COVID-19
An opportunity to save with solar + storage
Quick Poll
Meet Your Speakers

**Brian Taylor**  
**Sr. Director, Public Sector**

Advisor to Public Sector Agencies across California, resulting in over 100 MW of solar and energy storage capacity.

**Kevin Flanagan**  
**Program Manager, SPURR**

Program manager for the Renewable Energy Aggregated Procurement Program; Solar & Energy Storage Consultant.

**ForeFront Power**

900+ MW of Solar and energy storage  
California Public Sector Leader: 280 MW  
SPURR REAP Winner: 135 MW  
‘A’ Rated Parent Company: Mitsui & Co

**SPURR**

Established 1989  
Joint Powers Authority (JPA) focused on reducing utility costs.  
Buying Consortium of 200+ Public Agencies Aggregated Procurement
Meet Your Speakers

Liz Fitzpatrick
Associate Program Manager, SEI

Liz manages SEI’s Southern California workforce education and training programs from her base in San Diego. She is a technical education specialist, working on the Energize Schools, Energize Colleges, and Climate Corps programs.

Jessica Redden
Associate Project Coordinator, SEI

Jessica supports K-12 educational programming and curriculum development at SEI, including Energize Schools and Zero Waste Marin.

Strategic Energy Innovations

Strategic Energy Innovations (SEI) is an environmental nonprofit that builds leaders to drive sustainability solutions. For over 20 years, SEI has partnered with schools, communities, and businesses to develop a leadership pathway from elementary school to early career.
Webinar Agenda

1. Incentives Overview
   - State and Federal
   - Important deadlines

2. Solar and Storage Procurement Options
   - COVID-19 impact on project timelines
   - SPURR’s Program expediting the procurement process

3. Energy Storage

4. STEM Curriculum and Living Lab

* Bonus: Microgrids
Our goals for the webinar:

- Incentives available: timing is of the essence
- Different procurement options (pros and cons)
- Energy storage: Demand charges and the benefits to pair it with solar
- Collaborative opportunities: Campus as living lab

* Microgrids: how it works, and how increase resiliency
Renewable Landscape Update
Solar & Storage Incentives

Federal Tax Incentives

Storage Incentives – SGIP Incentives

Net Energy Metering – Exported Energy Credit
Solar and Storage Agreements
Solar Agreements

Power Purchase Agreement - PPA

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

Design Build, also known as “cash deal”

- System Ownership
- Expand General Fund
- Available Cash / Cheap Capital
- Operations & Maintenance Agreement
- Performance Guarantee
Quick Poll
Solar Procurement

Procurement options for your district
How the SPURR REAP Program has made it easy
Procurement Methodologies

**Self-Run**
- Limited Experience
- Low Cost
- Time/Resource Investment
- 12-18 Month Procurement

**Consultant**
- Expertise
- High Cost
- Moderate Resources
- 12-18 Month Procurement

**JPA**
- Expertise
- Low Cost
- Minimal Resources
- 3-9 month Procurement

“ForeFront Power and SPURR made it so simple for the District to know that we were getting the best value for our dollar working with them” said Sherrie Castellanos, Chief Business Official at South Monterey County Joint Union High School District.

“We are making a difference at South Monterey County JUHS and the students can see it. ForeFront Power came out and introduced a career fair, met with the students – everything we can do to keep money in the classroom rather than putting out in utilities” said Sherrie.
Quick Poll
SPURR’s REAP Program

• SPURR: School Project for Utility Rate Reduction
  JOINT POWERS AUTHORITY FOUNDED IN 1989
  BUYING CONSORTIUM OF 200+ USDS & CCDS
  AGGREGATED PROCUREMENT FOR UTILITIES

• REAP RFP: Renewable Energy Aggregated Procurement
  SAVE TIME: STREAMLINE SOLAR & STORAGE BUYING PROCESS.
  SAVE MONEY: DRIVE DOWN PROJECT PRICING.
  REDUCE RISK: IMPROVE CONTRACT TERMS AND CONDITIONS.

• REAP RFP Solicitation:
  MULTIPLE DIFFERENT SOLAR & STORAGE PROJECT TYPES INCLUDED.
  SPECIFIC PROJECT INCLUDES, EXCLUDES, AND ASSUMPTIONS.
  30+ VENDOR SOLICITATIONS, 7 PROPOSALS RECEIVED.
  
  Winner: ForeFront Power
• Average Time Frame from RFP Issuance to Contract: 298 Days
• Average Slippage in Contract Time Frame: 202 Days
• Meaning if you were to release an RFP today, on average you would contract by May 2021.
• COVID is not helping...
Benefits of REAP Program

Proven: 40+ California Public Agencies use REAP

20+ SCHOOL DISTRICTS
10+ COMMUNITY COLLEGES
5+ CITIES, COUNTIES, UNIVERSITIES

“Easy Button”

SOLAR, STORAGE, & EV CHARGING
COMPETITIVE PROCESS
EXCEEDS REQUIREMENTS OF GOV CODE 4217

Reduced Project Risk:

STANDARDIZED PRE-VETTED PPA CONTRACT
STANDARDIZED PRICING & STANDARDIZED TERMS
FAVORABLE TERMS/CONDITIONS: RECS, ANNUAL PERFORMANCE GUARANTEE, LDS, ETC.
Energy Storage
Energy Storage Solutions

PowerStore service flattens expensive demand peaks, PowerScope software visualizes energy performance.

Demand Charge Savings
Intelligently discharge the battery to shave demand charges.

Energy Arbitrage
Buy Low / Sell High
Demand Charges

Sample School Usage Profiles

<table>
<thead>
<tr>
<th>School</th>
<th>Energy</th>
<th>Demand</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>$159</td>
<td>$173</td>
</tr>
<tr>
<td>Middle</td>
<td>$103</td>
<td>$31</td>
</tr>
<tr>
<td>Elementary</td>
<td>$53</td>
<td>$21</td>
</tr>
</tbody>
</table>

SAMPLE SCHOOL DEMAND PROFILES

- High School
- Middle School
- Elementary School

Max Demand

- January: 552
- February: 584
- March: 646
- April: 844
- May: 947
- June: 844
- July: 1121
- August: 1109
- September: 966
- October: 702
- November: 572
- December: 510

Thousands $
Value Added:

Pre-construction Community Outreach  ✔️

**STEM Curriculum**  ✔️

STEM based Games ✔️

Career Fairs ✔️

Community Ribbon Cutting Event ✔️

On-campus Monitoring Dashboard ✔️

Project Photography ✔️

Press Release & Customer Testimonials ✔️

Post-Solar Savings Analysis ✔️

Solar workstations ✔️

EV Charges ✔️

At **NO COST** to you!
STEM Curriculum

ENERGIZE SCHOOLS
A PROGRAM OF SEI

sei
Opportunities to Collaborate

- Project-based curriculum
- Green Careers Conferences
- Teacher trainings
- The Energy Challenge
- Earth Day Campaign Contest
- Green Teams
Campus as a Living Lab

- On-site Technology
- Project-based Curriculum
- Career Focus

= Living Lab Experiences
Curriculum Highlights

- **Solar Certificate**
  SOLAR SYSTEM DESIGN
  SOLAR SYSTEM FINANCIAL ANALYSIS

- **Energy and Environmental Design Course**
  ENERGY STORAGE
  ZERO NET ENERGY
  ENERGY AUDITING

- **Project Based Units**
  SOLAR USB CHARGER BUILDING
  GREEN BUILDING

*ADAPTABLE TO DISTANCE LEARNING*
**Energy Auditing**

1. **Appliance Investigation**
   - Audit your space, pick one appliance to investigate.

2. **Power**
   - How much power does your appliance use?
   - Does it have a phantom load?

3. **Energy Impact**
   - How much does the appliance cost for you to run per year?
   - How much carbon is emitted?

4. **Conservation & Efficiency**
   - What is your energy conservation slogan?

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<table>
<thead>
<tr>
<th>Appliance</th>
<th>Operating Load</th>
<th>Phantom Load</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coffee Maker</td>
<td>1100W</td>
<td>3W</td>
</tr>
<tr>
<td>Cell Phone Charger</td>
<td>5W</td>
<td>0W</td>
</tr>
<tr>
<td>Printer</td>
<td>1200W</td>
<td>6W</td>
</tr>
<tr>
<td>Projector</td>
<td>25W</td>
<td>2W</td>
</tr>
<tr>
<td>Hair Dryer</td>
<td>1800W</td>
<td>0W</td>
</tr>
</tbody>
</table>
The Energy Challenge

Individual Weekly Bilingual Energy Challenges

Team Lead Virtual Conservation Campaigns

Prizes
- Energy Specialist Certificate
- $3,000 in prizes for weekly submitters and campaign winners!
Climate Corps

- Team capacity building
- Turnkey recruitment & employment
- Tailored project scoping, tied to quantifiable outcomes
- Fellow supervision support
- Best practice sharing
Microgrids*
What is it and how it works?
Normal Operations

Solar + Storage

Facility – All Loads

Utility Energy Supply
Wildfires and Resiliency

2002-2020 (California)

- Wildfires have caused 2/3 of emergency school closures
- 34,183 cumulative school days missed due to fires
- Thousands of schools statewide have experienced shutdowns
- Since 2015: increased disruption to public education compared to prior years
  - More often
  - More widely
  - For longer periods
Power Outage

Solar + Storage

Facility

Solar shuts down for safety in a power outage

Public Safety Power Shutoff
Microgrid Mode

Solar + Storage

Facility – Critical Loads

Generator (Diesel or Natural Gas)

Public Safety Power Shutoff
Microgrids

• Opportunities
  RESILIENCY
  REDUCE OPERATIONAL RISK
  ENERGY EXPENSE SAVINGS
  SUSTAINABILITY LEADERSHIP
  ISLANDING CONTROLLER PACKAGES

• Challenges
  CRITICAL LOAD ANALYSIS
  • Identify Critical Loads
  • Retrofit & Isolate Circuits
  ADDITIONAL SOLAR PROJECT SCOPE
  • On-Site Generator
  • Microgrid Technology

Solar + Storage
Generator (Diesel or Natural Gas)
Today, we discussed

- Incentives available: timing is of the essence
- Different procurement options (pros and cons).
- Energy storage: Demand charges and the benefits to pair it with solar.
- Inspire collaborative opportunities: Campus as living lab

* Microgrids: how it works, and how increase resiliency
Next Steps

Options:

1. Contact Brian Taylor directly at btaylor@forefrontpower.com

2. Follow-up e-mail with a link: 15-min chat with Brian Taylor
   - Q&A
   - Free Solar and Energy Storage Evaluation
Questions?

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