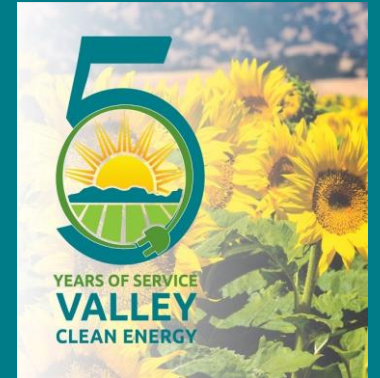




VALLEY
CLEAN ENERGY



Logistical Challenges & Solutions for Biomass

Winters, CA

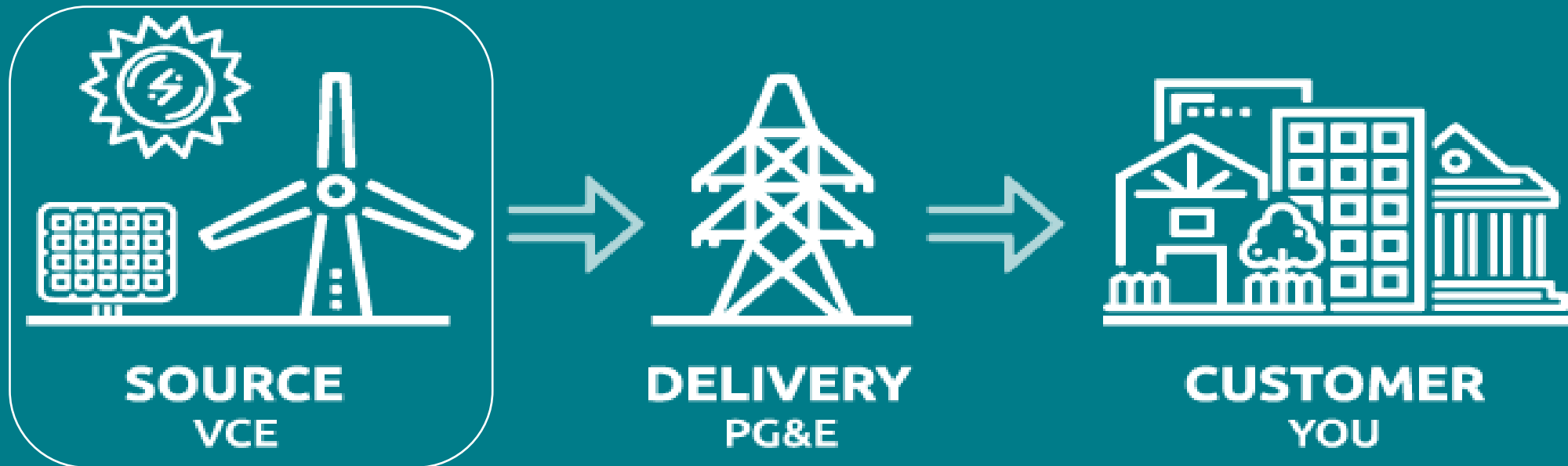
Sept 5, 2023

*Photo Credits:
Yvonne Hunter*

Community Choice Aggregation Basics

AB 117 (2002) allows cities and counties to form public Community Choice Aggregation (CCA) agencies. CCAs partner with Investor-Owned Utilities (e.g. PG&E) to bring electricity to customers in the CCA's service territory.

The CCA procures the electricity and the IOU delivers it, maintains the hardware, provides repair services, and sends the customer a bill.



Community Choice Aggregators - California

Since 2010

- 23 Community Choice Aggregation Programs
- 200+ Cities/Counties Served
- 14M Customers Served
- 50%+ Generation Load Migrated to CCA's in PG&E Territory Since 2010
- 11,000 Megawatts of New Clean Energy Power Purchase Agreements Signed by CCAs

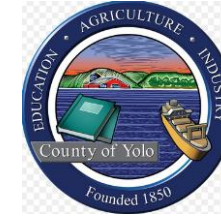


Valley Clean Energy

VCE is a Community Choice Aggregation program (CCA).



- Created by, and for, local communities
- **Not-for-profit** joint powers authority
- Locally controlled
- Provides **competition** that benefits customers
- More renewables, **competitive cost**



Valley Clean Energy's mission is to provide clean electricity, product choice, and greenhouse gas emission reductions—all with local control at competitive prices.



Valley Clean Energy Overview

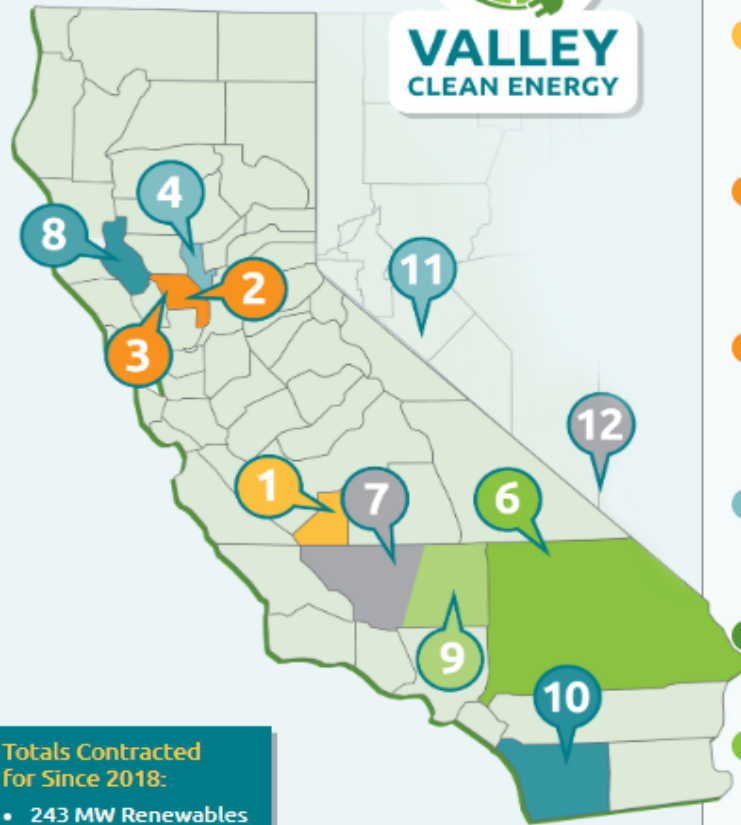
Launched in June 2018 with Yolo County; Cities of Woodland, Davis. Winters joined in Jan 2021.

- **61,000 Customer Accounts / 750 GWh annual load / 225MW Peak**
 - 2021 median household income: \$78k; CA \$84k (2021)
 - Poverty rate: 14.8%; 25% Customers Low Income Qualified (CARE/FERA)
 - **15% Agricultural (load)**
 - 20% NEM (solar)
 - 90% Customer Participation
 - Yolo, Woodland, Davis each have roughly 1/3rd of load, Winters 5%
- **Quick Facts:**
 - On schedule for 80%+ renewable portfolio by 2024; all new renewable fleet except local small hydro; long-term hedges based on long-term contracts
 - Working toward Investment Grade Credit Rating in 2027; rates policy to meet costs + reserves
 - 2023 lower rates for CARE/FERA customers (default portfolio); offer customer rate lower than PG&E
 - Executing 3-yr Programs Plan
 - Local Workforce Development; EV Rebates (25% low-income reservation); ARP funded low-income EE program w/Yolo Co.; local multi-customer microgrid pilot; AgFIT pilot – dynamic rates + irrigation automation incentives for farmers

Developing New Power Resources



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Power Resource Contracts

- 1 Aquamarine Solar Facility**
Kings County
50 MW PV-only
(approx. 130,000 MWhs)
online now
- 2 Putah Creek**
Yolo County
Solar PV + Storage Project
3 MW/3 MW BESS*
(approx. 7,600 MWhs)
online now
- 3 Gibson**
Yolo County
Solar PV + Storage Project
13 MW/13 MW BESS**
(approx. 50,000 MWhs)
anticipated online Q2 2025
- 4 Tierra Buena Battery Storage Facility (4 hrs)**
Sutter County
VCE Share is 2.5 MW
online now
- 5 Aggregated Demand Response**
Statewide Resources
VCE share is 7 MW
online now
- 6 Resurgence Solar I**
San Bernardino County
Solar PV + Storage Project
90 MW (PV)/75 MW BESS*
(approx. 250,000+ MWhs)
online now
- 7 Willy 9 Chap 2 (formerly Willow Springs Solar 3)**
Kern County
Solar PV + Storage Project
72 MW (PV)/36 MW BESS*
(approx. 215,000+ MWhs)
anticipated online end of 2023
- 8 Indian Valley Hydro**
Lake County
2.9 MW small hydro
(approx. 6,000 MWhs)
online now
- 9 Tumbleweed Long-Duration Battery Storage (8 hrs)**
Kern County
VCE Share 2.9 MW
anticipated online Q2 2026
- 10 Goal Line Long-Duration Battery Storage (8 hrs)**
San Diego County
VCE Share 2.25 MW
anticipated online Q2 2025
- 11 Fish Lake Geothermal**
Esmeralda County, NV
VCE Share 0.42 MW
(approx. 3,460 MWhs)
anticipated online spring 2025
- 12 Ormat Nevada Inc Portfolio**
Geothermal – NV & CA
VCE Share 4.63 MW
(approx. 35,380 MWhs)
anticipated online early 2026

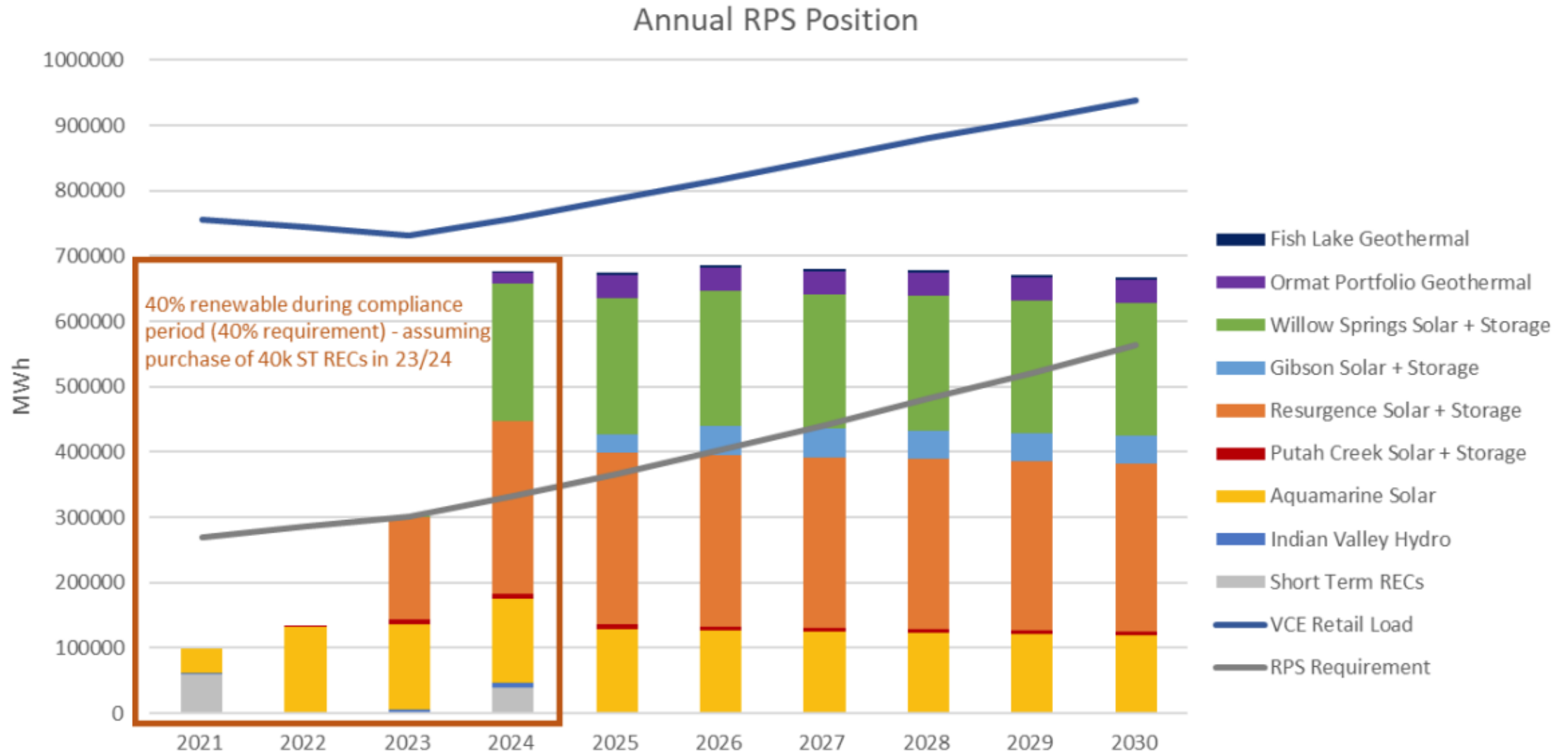
*Battery Energy Storage System (4 hrs)
**Battery Energy Storage System (5 hrs)

Totals Contracted For Since 2018:

- 243 MW Renewables
- 128 MW BESS*
- 7 MW Demand Response



Developing New Power Resources



VCE Power Contracts and Biomass

VCE Power Contracts

- Buyer of Clean, Renewable Resources with a preference for local (e.g. 2020 local solicitation)
- Contracted for 243MW Renewable Resources (solar, geothermal, small hydro); 128MW Energy Storage (e.g. 4, 5, 8hr battery storage); 7MW Demand Response
- Two key features of VCE Long-term Contracts (PPA's): Energy and Capacity
 - Energy – electricity produced (fill the 750 GWh annual load)
 - Capacity – readiness, or capacity for electricity production to meet forecasted peak (225MW summer load peak)
- Competitively Priced and Associated Capacity Factor (i.e. how often a plant is running at max output)
- Ag Biomass: good capacity factor; generally localized resource; Renewable Portfolio Standard (RPS) compliant; “Clean Firm Resource” for Mid-Term Reliability Order; co-benefits
- Ag Biomass: relatively expensive; dependent on feedstock; associated concerns

AB 843 (Asm. Cecilia Aguiar-Curry)

- When implemented by the CPUC will provide CCA's access to State's BioMAT program; cost-recovery based model; link to local needs/objectives

Questions?



YEARS OF SERVICE
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