Going Green without Spending Green

Alex Acosta
Sr. Sales Consultant
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Agenda

• FPLS Overview
• Energy partner benefits
• What is an ESCO
• How does PC work
• Overview of a typical Project Cycle
• Benefits of PC
• Case Study: Miami-Dade Aviation Department
• Marketing Plan
Overview of our family of companies

- Serving approx. 4.7 million customers
- One of the lowest emission profiles among U.S. utilities
- Leader in solar
- One of the cleanest power plant fleets in the U.S.

- #1 in wind & solar generation in the world
- Operating assets in 19 states & 4 Canadian provinces
- 16,600MW generating capacity
- 99% of electricity generated from clean or renewable fuels

- Energy Service Company (ESCO)
- Florida engineering firm and general contractor
- 27 years of experience in Florida
- Serving hospital, federal, state, municipal, university, school and customers

We have served customers across many market segments

Aeronautical and Space Customers we serve

- Federal Government
  - NASA
    - Kennedy Space Center; 11 Phases
  - U.S. Air Force
    - Patrick Air Force Base; 11 Phases
    - Cape Canaveral Air Force Station; 9 Phases
  - U.S. Navy
    - Atlantic Undersea Test and Evaluation Center
      - 1 Phase
- Municipal Government
  - Miami-Dade Aviation Department
    - Miami International Airport; 5 Phases

"They were on time; actually they were ahead of schedule, which saves money on utility costs."

"They have proven that they can do it."

"The Sustainability Project at MIA is one of the greatest projects the County has ever undertaken to reduce our greenhouse gas emissions and carbon footprint within South Florida. The cost savings and energy conservation will also provide huge benefits to our airport, its tenants and passengers, and the environment as a whole."

- Miami-Dade County Mayor Carlos A. Gimenez
An energy partner can benefit you in many ways

**Economic sustainability**

**Challenges you may face**
- Volatile energy costs
- Limited funding & reduced budgets
- Increasing water costs
- Aging energy systems infrastructure

**How FPLS can help**
- Reduces & stabilizes energy and O&M expenses
- No capital required
- Reduces maintenance & repair requirements

Streamlined procurement process results in faster energy savings and less vulnerability to volatile energy prices

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An energy partner can benefit you in many ways

**Environmental sustainability**

**Challenges you may face**
- Meeting sustainability requirements
- Emphasis on renewable energy use
- Water scarcity

**How FPLS can help**
- Promotes sustainability & energy efficiency
- Solutions via latest energy efficiency technology
- Reduces your water consumption

Good stewards of the environment use resources efficiently and reduce carbon footprint
An energy partner can benefit you in many ways

**Social sustainability**

**Challenges you may face**
- Promote social stewardship
- Public relations

**How FPLS can help**
- Lead by example
- Marketing of improved quality of life and equity for communities
- Job Creation

Promotes community spirit, uses resources efficiently, and reduces carbon footprint

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**Energy Performance Contracting**

**What is an Energy Services Company (ESCO)?**

- FL Statute 489.145 enables government to implement performance contracting (PC)
  - It is the policy of this state to encourage each agency to invest in energy, water, and wastewater efficiency and conservation measures

- An ESCO is licensed under chapter 471, chapter 481 or §489.145 to implement PC
How performance contracting works: Role of the ESCO

- The ESCO designs innovative and customized solutions to meet the Agency's unique needs
- Our role includes:
  - Developing, installing and arranging financing for projects that will improve energy efficiency of facilities with no out of pocket capital expense
  - Serving as a business partner for the life of the project
  - Acting as the general contractor
  - Assuming associated technical and performance risks

LEGISLATIVE FINDINGS:
"The Legislature finds that investment in energy, water, and wastewater efficiency and conservation measures in agency facilities can reduce the amount of energy and water consumed and wastewater produced and produce immediate and long-term savings."
- Florida Statutes 489.145, enacted 2008 (www.flsenate.com)
Energy Conservation Measures

- HVAC
- Lighting Retrofits
- Controls
- Building Envelope
- Water/Wastewater Reduction
- Natural Gas Supply
- Back-up Power Systems
- Power Quality
- Financing

Our team is well-versed in delivering the best technical and financial outcomes for every customer project.

Benefits of bundling ECMs through performance contracting

Combining long and short-term paybacks results in a cost-effective project.

<table>
<thead>
<tr>
<th>ECM Category</th>
<th>Payback Period (Years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lighting Retrofit</td>
<td>1 2 3 4 5 6 7 8 9 10 11 12 13 14</td>
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<tr>
<td>Chiller Replacement</td>
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<tr>
<td>Motors</td>
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<td>Variable Speed Drives (VSD)</td>
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<tr>
<td>Replace Pneumatic Controls</td>
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<tr>
<td>Install High Efficiency Boiler</td>
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<tr>
<td>Waste Heat Recovery</td>
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<tr>
<td>Interlock Exhaust Fans</td>
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<tr>
<td>Kitchen Heat Pump H₂O Heater</td>
<td></td>
</tr>
<tr>
<td>Water Conservation</td>
<td></td>
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<tr>
<td>Overall Payback</td>
<td></td>
</tr>
</tbody>
</table>
Our projects typically have four phases

Overview of our typical project cycle

Preliminary Assessment | Investment Grade Audit | Implementation and ECMs | M&V and Maintenance

Our projects typically have four phases

Preliminary assessment

- Historical utility information
- Prioritize facilities for surveys
- Determine Energy Use Index (EUI)
- Develop initial ECMs
Have a defined process for scheduling project implementation

• Scheduling resources
  – Critical Path Method to manage overall schedule
  – Critical Path Analysis to manage individual tasks

• Daily status reports
  – Provide a wide range of information in near real-time
  – Ability to pre-emptively address issues

• Two-week look-ahead schedule
  – A detailed plan and daily breakdown of the overall schedule
  – Used to manage in-field construction

Regularly monitoring progress allows delays to be quickly addressed, minimizing the impact to the overall project schedule

Our projects typically have four phases

**Investment Grade Audit (IGA)**

• Perform detailed facility survey
• Baseline savings and scope of work
• Develop implementation pricing
• Develop project guarantee documentation

![Four Phases Diagram]
**Investment Grade Audit Methodology**

- **Identify high usage through Energy Use Index**
- **Create Preliminary Assessment report identifying targeted ECMs**
- **Initiate detailed energy audit consisting of:**
  - Site Visit/Data Collection
    -- Observe existing conditions (building construction, site layout, equipment/systems, lighting, etc.)
    -- Record equipment nameplate data, building material used, and/or quantity/type/light levels of fixtures
    -- Record/observe run time hours, energy and/or flows/temperatures (installation of meters, review of historical data and/or interviews with operation/maintenance personnel, etc.)
    -- Gather historical data (drawings, specifications, data logs, utility bills, etc.)
    -- Interview operation/maintenance personnel

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**Investment Grade Audit Methodology**

- **Perform Analysis and Calibrate**
- **Typical ECMs include:**
  - **Lighting**
    -- Inputs include type of fixture, watts per fixture, square footage, run time
    -- Outputs provided are energy and power consumed (kWh and kW)
    -- Formulas are based on industry/engineering/NextEra Energy Solutions standards
  - **HVAC**
    -- Inputs include building construction, equipment data/efficiencies, operational schedules, weather data, etc. Utilize Trane Trace and/or other energy simulation software, as appropriate
    -- Outputs include cooling/heating loads, energy and power consumed (kWh, kW and/or therms)
    -- Efficiencies are determined from measurements, Original Equipment Manufacturer (OEM) data and/or engineering evaluations
  - **Water**
    -- Inputs include type of fixture, gallons per flush
    -- Outputs provided are energy consumed (gallons)
Investment Grade Audit Methodology

• **Finalize Report**
  – Create design drawings and specifications
  – Determine construction cost to implement
  – Determine simple payback on an individual basis and in total
  – Identify recommended measures

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Our projects typically have four phases

**Implementation and ECMs**

• Conduct pre-install monitoring
• Finalize designs and implementation
• System commissioning and training
Subcontractor selection process identifies qualified local contractors that meet our quality, safety, and performance standards

- Coastline considerations
  - High heat, humidity, salt contamination, high winds, and driving rain impact construction schedule and equipment performance

- Hurricane preparedness
  - A coordinated and well-communicated hurricane plan is essential to project success
  - The plan includes:
    - Identification of annual seasonal preparatory plans
    - Pre- and post-landfall steps
    - Sequencing as the storm nears and the cone of uncertainty narrows

FPLS has successfully implemented projects during hurricane season, with no schedule delays
Our projects typically have four phases

**M&V and maintenance**

- Post-install measurements
- Begin annual M&V reconciliation
- On-going maintenance

Performance contracting benefits: Triple bottom line

**Economic**
- Self-funding financial vehicle that pays for debt service out of savings
- Reduces energy related operating expenses
- Reduces maintenance & repair costs of aging equipment
- Improves the bottom line
- Upgrades infrastructure

**Environmental**
- Promotes sustainability stewardship
- Supports energy efficiency goals
- Reduces greenhouse gas and carbon foot print

**Social**
- Stimulates the economy and creates local jobs
Project timeline: We have been a partner to Miami-Dade County for 15 years

- Completed 11 energy performance contracts for Miami-Dade
  - Each delivered on-time and on-budget
  - Actual savings to date = $45.3 million

Case study: Miami-Dade Aviation Department

Miami International Airport

- Challenge: Improve energy efficiency and lighting, while reducing greenhouse gas emissions and costs
- Solutions:
  - High efficiency lighting retrofits
  - Occupancy sensors
  - HVAC upgrades
  - Chiller upgrades
  - Water conservation measures
  - Inverters for power sags
- Results: Saves more than 35 million kWh per year and $40 million over the contract period
Environmental Impacts

Estimated annual savings of 35,200,000 kilowatt-hours translates to the following DOE equivalencies

- 130 Railcars worth of coal burned
- 2,731,202 Gallons of gas
- 5,110 Cars for one year
- 56,447 Barrels of oil consumed

Source: http://www.epa.gov/cleanenergy/energy-resources/calculator.html

Proven Technologies Relevant at MIA

Before and After at MIA Baggage Assembly Area

Before induction lighting
installed MIA Baggage Assembly area

After LED lighting
installed MIA Baggage Assembly area
Key components of a customized marketing plan:

- Press release of the project through applicable social media sites
- TV Commercials
- 30-second spots to rotate different messages, English and Spanish
- Micro-site and landing pages
- Banners
- Wall and Column Wraps
- Digital Signage
- Collateral - brochures and case studies
- Participation in regional “green” events, sponsorships, trade shows, etc.
- Targeted direct mail and email campaigns
- Online activities including logo placement, landing pages, story placement, and website links
Sample marketing plan

<table>
<thead>
<tr>
<th>MARKETING INITIATIVE</th>
<th>SUMMARY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education Opportunities</td>
<td>- Provide educational training for students on energy efficiency. - Create awareness among the target audience. - Offer training courses to universities.</td>
</tr>
<tr>
<td>Direct Mail Campaigns - Commercial</td>
<td>- Create and distribute print ads to targeted &lt;client&gt; members.</td>
</tr>
<tr>
<td>Email Campaigns</td>
<td>- Create and distribute email campaigns to targeted &lt;client&gt; members.</td>
</tr>
<tr>
<td>Website Development</td>
<td>- Create websites and landing pages to promote &lt;client&gt; projects.</td>
</tr>
<tr>
<td>Search Engine Marketing</td>
<td>- Optimize key words in search on 3rd party search engines.</td>
</tr>
<tr>
<td>Billboard Advertising</td>
<td>- Secure billboard space in strategic locations within the target area.</td>
</tr>
<tr>
<td>Transit Bus Stop Advertising</td>
<td>- Secure bus stop stations along strategic areas within the target area.</td>
</tr>
<tr>
<td>OBJECTIVES</td>
<td></td>
</tr>
<tr>
<td>Create awareness of &lt;client&gt; projects.</td>
<td></td>
</tr>
<tr>
<td>Promote projects and benefits.</td>
<td></td>
</tr>
<tr>
<td>Create awareness and promote projects.</td>
<td></td>
</tr>
<tr>
<td>Implement &lt;client&gt; marketing initiatives to increase awareness and engagement.</td>
<td></td>
</tr>
</tbody>
</table>

Web Landing Page

MIAEFFICIENCY.COM

Thank you!