

# A Cooperative Perspective on Solar

Presented by:  
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# PowerSecure, Inc.

- **Engineering Consulting – PowerServices, Inc.**

- Planning
- Distribution
- Substation
- Generation

- **Distributed Generation**

- Reciprocating Engines (Diesel & NG) – 2.5 GW
- Solar PV – 100 MW
- Battery Storage and Microgrid
- Co-Gen & Prime Power

- **Infrastructure**

- Metal Clad Switchgear up to 35kV
- Micro-Grid
- T&D – EPC Services up to 345kV (Energized Support)

- **Energy Services**

- Retail and Utility LED Lighting Products
- Mechanical, Electrical, Water Systems, Lighting
- CHP

- **What differentiates PowerSecure**

- Safety
- Reliability
- Quality
- Value



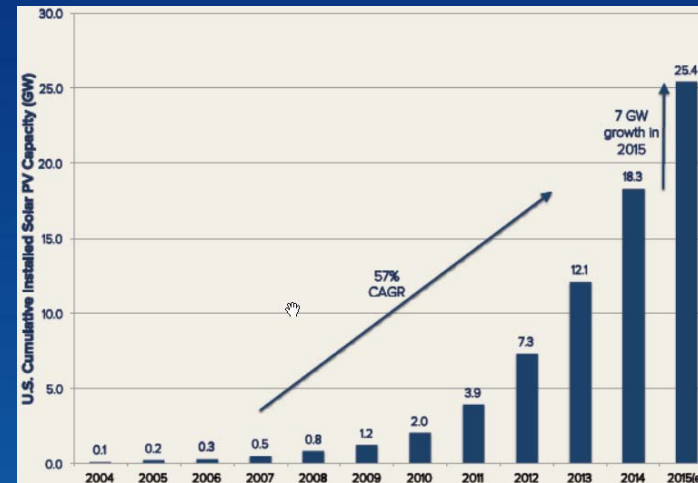
# Agenda

- Section 1: **Introductions – Topics of Interest to FECA members**
- Section 2: **Current Industry Status**
- Section 3: **Florida Solar Market**
- Section 4: **Project Ownership Structures**
- Section 5: **Market Segments**
- Section 6 : **Community Solar in the US**
- Section 7: **What is Community Solar**
- Section 8 : **Benefits of Community Solar**
- Section 9: **Member Involvement**
- Section 10: **Getting Engaged**
- Section 11: **What is Next**
- Section 12: **Open Discussion and Questions**



# Current Industry Status

- Installed PV capacity through 2015 accounts for 1% of US electricity generation
- US PV growth Utility & behind the meter
- Federal Investment Tax Credit extended
- Financing options are more competitive
- PV module and project pricing is at all time low
- Community Solar program demand is growing, largest percentage being within Coops



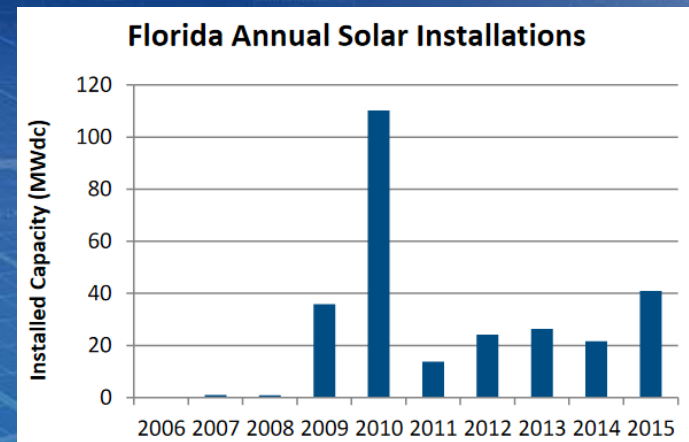
Source RMI

Source: Rocky Mountain Institute Community-Scale Solar, Figure 1 US PV Cumulative Installed March 2016

# Florida Solar Market

- 275 MW of solar capacity installed to date, ranking 14<sup>th</sup> in the US
- 9 MW installed in Q4 2015, up 78%
- In 2015: 17 MW residential, 16 MW commercial and 8 MW Utility
- G&T supported programs evolving
- Commercial installations by Ace hardware, IKEA and Whole Foods

Source: Solar Energy Industries Association Solar Spotlight: Florida; At a Glance



Source SEIA

# Project Ownership Structures

- Utility Owned
  - Capital Investment
  - Lease
  - CREB's
  - RUS
  - CFC/Alternative
  - G&T Community Solar
- Member owned
  - Behind the meter
  - PPA with Third Party
- Third Party Ownership
  - Community Solar
  - PPA
  - Behind the meter





# Market Segments

- Utility Owned
  - Community Solar Residential 1 kW to 6 kW
  - Community Commercial & Industrial 100 kW to 1 MW (behind the meter)
  - Utility Scale 1 MW to 100 MW+
- Member Owned
  - Residential 1 kW to 10 kW
  - Commercial & Industrial 100 kW to 2 MW+
- Third Party Ownership
  - PPA Residential 2 kW to 10 kW
  - PPA Commercial & Industrial 200 kW to 5 MW
  - PPA Utility standard offer 2 MW to 20 MW

# Community Solar in US

- 30 States have at least 1 active project
- Over 100 projects installed, totaling over 100 MW at end of 2015
- Leading states: CA, MN, CO and MA
- GTM research suggest 1.8 GW by 2020, NREL projections are 5.5 GW +
- Estimate of 50% owned by Utilities, 50% by 3<sup>rd</sup> parties



Source RMI

Source: Rocky Mountain Institute Community-Scale Solar, Figure 2 2020 Market Potential Scenario March 2016



# What is Community Solar

- A voluntary, solar ownership alternative for Cooperative members
- Control your own destiny
- Leverage economies of scale
- Driver greater value to members
- Allows members an attractive option for renewable generation at retail rates
- Threats of not participating: load reductions, 3<sup>rd</sup> party sales, public relations



# Benefits of Community Solar

- Benefits to Utility
  - Strategically sited generation
  - Gain understanding of solar resource
  - Support sustainability
  - Accelerate deployment
  - Customer alternative to PV self generation
  - Standardize interconnection
  - Maintain member focus
- Benefits to Member
  - Site not required or can be provided
  - Benefit from economies of scale
  - Lower cost option vs. purchase
  - No O&M cost

# Member Involvement

- New way to engage member and community conservation
- New member access and available to all members
- Enhance, increase and diversify marketing
- Empower members to improve the community
- Marketing: emails, presentations to community stakeholders, monthly articles, bill inserts, yard signs, video, press releases, ground breaking
- Accomplishments: engagement, positive PR, local/state recognition, satisfy member solar appetite, meet self set goals, increase awareness of being a “trusted energy resource”





# Getting Engaged

- Solar PV market is moving
  - G&T deployment
  - PPA's being executed
  - Interconnection application volume
  - Green power subscriptions
- Preparation and Planning
  - Ability to better serve members
  - Adapt to changing customer needs
  - System and impact planning
  - Marketing G&T supported program
  - New energy option for portfolio



# What is Next

- Ongoing portfolio diversification
  - Address peak demands
  - System balancing
  - Reliability
  - Support member demand for DG
  - Drive member satisfaction
- Expanded energy solutions at member level
- IOU and G&T participation is growing
- Battery storage and microgrid
- Technology advancement and price





# Open Discussion and Questions





# Contact Information

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