

# Community Solar That Works and Sells

Discussion Regarding SMUD's Plans and Programs

Powering forward. Together.

American Public Power Association  
Customer Connections Conference  
November 7, 2017



# Discussion Items

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- 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

Grid Modernization  
Strategy

Integrated DER  
Strategy

Rate Strategy

Energy Market  
Strategy

ER&D Strategy

## 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

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- 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

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- 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

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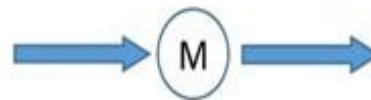
- Product strategy
  - Standard and tailored
- “Standard” product
  - kWh sales with fixed energy price
  - Added charge to recover fixed costs
  - Contracts with variable terms and discounted pricing for longer terms
- Additional products being developed
  - Low income
  - Hybrid
  - New Community Development
- Future products?
  - Bundled with other products and services?

# Product Development

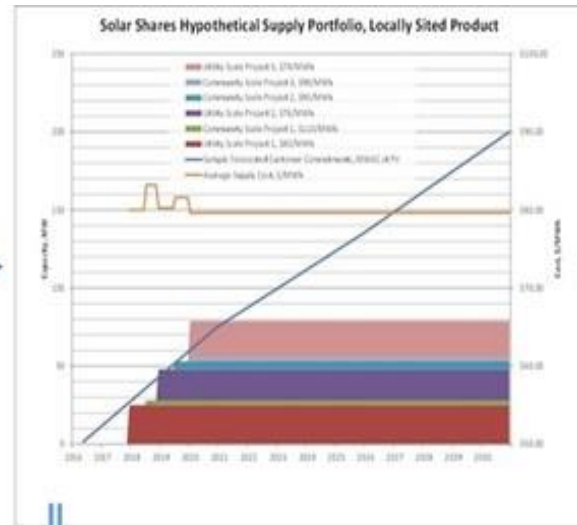
*Potential new product*



**Commercial Customer  
with PV**



**Interconnect to Grid  
Side of Meter**



**SolarShares Resource  
Portfolio**

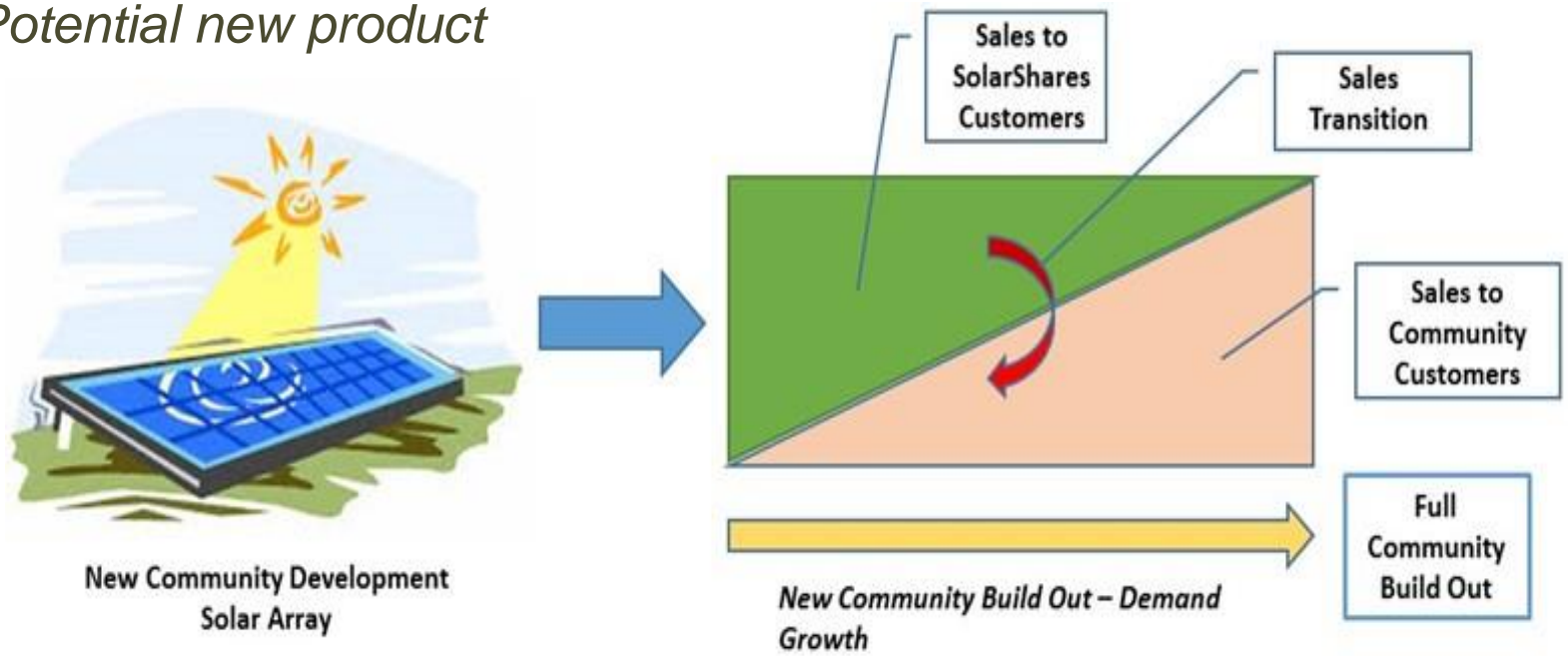
**SolarShares Sales to Customer**

**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

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- 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  
Product  
Pricing  
Resource

## 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

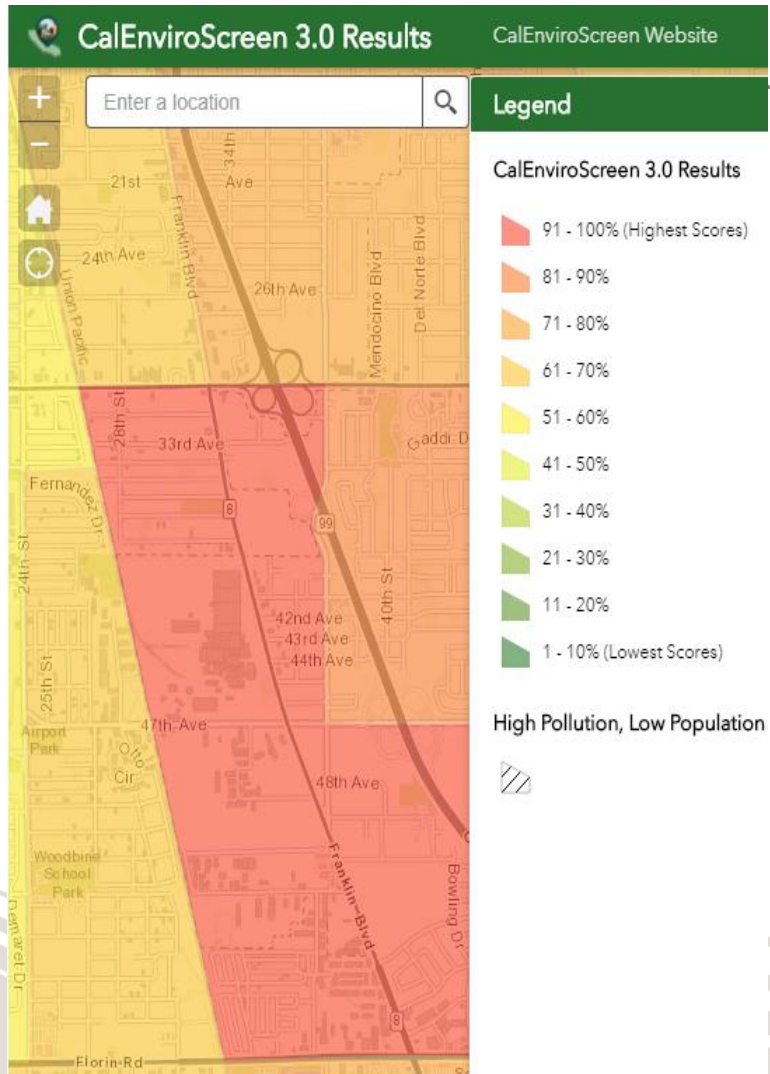
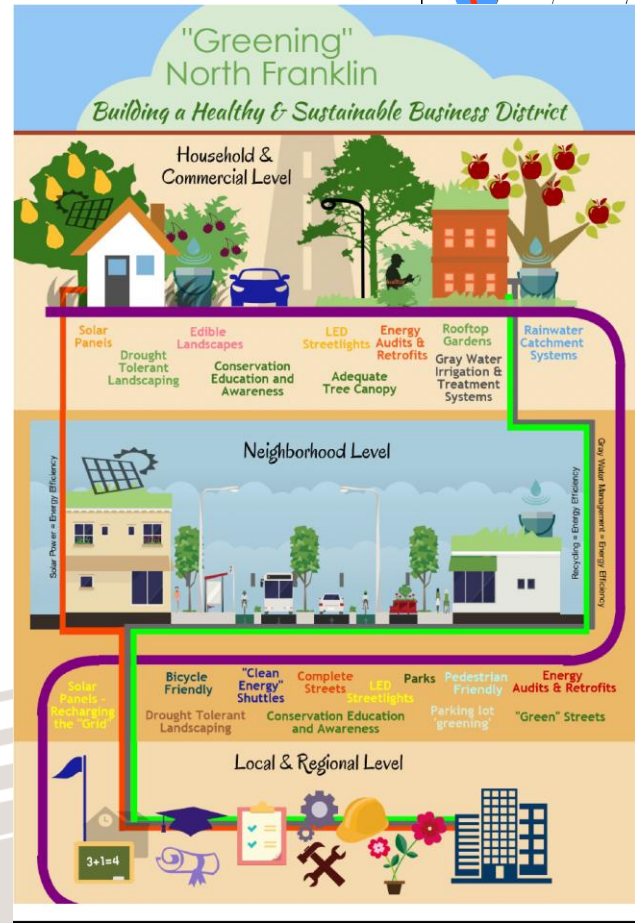
## Resource

- 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



# Community Solar Project

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- 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

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- 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

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- 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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