greenest ways to produce electricity. Using solar power helps reduce the level of emissions released into the environment and results in cleaner air and water for everyone. It also reduces our dependence on fossil fuels such as coal, oil and natural gas.

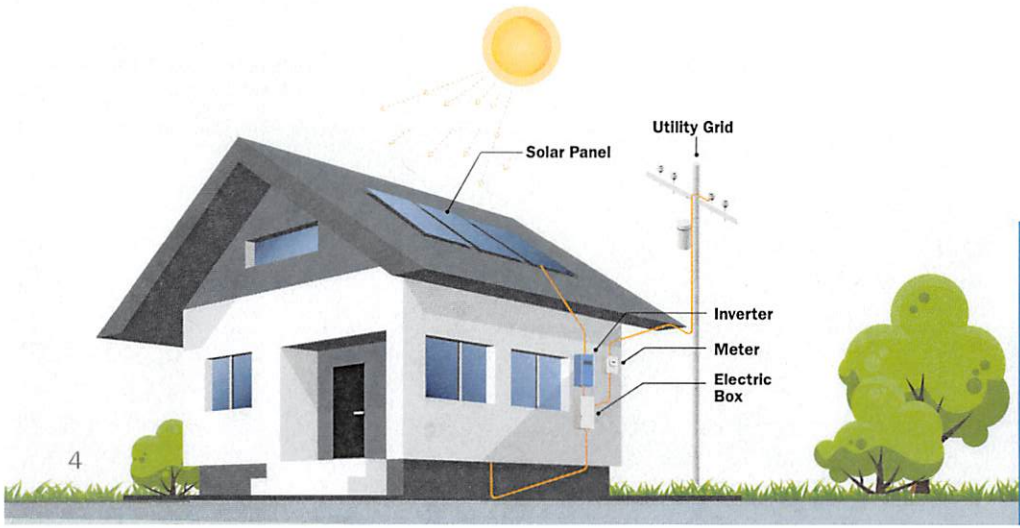
While solar generation currently cannot provide all of the reliable power our community needs, it is an important and growing component of JEA's diverse energy mix.

JEA Solar Programs

JEA has been leading the way for clean energy in Jacksonville since the 1990s, when we installed solar panel arrays on dozens of schools, businesses and at Jacksonville International Airport. Building upon this clean energy leadership, JEA has recently expanded its solar initiatives, providing a range of solar energy options for residential customers, local businesses and the community as a whole.

Private Solar

Also known as **"rooftop solar"** or **"solar PV,"** private solar enables homeowners to install photovoltaic (PV) systems on their roofs to supply some or all of their home's power needs. In addition to rooftop panels, a private solar PV system requires an inverter to convert the direct current (DC) electricity generated by the rooftop solar array into alternating current (AC) electricity for use in the home.



Solar Farms

Currently, JEA purchases power from several local solar farms, making that solar-generated electricity available to customers through JEA's electric grid. To generate additional solar power, JEA is adding even more solar farms; together, these facilities will enable us to provide up to 300 MW of solar power–making Jacksonville one of the leading solar cities in the nation.

JEA SolarSmart

Not all homes or businesses may be suitable for solar PV installations. This new program offers renters, condominium dwellers, small businesses or others who are unable to install private solar a way to benefit from solar energy. Through JEA SolarSmart, customers can choose to have anywhere from 1 to 100 percent of their power come from solar energy generated at a local solar farm. For more information, visit jea.com/solarsmart.

JEA SolarMax

As clean energy sources become increasingly popular, many large companies want to demonstrate their commitment to sustainability by "going green" and reducing their carbon footprint. Through JEA SolarMax, large commercial customers can choose to have up to 100 percent of their business's energy needs met by solar power. Commercial customers requesting a minimum of 7 million kWh of solar power per year can participate in JEA SolarMax. What's more, these companies can opt to support the creation of a specific new local solar farm, further underscoring their support for renewable energy sources.

JEA SOLARSMART

Support solar energy without installing solar panels on your home. Simply choose to have from 1 to 100 percent of your energy come from local solar farms. Learn more at jea.com/solarsmart.

Types of Solar PV Energy Systems

When considering whether to install a solar PV system, it's important to remember that these systems only generate electricity when the sun is shining. Even during the daytime, a solar PV system may not generate enough electricity to satisfy all of a home's power needs. Solar PV customers must therefore have another source of energy on which to draw. These options include:

- **Grid-Connected PV**
- **Grid-Connected PV with Battery**
- **Off-Grid or Stand-Alone with Battery and Generator**

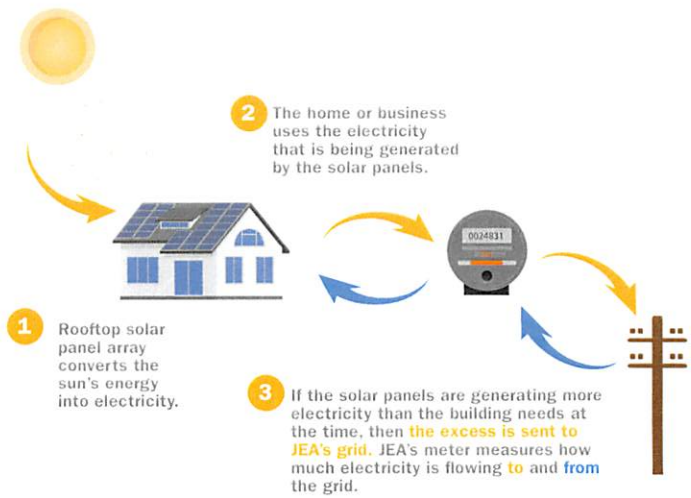
Even during the daytime, a solar PV system may not generate enough electricity to satisfy all of a home's power needs.

Grid-Connected PV

In this most common type of PV system, the solar panel array is connected to JEA's electric grid. During the day, when a solar PV system produces more electricity than the home needs, the excess energy is delivered to JEA's grid and the customer is reimbursed for this energy at the fuel rate. At any moment, if the solar panels don't produce enough electricity, the grid instantly provides the home with electricity purchased from JEA to maintain adequate power. Should the JEA grid be unavailable due to storms or other service interruptions, a grid-connected solar PV system is designed to shut down in order to prevent damage to the home's appliances.

Grid-Connected PV Systems Consist of:

- Solar photovoltaic (PV) panels
- Inverter to convert DC electricity produced by the PV panels to AC energy for use in the home
- Junction box to connect the solar array to the home's circuit breaker
- Meter to display how much energy the solar PV system is producing
- Switch that disconnects the PV system from the grid to prevent injury to utility crews working on power lines



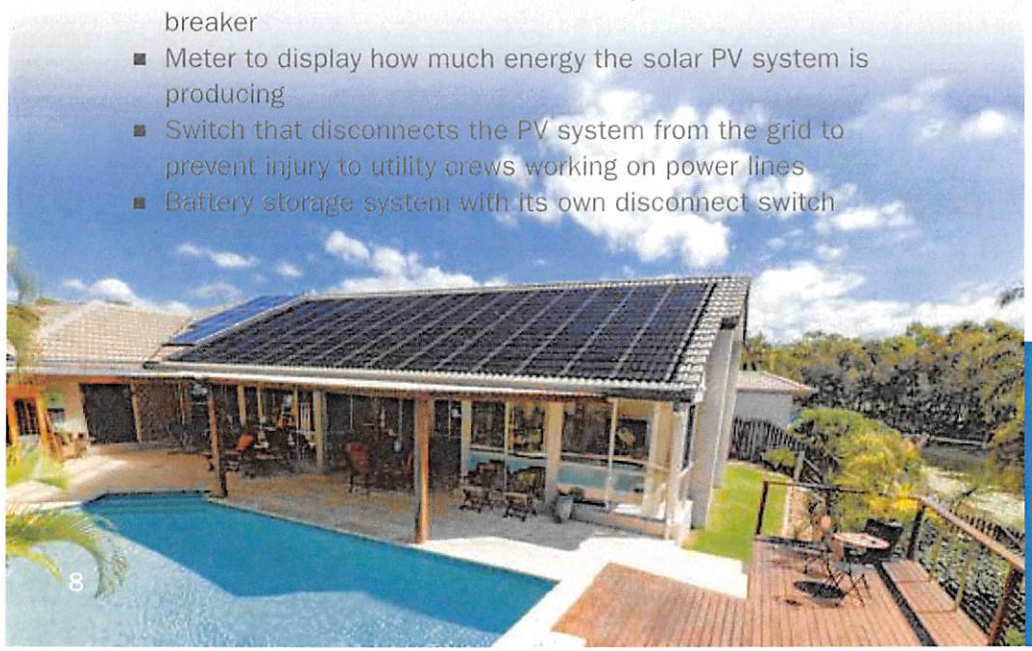
Grid-Connected PV with Battery

When a battery storage system is added to a grid-connected solar PV installation, the battery stores the solar array's excess energy instead of sending it to JEA's grid. The home can then draw on this stored energy when the PV system isn't generating enough power to meet the home's needs. As with a non-battery solar PV system, JEA's grid provides electricity when the solar panels and the battery do not generate enough power to meet the home's needs. Battery storage systems can be sized to store sufficient energy to provide for a few hours of operation of household electric equipment. Some battery systems may also be configured to supply power to a select number of critical appliances during a power outage.

See "Financial Incentives" for information on JEA's Battery Incentive Program, which provides a rebate toward the purchase of a battery storage system.

Grid-Connected PV/Battery Systems Consist of:

- Solar photovoltaic (PV) panels
- Inverter to convert DC electricity produced by the PV panels to AC energy for use in the home
- Junction box to connect the solar array to the home's circuit breaker
- Meter to display how much energy the solar PV system is producing
- Switch that disconnects the PV system from the grid to prevent injury to utility crews working on power lines
- Battery storage system with its own disconnect switch



Off-Grid or Stand-Alone with Battery and Generator

Most commonly found in remote areas where connecting to a utility grid is not an option, this type of solar PV system relies on a battery storage system to provide most of the home's power, with hydrocarbon fuel generators and other energy sources used as a backup when the energy stored in the battery isn't enough to satisfy the home's power needs during extended periods of time.

Off-Grid PV/Battery-Generator Systems Consist of:

- Solar photovoltaic (PV) panels
- Inverter to convert DC electricity produced by the PV panels to AC energy for use in the home
- Junction box to connect the solar array to the home's circuit breaker
- Meter to display how much energy the solar PV system is producing
- Battery storage system with its own disconnect switch
- Generator to provide energy when solar array and batteries don't satisfy a home's power needs

When a battery storage system is added to a grid-connected solar PV installation, the battery stores the solar array's excess energy instead of sending it to JEA's grid.

Is Solar Right for You?

There are a number of factors to evaluate before installing a solar PV array on your home or business. Be sure to consider the following:

Location: In Jacksonville, optimal conditions for rooftop solar panels include homes with a southern-facing orientation free from shade created by trees, buildings or even other parts of your home. Your installer's estimate should indicate how much energy your specific system is expected to produce and the economic value of that energy.

Energy Efficiency: Before going solar, reduce your overall electricity usage by making energy-efficient upgrades. Making your home more energy efficient reduces the amount of power you use from any source and may allow you to purchase a smaller solar PV system. Not sure how energy efficient your home is? JEA offers free in-home energy-efficiency assessments: Our home energy experts will evaluate your house and recommend measures you can take to make it as energy efficient as possible.

Roof Condition: Considering mounting solar panels to your roof? Be sure it will hold up as long as the panels—which are designed to last more than 20 years—as removing and reattaching them from a rooftop can be expensive. Make any needed roof repairs prior to purchasing a solar PV system.

Another factor to consider is the size of your roof. While a solar PV system can be sized to fit both the roof space available and your budget, it may not satisfy all of your home's energy needs.

Optimal conditions for rooftop solar panels include homes with a southern-facing orientation free from shade created by trees, buildings or even other parts of your home.

Duration in Home: Purchasing a solar PV system is a significant investment—one that can take some time to recoup. Before adding a solar PV system, consider how long you plan to stay in your home or business, and whether the number of occupants and/or daily schedules will change in the near future. If you plan to move within the next five years, you may want to reconsider making the purchase at this time. JEA SolarSmart is an option for people who want to support solar but do not want to make a long-term commitment.

Other issues that may impact the decision to install a residential solar PV system include:

- **Homeowners Associations:** While the state of Florida has statutes in place to allow solar energy systems to be installed on residences, homes located in historic preservation zones or neighborhoods with Homeowners Associations (HOA) may still require approval by the designated groups. Be sure to consult with these groups before installing any solar PV systems.
- **Townhomes and Condos:** While such units may be owned, the roofs are typically shared with other units, which in some cases may prevent the installation of solar panels. JEA SolarSmart is a viable option for customers in townhomes and condos.
- **Renters:** Unless a solar PV system is installed by the owner/landlord, renters typically are not able to invest in solar energy. JEA SolarSmart is also an option for renters.

Installation & Maintenance

Be sure to factor installation and maintenance costs and requirements when considering purchasing a solar PV system. While most rooftop solar systems come with a warranty, such warranties may require the owner to ensure that regular maintenance is performed on the system. It's also a good idea to confirm whether your homeowner's insurance will cover solar PV systems.

Connecting to JEA's Grid

JEA customers who install solar PV systems at their home or business and connect to JEA's electric grid must apply for connection. An application form – available on jea.com – must be submitted and approved by JEA prior to beginning installation or construction of any solar PV system. The application and all required supporting documentation may be emailed to **DistGen@jea.com** or delivered to:

JEA DSM Coordinator
JEA T-12
21 West Church St.
Jacksonville, FL 32202

If the PV system you need is too large to fit on your roof, you may need to consider whether ground-mounted solar is an option.

Installation

Upon receipt of the application package, a JEA employee may contact the customer to review the proposed installation and determine any additional requirements and/or costs. All solar PV systems must be installed in accordance with JEA's Rules and Regulations section 2.16 and Electric Systems Procedures. An electrical construction permit from the appropriate jurisdiction must also be obtained for the system, which must pass a JEA inspection prior to connection and operation. Factors reviewed during this inspection include:

- Location of customer's generation system
- Size
- Point of connection to JEA's electric grid and JEA study of interconnection
- Available capacity on the JEA distribution or transmission system, as appropriate
- Availability (capacity factor) of customer's proposed generation system
- Environmental impact
- Required upgrades, if any, to JEA's grid to accommodate customer's load
- Required level of power backup by JEA

Financial Incentives

JEA Battery Incentive Program

JEA's Battery Incentive Program offers a rebate on the purchase and installation of battery storage for customer-owned renewable energy systems. Learn more at **jea.com/solarbatteryprogram**.

Program highlights:

- Provides a one-time rebate on the purchase of a battery storage system as part of a rooftop solar PV array
- Up to $4,000 rebate per service address *

* Available to first 50 customers; rebate amount subject to change thereafter

Tax Benefits

Customers may also be eligible for a 30 percent federal tax credit. To learn more about applicable tax credit opportunities for solar PV, battery storage or other renewable technologies, please consult your tax professional or visit the IRS website at **irs.gov** to view the tax credit worksheet and application.

JEA's Battery Incentive Program provides a rebate toward the purchase of a battery storage system.

Questions to Ask Your Contractor When Purchasing a Solar PV System

1. What will the total cost be from start to finish, including design, permits and construction?
2. Who is the panel manufacturer?
3. What is the kW (DC) rating per panel?
4. What is the warranted life of the solar panels?
5. What parts are covered by warranties?
6. What is required of the owner to keep the warranties in force?
7. What actions or inactions will void the warranties?
8. Can the system be modified in the future without affecting the warranties?
9. How much will it cost to temporarily remove the system if roof work is needed in the future?
10. Who is the battery manufacturer (if applicable) and what are the model and serial numbers?
11. What is the battery system kW and useable kWh (if applicable)?
12. What is the warranty for the battery system?
13. What is required of the owner to keep the battery warranty in force?
14. What actions or inactions will void the battery warranty?
15. How are the batteries disposed of at the end of their life?
16. Who will be responsible for getting the necessary permits?
17. Are the permit costs included in the contract price?
18. Are there any applicable state and federal tax credits or other available incentives?
19. What are the expected annual operation and maintenance costs?
20. What is the expected annual and lifetime energy generation based on the home's orientation, shade and estimated costs and savings?
21. What portion of my energy consumption will be offset by the generation from the solar PV system?
22. What purchase and financing options are available?

Additional Resources

JEA
jea.com/privatesolar

U.S. Department of Energy
energy.gov

Environmental Protection Agency
epa.gov

National Renewable Energy Laboratory
nrel.gov

Florida Solar Energy Center
fsec.ucf.edu

North American Board of Certified
Energy Practitioners (NABCEP)
nabcep.org

Solar Energy Industries Association
seia.org

Internal Revenue Service
irs.gov

Connect With Us On

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jea.com

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Tab 6

Technology services project list requested by CM Anderson.

JEA Techonology Services Projects - Water

Project Description	Group
TS - Digitization of Water Designs	Water
TS - Human Resource Information System Position Control	Water
TS - Primavera P6 Upgrade	Water
TS - AMAG (JEA Badging System) Upgrade	Shared
TS - Record Retention (Document Management)	Shared
TS - Interactive Voice Response Phase III (email & chat)	Shared
TS - Call Center Workforce Optimization Implementation	Shared
TS - IT Security Multi-factor Authentication	Shared
TS - Enterprise Mobility Framework Deployment	Shared
TS - Data Center Migration	Shared
TS - JEA.com Apps Rewrites	Shared
TS - Asset Creation Enterprise Information Management	Shared
TS - C2M (Customer to Meter)	Shared
TS - Field Management System/Outage Management system Upgrade/Replacement	Shared
TS - Fixed Assets Solution	Shared
TS - Hyperion Upgrade	Shared
TS - Customer Care and Billing Scripting	Shared
TS - Towers	Shared
TS - Fiber R&R, FDOT Work	Shared
TS - IT Security R&R	Shared
TS - IT Core Infrastructure (Server/SAN/Virtual)	Shared
TS - Network Equipment & Wireless	Shared
TS - PC and Laptop Refresh (4-yr cycle)	Shared
TS - FCRS - Upgrades & Radios	Shared

Additional Questions from May 24, 2018 JEA Special Committee Meeting

Council President Brosche referenced an email received by all council members this week from the JEA stating that absent any future board action, no further action would be taken on potential privatization of JEA. Ms. Brosche asked whether that implied that the JEA would not be providing information or otherwise cooperating with the Special Committee or other on-going studies of the JEA. Nancy Kilgo of the JEA said that she will convey that question to the board but understands that the JEA will continue to be cooperative with the ongoing studies.

Response:

JEA will continue to provide information and support to the Council Special Committee on the future of JEA, the duPont Fund's consultant and the Civic Council. JEA staff will strive to provide what each group is asking on the various information requests. This response was approved by Interim CEO Aaron Zahn as there have been no JEA Board meetings since the May 24 Special Committee meeting.

Council Member Dennis requested information from the JEA on how the JEA board established the compensation for Aaron Zahn and Melissa Dykes, the Interim CEO and COO.

Response:

Interim CEO Aaron Zahn proposed the compensation for Melissa Dykes and himself. He derived the proposed interim CEO salary by reducing the salary earned by Paul McElroy in order to provide an appropriate salary increase for the President/COO position held by Melissa Dykes and to provide additional salary for the interim CFO. The JEA Board reviewed and approved the recommended salaries for Mr. Zahn and Ms. Dykes at the board's compensation committee and at the full board.