Clean Energy for Colleges: Planning for Success

State Center Community College District

Agenda

• Overview of solar and energy storage
• Overview of procurement strategies
• Top things to be aware of right now
• Tips to maximize project success
Presenters

- Christine Miktarian
  - State Center Community College District
  - Vice Chancellor; Operations/Information Systems

- Shannon Robertson
  - State Center Community College District
  - Construction Services Manager

- Brian Taylor
  - ForeFront Power; Sales Manager

- Kevin Flanagan
  - SPURR; Lead admin. for REAP Program

State Center Community College District

State Center Community College District (SCCCD) serves nearly 60,000 students and covers 5,500 square miles in Fresno, Madera, Kings and Tulare counties. SCCCD is made up of three colleges and three educational centers.

- Fresno City College
- Reedley College
- Clovis Community College
- Madera Community College Center
- Oakhurst Community College (Outreach) Center
- Career & Technology Center (CTC)
State Center CCD
Sustainability Leader for Colleges in California

- 7.3 MW Solar Installations
- $18 Million in Energy Savings
- 50% Renewable Energy Offset
- EV Chargers at all Sites
- 182,000 Acres of Forest Saved
- Solar Curriculum & Online System Monitoring

Ex: Madera Community College Center
- 83% kWh Energy Offset
- 21% Year 1 $ Savings
- $2.5 Million 20 Year Savings
- Shaded Parking
- LED Lighting
- EV Charging Stations
- Best in Class Development Group
- Renewable Project Financing Leader
- California Public Sector Leader
- SPURR REAP RFP Winner
- ‘A’ Rated Parent Company: Mitsui & Co

ForeFront Power

Development Experts

Consultation
- Site Visit
- Project Costing
- Storage Analytics

Finance
- Existing California Fund
- Experienced Finance Team

Consultation
- Utility Bill Analysis

Design & Engineering
- Experienced Developer
- Development Engineering Team

Construction
- Local EPC Relationships
- Scale

Maintenance
- O&M
- DAS & Monitoring

ForeFront Power
Development Experts
SPURR: School Project for Utility Rate Reduction

- Joint Powers Authority (JPA) formed in 1989 by California public school districts with 240 public agency members.
- Aggregates purchasing power and expertise
- Governed by Board of public agency administrators.
- No cost to join SPURR; all programs self-funded through transparent administrative fee.
- Renewable Energy Aggregated Procurement (REAP) Program

Agenda

- Overview of solar and energy storage
- Overview of procurement strategies
- Top things to be aware of right now
- Tips to maximize project success
Madera Center – Solar & Storage

Simulated day from historical usage: October 17, 2016

- Solar Reduces KWH Consumption
- Storage Shaves Demand Spikes & Firms Peak Reduction

Energy Storage Strategy

Demand Charge Savings

Intelligently discharge the battery to shave demand charges.

Energy Arbitrage

Buy Low / Sell High
Carports Up Close

- Shade
- LED Light
- Security

Agenda

- Overview of solar and energy storage
- Overview of procurement strategies
- Top things to be aware of right now
- Tips to maximize project success
What is the REAP Program?

- Aggregated solar buying program that leverages the collective purchasing power of SPURR's large membership to:
  1. Streamline the solar buying process for CA public schools → **Save time**
  2. Drive down solar project pricing for CA public schools → **Save money**
  3. Improve project terms for CA public schools → **Reduce risk**

- Through a statewide competitive RFP, REAP secures pre-negotiated “piggybackable” solar project pricing and terms for SPURR members and eligible non-members.

- REAP Program has been used by many public agencies across the state to procure over 40 MW at over 100 sites.

REAP Program RFP Process

- First REAP Program RFP completed in 2014; second RFP completed October 2017.

- RFP solicits pricing and terms for many different solar/storage project types with **very specific** project includes, excludes, and assumptions.

- Vendor proposal: company experience, system designs, component specifications, O/M packages, contract documents, and firm pricing.

- Winning vendor’s pricing and terms memorialized in a master contract:
  - All docs publicly available.
  - Transparent piggybackable offer.
  - Common-sense price adjustment mechanism to deal with site-specific conditions (tree removal for example)

- ForeFront Power was winning vendor.
SCCCD Relied On SPURR

- Low Pricing: Statewide RFP
- Accelerated Procurement: Capitalize on TOU 1.0 Grandfathering
- Trusted Partnership
- Proven track record of REAP Program
- Financially Strong Provider: ForeFront Power

Sample Solar Development Timing

<table>
<thead>
<tr>
<th>2017 Q4</th>
<th>2018 Q1</th>
<th>2018 Q2</th>
<th>2018 Q3</th>
<th>2018 Q4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feasibility Analysis / Contract Negotiations / Execution (December)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Site Diligence – Title, Geotech, Survey (January / February)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Design, Engineering, PG&amp;E Study, &amp; DSA Permitting (February / March)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Procurement (April - May)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phased Canopy Construction (Jun-Aug)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balance of System (July - Oct)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Power Purchase Agreement**

- No upfront cost / No Bonding
- Year 1 Savings
- 0% Escalator for 20 Years
- Utility Rate Hedge
- Monetize 30% Tax Credit
- Aligned Partnership
- Free Operations & Maintenance
- Guaranteed Performance

**Design / Build**

- Use of Bond / Prop 39 Funds
- Year 1 Savings
- No Tax Credits
- District Responsibility: Operations & Maintenance
- +15 Year Payback
- Operating Expense -> CapEx
**Procurement Methods & Savings**

- **PPA**
  - $0 Cash Outlay
  - Federal Tax Credits
  - Maximize Savings
  - Free O&M

- **Rent to Own:**
  - Investment in Y6
  - Federal Tax Credits
  - Optionality

- **Cash Purchase**
  - Investment In Y0
  - 10-15 Year Payback
  - No Federal Tax Credit

Assumes 3% Annual Utility Rate Increase, 3.0% Coupon, 20 Year Debt

---

**Solar + Storage**

- No Bonding / No Upfront Cost
- Save in Year 1
- Fixed Annual Payment
- Performance Guarantee
- Utility Hedge
- Aligned Partnership
- Free Operations and Maintenance
Agenda

• Overview of solar and energy storage

• Overview of procurement strategies

• Top things to be aware of right now

• Tips to maximize project success

TOU Changes

TOU 1.0
Summer: May - Oct

TOU 2.0 Proposed
Summer: June - Sept
**Impact of TOU 2.0**

Total Year 1 Savings - Sample 1MW

- **Peak TOU Period**
  - Current 12-6PM
  - PG&E Proposed: 5-10PM

- CPUC Decision – December 2017
  - “TOU 1.0 Grandfathering Window” Re-Opened

---

**TOU 1.0 Grandfathering**

- Interconnection Applications
  - December 25, 2017 Deadline

- TOU 1.0 Grandfathering
  - Preserve For 10 Years
  - No Construction Completion Deadline

- Increase Savings
  - 50%-100% Increase in Solar Savings

*Approved by CPUC on October 26, 2017*
Import Tariffs on Solar Panels?

- Executive branch of the federal gov't considering tariffs on all imported solar panels.
- Multiple tariff levels have been discussed.
- Worst case scenario: cost of solar panels could effectively double.
- Tariff decision is ultimately the President's to make; decision could be made in January 2018.

Agenda

- Overview of solar and energy storage
- Overview of procurement strategies
- Top things to be aware of right now
- Tips to maximize project success
SCCCD Solar: Challenges & Successes

- **Community Support**
  - Engage Stakeholders

- **Master Planning**
  - Long Term Projects

- **Parking Lot**
  - Phasing

- **Interconnection Upgrades**
  - Known Unknowns

- **Energize Fresno**
  - Community Approach

---

Questions?

Contact Information

- Christine Miktarian
  christine.miktarian@scccd.edu

- Shannon Robertson
  shannon.robertson@scccd.edu

- Kevin Flanagan
  Solar@spurn.org
  559-760-8982

- Brian Taylor
  btaylor@forefrontpower.com
  650-743-7880