3rd Annual Seminole Tribe Energy Conference

Agnes Ramsey
Madonna Rykken
Jeff Plew

Seminole Tribe of Florida 3rd Annual Energy Conference

► NextEra Energy / FPL

► UESC

► Energy Storage
Our company

- World’s #1 producer of renewable energy from the wind and sun
- Operate in 36 U.S. states & in Canada
- One of Fortune’s “World’s Most Admired Companies” – ranked No. 1 in our industry for 11 of the last 12 years
- Ranked among top 25 companies that “Change the World” – only energy company from the Americas named to the 2018 list
NextEra / FPL Energy Development aligns with Tribal Goals

• To improve the lives of Native People in a sustainable way while increasing employment and business opportunities, creating a safe work and home environment, and protecting cultural heritage.

<table>
<thead>
<tr>
<th>Goal</th>
<th>Implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Produce affordable energy</td>
<td>✔️ Solar energy costs have dropped by 80% due to technological advances</td>
</tr>
<tr>
<td>Increased self-sufficiency and self-determination</td>
<td>✔️ Solar energy can be combined with storage to create an independent energy system</td>
</tr>
<tr>
<td>Produce a all or a portion of energy needs through renewables</td>
<td>✔️ Solar energy can be scaled to meet the accurate and necessary load size</td>
</tr>
<tr>
<td>Contribute to local economy in a sustainable way</td>
<td>✔️ Solar energy is a clean, safe, and high value, low impact investment</td>
</tr>
</tbody>
</table>
NextEra can help build a successful project

- NextEra has the people and technology to help you transition to local solar generation, and if desired, include energy storage for additional resiliency benefits.

- We will handle the development, installation, operation.

- We evaluate sites to avoid and minimize impacts to sensitive environmental and cultural issues such as endangered species, sensitive cultural artifacts or protected wetlands.

- By working with you, we can avoid impacts to your communities.
Why Consider **NextEra**?

- NextEra has significant experience developing potential projects, finalizing Power Purchase Agreements and constructing and operating projects.

- NextEra covers all development costs for Tribes leasing land for projects and can support tribal grant funding applications.

- A single point of contact simplifies the process for Tribes interested in finding a development partner.
NextEra has a tribal relations focus

- Early/direct tribal outreach to avoid/resolve issues
- Find/create ways to provide tribal community support
- Provide internal education with tribal assistance
- Work with multiple Tribes to develop energy projects on tribal lands
- Support local, regional and national tribal organizations
NextEra employs a voluntary collaborative approach with Tribes, potentially working together on:

- Joint archaeological/tribal field work
- Cultural Resource Report coordination and collaboration
- Tribes support construction team training/education
- Tribal construction monitoring
- Identify CRM teams trusted by and effective in working with area Tribes
NextEra is a respectful, trustworthy, and responsible developer

- We believe working with Tribes is the right thing to do:
  - Consistent with our approach with all communities – reach out early/often to reduce impacts/ensure communities benefit

- Both protects sensitive resources and reduces project risk
  - Nature of our work always results in ground disturbance but work to avoid sensitive resources that we’re aware of
  - More we know about the area – whether data comes from databases or tribal input – better chance of success

- Relationships are built on trust
  - When relationships exist, we can resolve issues together
  - We work together to find logical, reasonable solutions
NextEra Energy Resources (NEER) is the world’s largest generator of renewable energy from the wind and the sun

NextEra Energy Resources - Solar Portfolio

- Universal-scale solar portfolio consists of more than 2,260 MW of operating assets, representing 27 projects in seven states and Canada
- Emissions-free generation
- Creates no air or water pollution
- Uses no water to generate electricity
Our company

- American owned and operated

wind, solar, natural gas, oil, and nuclear energy
Our company

- American owned and operated
- Renewable energy leader

world’s #1 generator of wind and solar energy 2017
Type 1: Universal Scale
Type 2: Community Scale
Type 3: Distributed Generation
One Step further with **Storage**

- Solar paired with storage offers an attractive combination
  - Signed PPAs for over 1 GW of installations by 2023
  - Locations include Nevada, California, Colorado, Arizona, New York, Oregon, Oklahoma, New Mexico
  - Our system integration capabilities allow us to provide total grid solutions rather than just products
  - Applications include frequency regulation, ramping control, load shaving, peaking, solar shaping and local reliability / grid resiliency

NEER is developing 2 storage sites in Oklahoma

1,200MW of storage contracted by NEER
FPL – Our Energy Team has been designing and implementing energy conservation projects for 30 years

Overall Project Experience

► Began providing ESCO services in 1988
  » Launched UESC services in 1994
► Executed the first Basic Ordering Agreement (BOA) for UESC with the AF and KSC in 1995
  » 20 project phases with the 45th Space Wing at Patrick and the Cape
  » $28 million contract value
► Completed 60 individual Federal UESC contracts
  » $100 million in contract value
  » 10 different Agencies / Services
  » 83% is REPEAT BUSINESS

<table>
<thead>
<tr>
<th>Agency</th>
<th>Customer</th>
<th># of Projects</th>
<th>Contract Value</th>
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<tbody>
<tr>
<td>Dept. of Commerce</td>
<td>NOAA</td>
<td>2</td>
<td>$2,131,562</td>
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<tr>
<td>Dept. of Interior</td>
<td>National Parks Service</td>
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<td>Southeastern District</td>
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<td>$2,423,930</td>
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<td>Dept. of Defense</td>
<td>Air Force</td>
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<td>Dept. of Defense</td>
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<td>NASA</td>
<td>KSC</td>
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<td>USDA</td>
<td>ARS</td>
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<td>Veterans Affairs</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>60</strong></td>
<td></td>
<td><strong>$99,220,044</strong></td>
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Utility Energy Services Contracts (UESC’s)

An Overview

- UESC’s are contracts for procuring energy management services from the local serving utility.
- Governed by Area-wide contract with the serving Utility (electricity, gas, water)
- Typical Energy Conservation Measures:
  - Lighting Upgrades
  - Water Conservation
  - HVAC Retrofits
  - Building Controls
  - Load shaving
  - Commissioning
  - Renewables
Utility Energy Services Contracts (UESC’s)

An Overview (cont.)

➤ Typical Process
  » Select Utility
  » Utility performs Preliminary Assessment
  » Agency authorizes Feasibility Study
  » Approve project for construction
  » Training and Performance Assurance Plan

➤ Benefits to Agency
  » Streamlined Process
  » Available templates to use
  » Leverage incentives & financing
  » Utility expertise
  » Ability to implement comprehensive project
Energy Savings Performance Contracts (ESPC’s)

An Overview

- ESPC’s are contracts for procuring energy management services from pre-qualified ESCO’s.
- **Typical Process**
  - Issue RFQ and select Energy Services Company (ESCO)
  - ESCO performs Preliminary Assessment
  - Agency authorizes Feasibility Study
  - Approve project for construction
  - Training and Savings guarantee plan
- **Benefits are similar to UESC’s**
Samples of previous UESC Energy Conservation Measures

<table>
<thead>
<tr>
<th>Sample ECMs</th>
<th>Project Experience</th>
<th>Miami USDA-ARS</th>
<th>U.S. Coast Guard</th>
<th>Miami VA</th>
<th>PAFB</th>
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<tbody>
<tr>
<td>LED Lighting</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>Bi-Level Lighting</td>
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<td></td>
<td></td>
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<tr>
<td>Water Conservation</td>
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<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<td>HVAC Upgrades</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>Constant Volume VAV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Replace AHUs</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
<tr>
<td>Retro Commissioning</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
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<tr>
<td>Building Envelope</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building Controls</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Demand Control Ventilation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✓</td>
</tr>
</tbody>
</table>
FPL Case Study

Miami USDA - ARS

USDA and Florida Power & Light Company successfully save $585K/year with USEC collaboration

A set of conservation measures is underway at the Miami Suburban Water Reclamation Facility (MSWRF), estimated to save $585K in energy and water usage. The MSWRF site consists of 43 buildings on approximately 25 acres that are fully owned by the U.S. Department of Agriculture’s Agricultural Research Service (ARS). The facility is part of the USDA’s National Integrated Pest Management (NIPM) Program. The NIPM Program is critical for the efficient and cost-effective management of pests, diseases, weeds, and other natural enemies of plants. The USEC program is focusing on reducing energy and water usage at the facility through a series of conservation measures.

Why a USEC Energy Service Contract? The USEC program selected two USEC Energy Service Contracts (ESC) because this option provides the flexibility needed to meet the site’s energy and water conservation needs. The USEC program provided a cost-effective solution to meet the site’s conservation needs.

The site’s conservation measures are tracking at over 75% of the expected savings. The USEC program will monitor the site’s conservation measures and provide ongoing support to ensure the measures are successful.

Choosing Energy Conservation Measures The initial exchange was to identify the most cost-effective measures to achieve the desired results. The USEC program worked closely with the facility to identify measures that would provide the greatest savings. The measures included:

- Lighting upgrades
- Water conservation
- HVAC controls
- Building envelopes
- Reuse

The analysis was based on the building’s energy usage and the potential for energy savings. The USEC program provided ongoing support to ensure the measures were implemented successfully.

Utility Energy Service Contracts

In addition, the highly complex site (with multiple buildings and a large number of users) was selected as a case study to showcase the benefits of conservation measures. The USEC program provided ongoing support to ensure the measures were implemented successfully.

FEDERAL ENERGY MANAGEMENT PROGRAM

As conditioning units were replaced in several buildings, and high-efficiency motors and drives were implemented, the project resulted in significant energy and water savings. The USEC program monitored and evaluated the project, and the results were tracked on a regular basis. The USEC program also provided ongoing support to ensure the measures were successful.

Project Outcomes

- USEC’s energy management and technical expertise
- USEC’s cost savings
- USEC’s ongoing support

For more information contact:

Toni Hahn, Project Manager: 305-248-7821

Date: May 24, 2018

FPL - Energy Management Program

U.S. Department of Energy Case Study on our project with USDA
It is estimated that 8.4 GW of utility-scale storage and 2.3 GW of behind-the-meter storage will be installed through 2023, an incremental $10 B of investment in this industry\(^1\)

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**Projected U.S. Energy Storage Market**

<table>
<thead>
<tr>
<th>Year</th>
<th>Annual Installed Capacity (MW)</th>
<th>Annual Capital Investment ($MM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>0</td>
<td>&lt;500</td>
</tr>
<tr>
<td>2019</td>
<td>0</td>
<td>&lt;500</td>
</tr>
<tr>
<td>2020</td>
<td>1,250</td>
<td>$1,000</td>
</tr>
<tr>
<td>2021</td>
<td>2,000</td>
<td>$1,500</td>
</tr>
<tr>
<td>2022</td>
<td>2,750</td>
<td>$2,000</td>
</tr>
<tr>
<td>2023</td>
<td>3,500</td>
<td>$2,500</td>
</tr>
</tbody>
</table>

\(^1\) Annual 2018-2023 investment in front-of-meter and C&I market; Wood Mackenzie Power & Renewables and Energy Storage Association; March 2019
There are several energy storage technologies that are commercially available today; each has its pros and cons

Select Energy Storage Technologies

- **Pumped Hydro**
- **Compressed Air**
- **Flywheel**
- **Flow Batteries**
- **Sodium Sulphur Batteries**
- **Solid State Batteries**
Cost declines in lithium-ion batteries associated with the growth of Electric Vehicle (EV) demand has had a positive influence on the growth of energy storage in the utility sector.

Lithium-Ion Battery Cost Curve and Production

- 2011: $800/kWh, Global demand of 0.9 GWh
- 2017: $208/kWh, Global demand of 64 GWh
- Global demand expected to reach 700 GWh by 2026

1) Source: Bloomberg New Energy Finance
Several battery cells are connected to form a battery module; multiple modules are combined in racks inside containers or buildings, and when paired with inverters create a “line-up”
Energy storage applications span multiple disciplines across the grid, but use case stacking is key to the value proposition.
Our Gopher Energy Storage project provides energy and demand charge savings for a cooperative utility via shifting of solar production to peak load hours

**Gopher Battery Project: Billing Demand Charge Reduction**

- Three separate battery storage projects totaling 15 MW / 2 hour
  - Paired w/ 10 MW of solar
- Distribution system connected (12.47 kV)
- Performs solar shifting to reduce monthly coincident peak shaving
  - Potential to save up to $300k per month in peak demand charges
Florida Power ad Light’s Florida Bay battery project supports a 45 mile radial feeder during outages, as an alternative to a traditional reliability solution

**Florida Bay Storage Project: Grid Resiliency**

- 1.5 MW / 1 hour battery system located in a remote portion of FPL’s service area
- Paired w/ 10 MW of solar
- Remote portions of the grid experience reliability challenges (lightning / weather outages, long restoration times, etc.)
- Battery system supports customer loads during outage events
Florida Bay Storage Project: Overview
• NextEra Energy / FPL
• UESC
• Storage

QUESTIONS?