# CALFLEXHUB SYMPOSIUM SEPTEMBER 24 | 8am-6pm PT







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#### DYNAMIC PRICING AND CCAS: CHALLENGES, OPPORTUNITIES, AND THE FUTURE OF LOAD FLEXIBILITY

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### MCE Virtual Power Plant

Provide a suite of customer-owned distributed energy resources (DERs) by 2025 to build a quiet, invisible, clean pockets of power

#### Technical Objectives:

- Receives device data, bypassing meter-data bottlenecks
- Allows digital signals to shift load for demand response
- Replaces need for peakers or diesel generators

#### **Economic Objectives**

- Uses social impact bond to acquire sites for rehabilitation
- Sell homes below market value with no resale restrictions.
- Increases inter-generational wealth and DAC property values
- Weaves existing funding to maximize value (CEC, MCE, IRA)

#### **Future Objectives**

- Grow to 4 counties, including to ~63,000 solar sites (400MW)
- Tap other funding like IRA tax breaks and RA value
- Develop consistently responsive systems with validated loads to bid and settle into CAISO day ahead and real time markets







### MCE Virtual Power Plant - Tariffs

Unique MCE approach – share the wealth through on-bill credit structures

VPP Value Sharing System Phase 1: Flat Tariff: Monthly credits in exchange for remote control and dispatch capability, with exceptions made for outage events:

- Residential: credits vary on number and type of DERs installed (\$2-20/device/mo), capped at \$40 or \$50/month (pending income).
- Commercial and Industrial: credits capped at \$300 for commercial and \$750 for industrial. Annual true-up payment of actual value.

Future - VPP Value Sharing System Phase 2: Dynamic Tariffs + P4P Contracting: dynamic tariffs and P4P contracting to share full market value.

- Dynamic Tariffs: Customers paid based on actual market values.
- P4P Contracting: Vendors paid fairly using transparent, 3rd-party verified settlement procedures based on actual market value.

Aligns with anticipated push for market-sensitive rates. Costs can be offset by reduced cost of procured energy by MCE.







## MCE: Flexing Other Muscles

#### MCE Sync:

- Over 3,600 customer enrolled.
- 90% of charging shifted out of peak hours
- Includes smart charging to drive charging toward hour of peak solar production
- Will launch a Dynamic Pricing Pilot with 250 customers that sets an hourly variable rate for electricity used for charging.
  - Hourly variable rate is tied to real energy prices.
  - Pilot include bill protection will always result in an incentive to participate.
  - Findings will inform a potential broader roll out.







## Valley Clean Energy's AgFIT Pilot

Agriculture Flexible Irrigation Technology

### Why the Agriculture Industry?

- 85% of VCE's territory is designated for agricultural use
- While 3% of VCE's customers are ag,16% of peak load and 18% of annual load is agriculture
- Ag load is hard to predict, volatile, and tied to rainfall
- Pumping identified as a cost-effective shiftable resource - LBNL
- Agricultural load seen as having high load flexibility potential - CEC









## AgFIT's Structure and Benefits

- Incentives \$200/kw for automation and monthly bills savings for load shift
- Customer Support software training, 1:1 calls and meetings
- Price Design hourly, week ahead up to day ahead, grid responsive, and circuit specific
- Bill Protection never pay more than Blue Bill and prices adjusted using tariff average
- Additional Benefits water efficiency and reduced labor costs
- Program Results Preliminary Assessment, Midterm Evaluation, and Final Evaluation







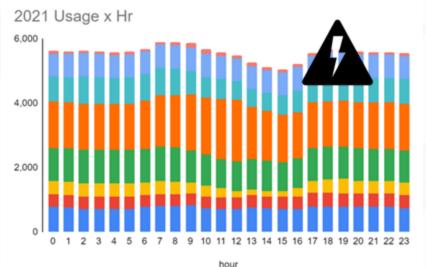
## AgFIT Participation and Lessons Learned

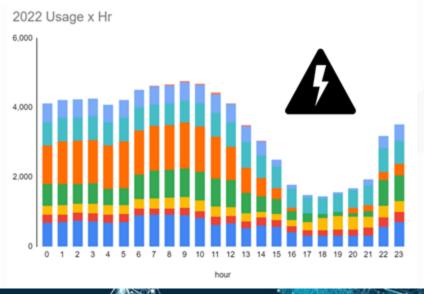
#### **Program Participants**

- 7 customers and 66 service points/meters 3.9 MW of enrolled load PLUM
- Row crops to orchards

#### **Key Takeaways**

- Price response outside of Peak window
- Automation is driving customer action
- Almost all action is scheduled a week in advance with little to no modification in customer portal
- Community/industry connections and "word of mouth" marketing drives enrollment
- Customers need to see the results of their performance









## AgFIT Weekly Scheduling

POLARIS	Scheduled Pump H	kP (15kW)	Schedule Operation N Pump Panel Switch in A		Select TOU or AgFiT rat		Week of Sunday Aug 28		→ PRE-FILL RECOMMEND NEXT	
David Meyers		← 8/28 Sunday	8/29 Monday	8/30 Tuesday	8/31 Wednesday	9/1 Thursday	9/2 Friday	9/3 Saturday	→ Bill Period: Aug 1 - Aug 31	
[] Map	12:00am	0.22	0.21	0.23	0.24	0.32	0.29	0.27	Transactive Energy existing: \$2,224.03 \$0.18 (AVG) 12,058kWh	
	01:00am	0.20	020	0.21	0.23	0.27	0.26	0.24	\$0,18 (AVG) 12,058kWh new: 1,050kWh	
Sites	02:00am	0.21	021	0.22	0.25	0.28	0.29	0.26		
© Event Mgmt	03:00am	0.20	0.21	0.21	0.24	0.28	0.26	0.25	Charges with Subsciption	
Event mgmt	04:00am	0.21	0.21	0.23	0.24	0.27	0.25	0.24		
2 Chart	05:00am	0.21	0.21	0.23	0.24	0.28	0.27	0.25		
	06:00am	0.20	0.25	0.27	0.30	0.34	0.31	0.25	Bill Period: Sep 1 - Sep 30	
Schedule	07:00am	0.19	021	0.23	0.25	0.27	0.27	0.22	Transactive Energy existing: \$293.48	
F DR Events	08:00am	0.17	021	0.21	0.23	0.24	0.24	0.21	\$0.24 (AVG) 1,246kWh + \$15.03	
F DR EVENIS	09:00am	0.16	0.19	0.29	0.22	0.24	0.24	0.21	new: 750kWh	
Account	10:00am	0.16	0.20	0.20	0.22	0.26	0.25	0.21	Charges with Cubacistics	
	11:00am	0.16	0.21	021	0.24	031	0.29	0.24	Charges with Subsciption	
Report	12:00pm	0.18	0.20	0.22	0.25	031	0.29	0.26		
	01:00pm	0.19	0.22	0.25	0.29	036	034	0.30	CALCULATE Calculate final Schedule cost	
<>> close sidebar	02:00pm	0.21	0.25	0.29	0.34	0.43	0.38	0.36		
	03:00pm	0.23	0.27	0.31	0.38	0.50	0.42	0.41	Estimated Schedule Charges (120hr) 315.03	
	04:00pm	0.26	0.31	0.35	0.41	0.55	0.46	0.45	Existing Bill Charges \$2,517.51	
	05:00pm	0.34	0.36	0.43	0.51	0.67	0.53	0.55	Existing bill charges	
	06:00pm	0.56	0.55	0.70	0.87	126	0.95	0.93	Total \$2,532,54	
	07:00pm	0.72	0.66	0.77	0.91	1.35	0.97	0.98	January Police Science	
	08:00pm	0.53	0.46	0.53	0.59	0.77	0.59	0.54		
Real-Time Data Connected	09:00pm	0.27	026	0.30	0.34	0.39	0.36	0.36		
Action to the second se	10:00pm	0.23	0.23	0.26	0.28	0.35	0.30	0.33		
Polaris <sup>BETA</sup>	11:00pm	0.22	0.24	0.25	0.27	0.33	0.22	0.31		
⊕sign out	estimated bills:		08/01 - 08/31 VCE LSE -			09/01 - 09	/30 VCE LSE			





## GridSavvy Rewards: Enhancing Load Flexibility through Demand Response

**Presented by: Kimberly Beltran** 

**Technical Programs Manager at Sonoma Clean Power** 



## Sonoma Clean Power (SCP)

## **Agency Background**

- Established in 2014
- Community Choice Aggregator (CCA)
  serving approximately 87% (~230,000 meters)
  of homes and businesses in Sonoma and
  Mendocino Counties with cleaner energy at
  competitive rates.
- Not-for-profit model: Revenues reinvested into scalable and impactful energy initiatives.
- Mission driven: Our mission is to turn the tide on the climate crisis, through bold ideas and practical programs.

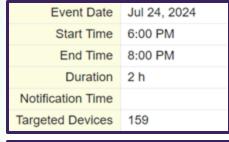




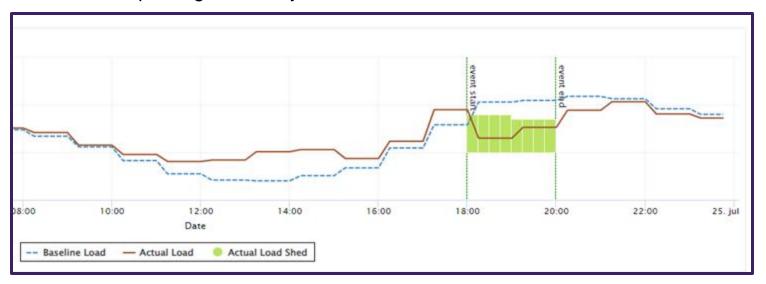
## **GridSavvy Rewards**

#### **Automatic Demand Response (ADR)**

- Offers customers \$5 monthly bill credit plus \$100 enrollment incentive for integrating smart devices such as:
  - EV chargers: automatically slows charging during peak demand.
  - Smart thermostats: pre-cools participant's homes and adjusts temperature during grid events.
- Managing resources with AutoGrid Flex™ DERMS, integrating multiple smart devices and interfacing with OpenADR to optimize load flexibility. Can be scaled to improve grid stability without customer intervention.



Actual Load Shed (kW)	74.89
Total Energy Reduction (kWh)	149.79
Actual Load Shed (percent)	69.66%
Actual Load Shed Per Meter (kW)	1.10
Actual Meter Count	68
Opted Out Resources	0



#### **Behavioral Demand Response (BDR)**

- Participants receive alerts to manually reduce energy use during peak demand, earning \$2/kWh saved.
- Encourages customer engagement, offering rewards for active energy conservation.



## PANEL DISCUSSION



