Georgia Power Renewable Update

October 31, 2016

Marc Vinson
Georgia Power at a glance

Largest of four Southern Company electric utilities

- $7.2 billion in revenue
- 2.5 million customers
- 7,600 employees
- 13k miles of transmission lines
- High customer satisfaction
- 15% Rates below the national average
- 72k miles of distribution lines
- 45% of customers earning under $40k
Georgia Public Service Commission

H. Doug Everett
District 1

Tim Echols
District 2

Chuck Eaton
PSC Chair
District 3

“Bubba” McDonald
District 4

Stan Wise
District 5
Georgia Power’s Regulatory Environment

Territorial Act of 1973

- Georgia Public Service Commission
- Georgia Power
- How we serve our customers
- How we charge our customers

Georgia Power territory
Integrated Resource Plan

Requirements

~180 Day Regulatory Review and Approval Process

- Demand & Energy Forecasts
- Demand Side Strategy: EE Programs, Demand Response
- Supply Side Strategy
- Adequate Reserve Margin
- Environmental Compliance Strategy
- Unit Retirement Studies
- 10-Year Transmission Study
- 3-year Filing Requirement of a 20-year Plan
Drivers of the Renewable Energy Market

Tax credits
- SOLAR 30% federal tax credit through 2019
  - Reduces to 26%, 22%, and 10% in 2020, 2021, and 2022 respectively
- WIND federal production tax credit of 2.3¢/kWh
  - Reduces by 80%, 60%, and 40% in 2017, 2018, and 2019 respectively

Technology & Efficiency Trends
- Installed cost of solar dramatic decrease
- Larger wind turbine design

National Policies
- 37 states with renewable portfolio standards or goals
- EPA’s Clean Power Plan (111(d)) Proposal
RPS standards vary by the requirement size, eligible resources, dates, technology tiers/multipliers, and other factors.

29 states & Washington DC have Renewable Portfolio Standards

8 states have Renewable Portfolio Goals

Source: November 2011, Database of State Incentives for Renewable Energy (DSIRE)
Annual U.S. Solar Installations, 2000 - 2015

Renewable Energy Growth

NOTE: A portion of the renewable generation capacity included in this chart includes capacity where the renewable generator retains the related Renewable Energy Credits and the right to use them.
GEORGIA POWER - RENEWABLE DEVELOPMENT SUMMARY

TOTAL SOLAR REPORT
(inclusive of all solar programs)

Online 539 MW
56% of 963 MW

Remaining 76 MW
Under Contract 348 MW

MILITARY PROJECTS
166 MW

<table>
<thead>
<tr>
<th>Project</th>
<th>Expected COD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fort Benning</td>
<td>30 Online</td>
</tr>
<tr>
<td>Fort Gordon</td>
<td>Q4 2016</td>
</tr>
<tr>
<td>Fort Stewart</td>
<td>Q4 2016</td>
</tr>
<tr>
<td>Kings Bay</td>
<td>Q4 2016</td>
</tr>
<tr>
<td>Marine Corps</td>
<td>Q1 2017</td>
</tr>
<tr>
<td>Logistics Base</td>
<td>TBD</td>
</tr>
<tr>
<td>Remaining</td>
<td></td>
</tr>
</tbody>
</table>

ROOFTOP SOLAR
Visits to "Is Solar Right for you?" web tool

13,637 Residential Customer consultations completed

953

BIOMASS
528 MW Total

263 MW Online
265 MW more Under Contract

2016 INTEGRATED RESOURCE PLAN STIPULATION
FINAL Commission Vote from July 28th

Renewable Energy Development Initiative (REDI)
• 1,200 MW additional renewable capacity by 2021
  • 1,050 MW Utility Scale
  • 150 MW Distributed Generation

200 MW Georgia Power Self-Build Projects
Up to 1,600 MW additional renewable capacity approved

Blue Canyon 250 MW Wind
Delivery began 1/1/2016

ALL UTILITY SCALE SOLAR PROJECTS

DEMONSTRATION PROJECTS

1 MW Solar
1 MW Solar
38 kW Solar + Battery
Wind

2015 Awards: Top 10 Utilities for Adding the Most Solar Power to the System (Solar Energy Industry Association) • Top 10 Utilities for 2015 Installations (Smart Electric Power Alliance)
### 2016 IRP – Approved Renewables Additions

#### Renewable Energy Development Initiative (REDI)

<table>
<thead>
<tr>
<th>Component</th>
<th>Power Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Renewables</td>
<td><strong>1200 MW</strong></td>
</tr>
<tr>
<td>Utility Scale RFPs (&gt;3 MW)</td>
<td><strong>1050 MW</strong></td>
</tr>
<tr>
<td>Distributed Generation RFP (≤3 MW)</td>
<td><strong>100 MW</strong></td>
</tr>
<tr>
<td>DG Customer Sited (≤3 MW)</td>
<td><strong>50 MW</strong></td>
</tr>
</tbody>
</table>

#### Simple Solar

- Customer chooses **50%** or **100%** of monthly usage to be solar generated.
- Customer pays an additional **1¢ per kWh** each month.

#### Demonstration Projects

- **Closed Ash Pond Solar**: up to **10 MW** at company facilities.
- **High Wind Study**: 3 sites throughout Georgia testing wind at 200m.

#### Commercial & Industrial

- Up to **200 MW** Utility Scale

#### Self-Builds

- **196 MW** Military-sited Solar
- **3 MW** Community Solar
- **1 MW** Highway Solar

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**New Renewables Additions**

- **1200 MW**: New Renewables
  - **1050 MW** Utility Scale RFPs (>3 MW)
  - **100 MW** Distributed Generation RFP (≤3 MW)
  - **50 MW** DG Customer Sited (≤3 MW)

**Simple Solar**

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**Demonstration Projects**

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**Commercial & Industrial**

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**Self-Builds**

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## Georgia Power Current Programs

<table>
<thead>
<tr>
<th>Program</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Simple Solar</strong></td>
<td>Customer can purchase 50% or 100% of their energy for an additional 1¢ per kWh each month.</td>
</tr>
<tr>
<td><strong>Rooftop Solar</strong></td>
<td>Georgia Power can <strong>evaluate your savings and install</strong> solar at your home or business.</td>
</tr>
<tr>
<td><strong>Renewable Non-Renewable (RNR)</strong></td>
<td>For commercial systems 100 kW or less, and residential systems 10 kW or less, the <strong>customer offsets purchases and sells excess</strong> to GPC <strong>avoided cost (2016: 4.0¢/kWh)</strong>.</td>
</tr>
</tbody>
</table>
| **Renewable Energy Development Initiative**  | • **Customer sells 100% energy to Georgia Power at a fixed ¢/kWh or lowest bid price**  
• Distributed Generation < 3MW, Utility Scale > 3MW  
• Utility Scale 2014 average 8.5¢/kWh, 2015 average 6.5  ¢/kWh |
| **Qualifying Facility (QF)**                 | For systems greater than 100 kW, **customers with large generators sell** to GPC **at real time avoided cost.** Maximum system size of 80 MW.  

**Energy Offset Only**  
Customers that have solar installed and are **not participating on a program**, choosing only to offset purchases from Georgia Power

**C&I Program**  
Coming soon

**Community Solar**  
Coming soon
Simple Solar

Green energy solar program as simple as...

1️⃣ Select
- 50% or 100% of monthly usage

2️⃣ Pay
- 1¢ per kWh

3️⃣ Receive
- Solar RECs

- Renewable Energy Credit (REC) purchase program
- Customer elects to purchase Solar RECs for 50% or 100% of monthly usage
- Customer pays additional 1¢ per kWh for RECs
Rooftop Solar

Since July 1, 2015
- Over 13,800 visitors have completed the solar web tool
- Almost 1,000 completed residential customer analyses and consultations
- Over 70 commercial customer analyses and consultations

“Is Solar Right for You?” Web Tool

Solar Energy Expert

Full Rooftop Analysis
Customer contacts Georgia Power through Solar Hotline or GeorgiaPower.com/solar

Completion of web tool to submit information to Georgia Power Solar Experts

Customer requests site visit to move forward with potential installation

Solar Experts personalize, complete, and communicate rooftop solar analysis to the customer

Customer discusses other options, such as Energy Efficiency, to meet their needs

Unregulated

In-person evaluation
Financing
Installation & Interconnection
Customer Service & Maintenance
Rooftop Solar Sample Analysis

Cost of Your Solar System & How Much of Your Energy Usage Will Be Solar

<table>
<thead>
<tr>
<th>Cost</th>
<th>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total System Cost</td>
<td>$15,000</td>
</tr>
<tr>
<td>Less Federal Tax Credit</td>
<td>$4,500</td>
</tr>
<tr>
<td>After Tax Credit Cost</td>
<td>$10,500</td>
</tr>
<tr>
<td>Price per Watt (PPW)</td>
<td>$3.70</td>
</tr>
<tr>
<td>System Size</td>
<td>3.79 kW (15 panels)</td>
</tr>
</tbody>
</table>

Percentage Replaced by Solar: 34%
Annual Solar Energy Generated: 4,686 kWh

Your System Size & Placement on Your Property

Your System Type: Roof Mounted
Your System Size: 3.75 kW (15 Canadian Solar: CS6P-250M panels)

Bill Savings and Simple Payback Analysis

<table>
<thead>
<tr>
<th>Time (Year)</th>
<th>Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>$0</td>
</tr>
<tr>
<td>1</td>
<td>$1,341.94</td>
</tr>
<tr>
<td>2</td>
<td>$2,683.88</td>
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<tr>
<td>3</td>
<td>$4,025.82</td>
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<tr>
<td>4</td>
<td>$5,367.76</td>
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<tr>
<td>5</td>
<td>$6,709.70</td>
</tr>
<tr>
<td>6</td>
<td>$8,051.64</td>
</tr>
<tr>
<td>7</td>
<td>$9,393.58</td>
</tr>
<tr>
<td>8</td>
<td>$10,735.52</td>
</tr>
<tr>
<td>9</td>
<td>$12,077.46</td>
</tr>
</tbody>
</table>

Installation Schedule in Days

- Design & Permit
- State Grant Application & Approval
- Order Materials
- Install
- Inspect & Turn On
- Total: 90 days
Solar Power Free-Market Financing Act

- Signed into effect July 1, 2015
- Allows solar roof top leases to be based on the performance of system output
- Allows $0 upfront costs to customers
- Size limited to 125% of peak demand for Commercial and 10 kW for Residential
- All energy must be used on premise or sold to utility
Fort Benning
Mercedes-Benz Falcons Stadium
Questions