Community Solar That Works and Sells

Discussion Regarding SMUD's Plans and Programs

American Public Power Association
Customer Connections Conference
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Powering forward. Together.
Discussion Items

- Strategy
- Product Development
- Planning – Lessons Learned
- Community Solar Project
- Replicable Strategies
- Moving Forward
Strategy

Board Strategic Directives

SMUD 3.0 5-Year Strategic Plan

Value Our Customers & Community | Financially Fit | Sustainable Future | Operational Excellence | Treasure Our Employees | Be Safe. Always.

Grid 3.0 Vision


Integrated DER Strategy

Be Preferred Energy Services Provider/Advisor | Extend Access to Underserved Customers | Reduce Pressure on Rates | Contribute to Regional Carbon Reduction | Provide Outstanding Reliability & Power Quality
Strategy

• Strategic objectives
  • Provide customers with options for solar energy
  • Extend opportunities to underserved customers
  • Help customers address physical site limitations for siting solar PV
  • Integrate DER technologies with community solar to address grid issues
  • Pursue cost effective approaches to providing solar energy to all customers
  • Contribute to GHG reduction goals and objectives
Program

• SolarShares - Past
  – Launched in 2008 with a 1 MW solar PV array
  – Served residential customers only (~ 630 customers)
  – Premium pricing (driven by high PPA price)

• SolarShares - Current
  – Launched large commercial product offering June 2016
  – Transitioned existing residential customers to interim product (lower pricing to better reflect current market)
  – Develop new products

• SolarShares - Future
  – Launch new residential product offering January 2019
  – Eventually products for all rate classes
  – Create more tailored products including low income
Product Development

• Product strategy
  • Standard and tailored

• “Standard” product
  • kWh sales with fixed energy price
  • Added charge to recover fixed costs
  • Contracts with variable terms and discounted pricing for longer terms

• Additional products being developed
  • Low income
  • Hybrid
  • New Community Development

• Future products?
  • Bundled with other products and services?
Product Development

Potential new product

Hybrid Product – address customer’s desire for visibility
Product Development

Potential new product

New Community Development – *provide alternatives for new community developers to include solar energy*
Planning

- **Program**
  - Marketing and communication strategies
  - Enrollment tools
  - Reporting and admin tools
  - Customer relationship management

- **Product**
  - Market research
  - Customer experience
    - Value proposition and business model canvas

- **Pricing**
  - Basic pricing design and requirements
  - Pricing strategy

- **Resource**
  - Procurement strategy
  - Development and procurement
  - Portfolio management
Planning Lessons Learned

Program
• Have clear program objectives, roles and responsibilities
• Stakeholder buy-in and support is key requirement
• Flexibility is important
• Clear alignment with all relevant strategic objectives

Product
• Have clear product strategy and objectives
• Employ best product development practices (*customer journey mapping, value proposition canvas, market research*)
• Sales channels, marketing and communications strategy
• Alignment with customer segmentation business strategy

Pricing
• Establish basic pricing design principles and strategy and re-evaluate annually
• Work closely with CFO team (Pricing/Rates) to align product pricing with revenue and rate strategy
• Test pricing through market research

Resource
• Establish procurement strategy and portfolio management plan
• Work closely with Resource Planning, Energy Trading and Contracts, Power Generation (*for PV project development*)
• Assess market conditions, evaluate siting and location options
• Create sales forecast and robust process for review and updates
Community Solar Project

• North Franklin Community Energy Project
  • Targeting disadvantaged community (*CalEnviro Screen 3.0*)
  • High proportion of low income residential customers
  • Low participation in procuring solar energy
  • Public transportation issues

• Project scope
  • Site and install a solar PV array or arrays within the community (large ground mount, parking canopies)
  • Recruit residential and commercial customers to implement:
    • Energy efficiency, weatherization
    • EV charging systems
    • Heat pump water heaters, smart thermostats, HEMS
    • Energy storage
  • Evaluation of electric shuttle service
Community Solar Project

[Map and infographic related to community solar project and CalEnviroScreen 3.0 results]
Community Solar Project

- **Project Objective**
  - Demonstrate that community-owned, customer-shared solar projects on urban in-fill sites coupled with demand side energy management and DER strategies can provide economic and environmental benefits to low-income neighborhoods and to marginal small businesses in disadvantaged communities.
  - Position the operation and location of these assets (PV systems, EV charging, heat pump water heaters, energy storage) to drive distribution grid benefits.

- **Project status**
  - Detailed project planning phase, implementation in Q3/Q4 2018 *(planned)*
Replicable Strategies

- **Utility scale**
  - Based on existing utility resource procurement business practices and planning
  - Siting issues specific to large solar PV array
  - Transmission related issues to consider
  - Potentially less program management challenges (i.e. billing)
  - Cost advantage

- **Community scale**
  - Dependent on business model, potential to employ unique use cases
    - Energy only, ownership of modules
    - Integrate other DER technologies, EV charging
  - Higher visibility = stronger connection to customers
  - Drive locational benefits
  - Opportunities for utility ownership
  - Potential challenges related to program development and management
Moving Forward

- Continue market research and customer experience investigation (*feedback loops*)
- Business and technology requirements development and implementation
- Coordinate billing presentment with larger enterprise project
- Move from pilot to program to tariff rate
- Evaluation and assessment of local resource siting opportunities
- Refinement of resource procurement strategy
- Complete IT automated billing projects
- Meet product launch milestones
- Detailed project plan and implementation of North Franklin Community Energy project
Thank You!

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