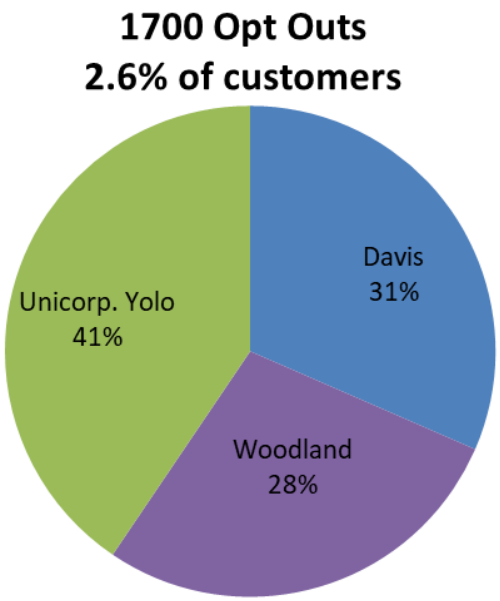
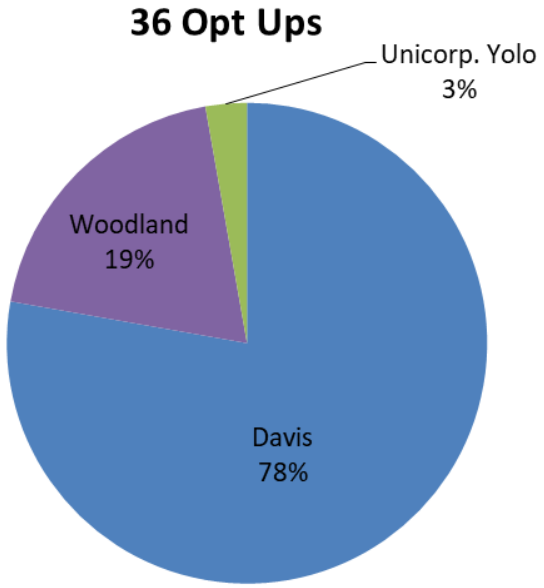
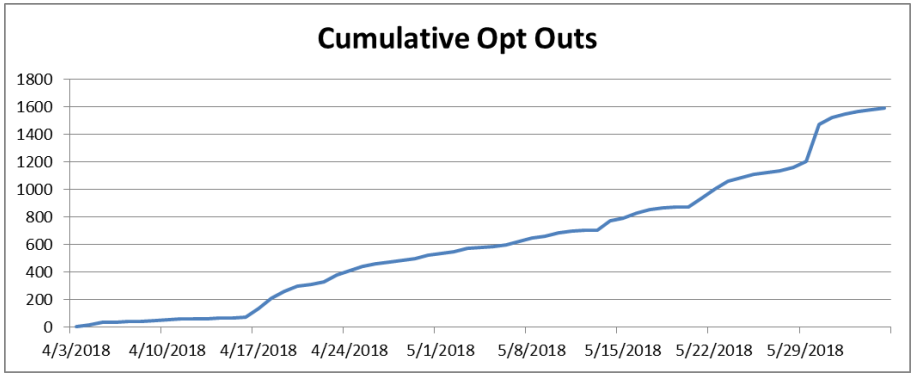
Enrollment Update







Opt Out Channel	
CSR	41%
IVR	28%
Web	31%

	Eligible	Opt-Out	% Opt Out
Residential	56,500	1,221	2.2%
Non-Residential	8,500	479	5.6%
Total	65,000	1,700	2.6%

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Status Date: 6/4/18

Valley Clean Energy Board Meeting

June 6, 2018

Davis City Council Chambers

IRP Resource Portfolio Results

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IRP Basic Requirements

Outlook Period	2018-2030
Renewable Portfolio Standard (RPS)	50% by 2030
Long term contracts for renewables	65% of RPS resources under long term contract from 2021
Energy Storage	1% of load, to be online by 1/1/2024 (~3MW of capacity)
GHG Benchmark (for planning)	129,000 metric tons (MT)/year for 2030
Load Forecast	Use California Energy Commission's 2017 IEPR
Select at least one Preferred Portfolio	
File by August 1, 2018	

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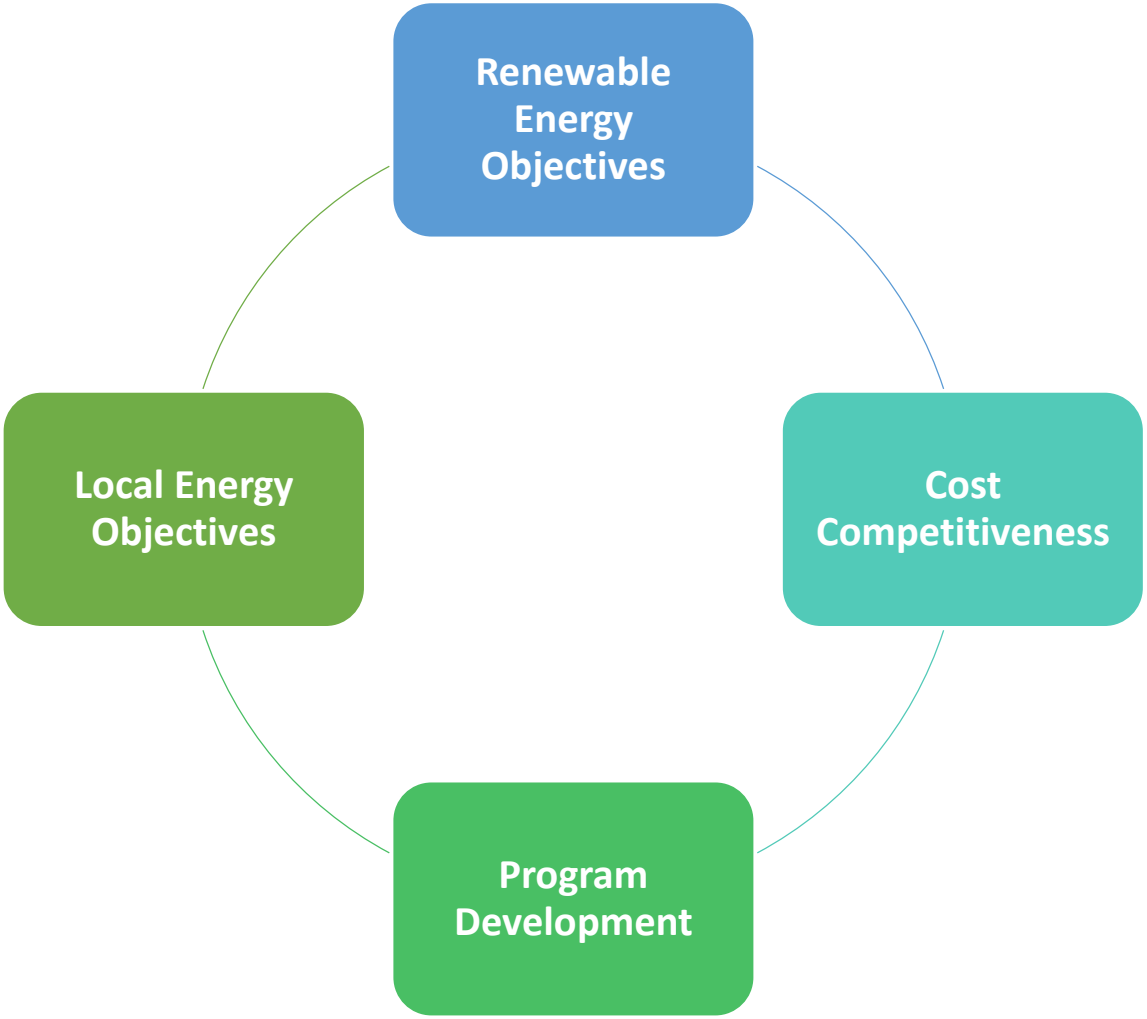
IRP Policy Considerations



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IRP Portfolio Alternatives Considered

Portfolio	Key Features
Basic Compliance	• Meet CPUC and statutory requirements • Maintain 75% Clean Energy • Lowest cost renewables – local if cost effective
Cleaner Base	• 80% RPS by 2030 • 100% Clean Energy from 2022 • Lowest cost renewables – local if cost effective
Clean Local	• 80% RPS by 2030 • 100% Clean Energy from 2022 • Increased focus on local solar, biomass and geothermal
Cleaner VCEA	Same as Cleaner Base but using different load forecast

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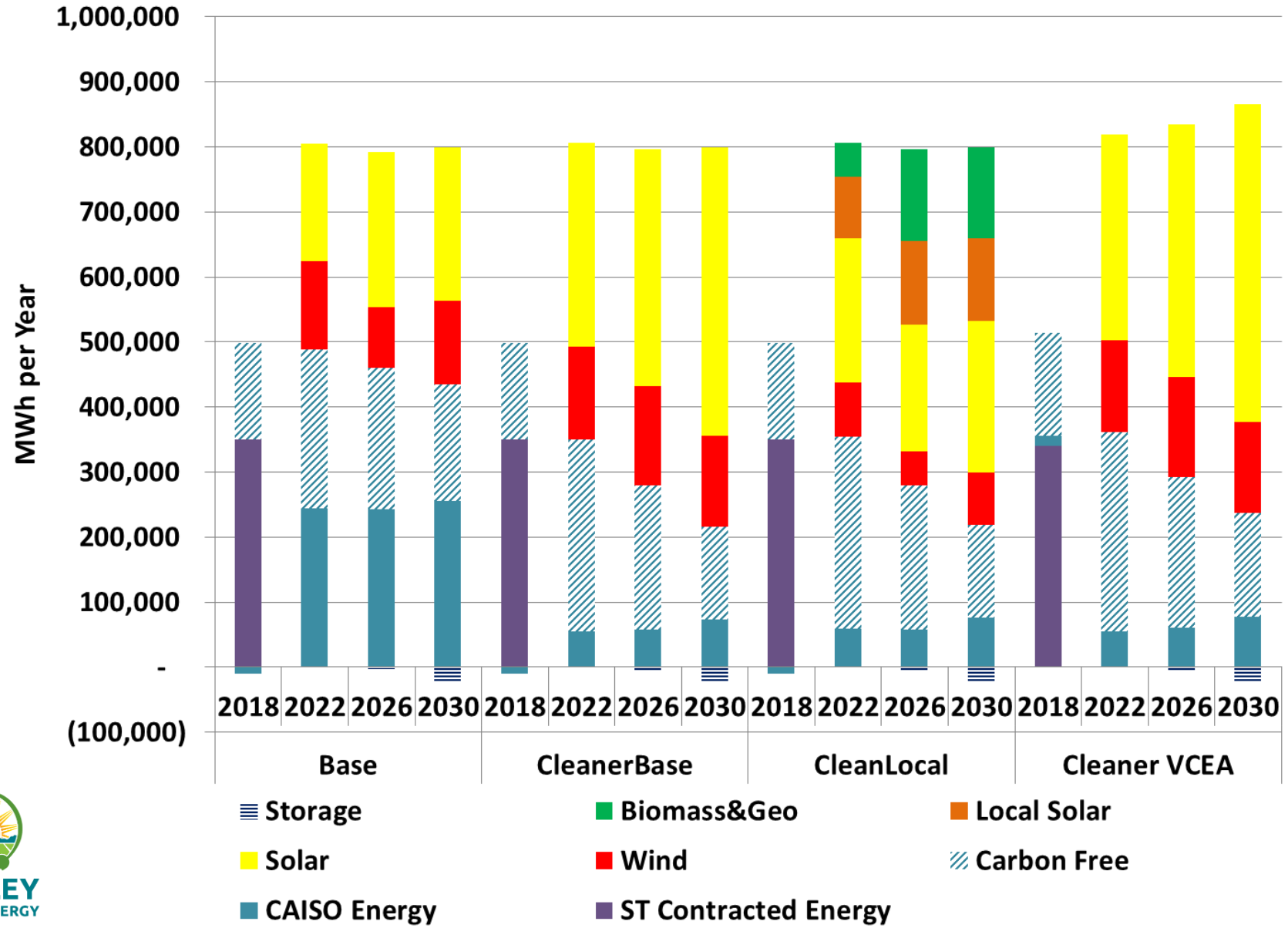
Resource Portfolio Generation Mix



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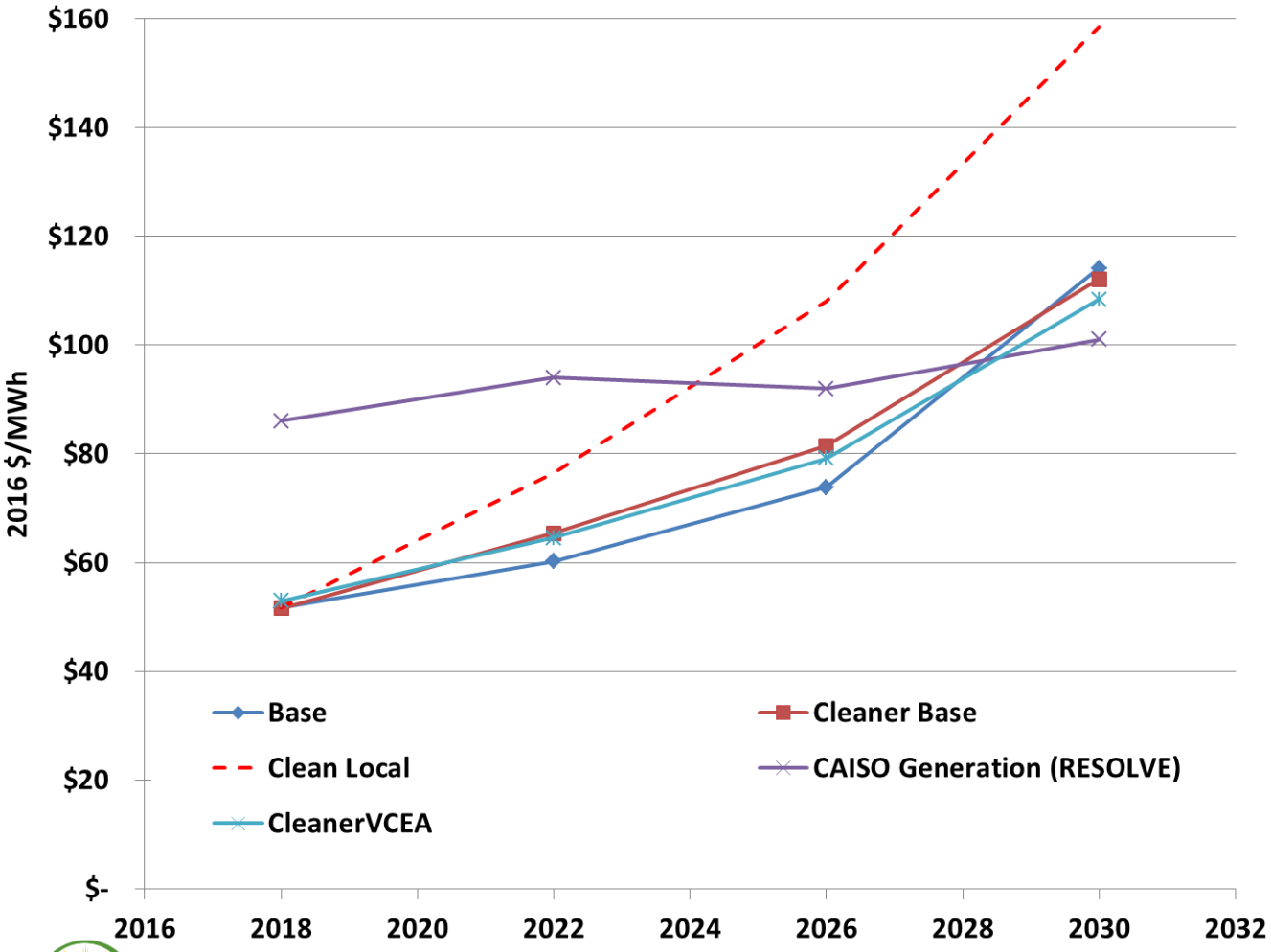
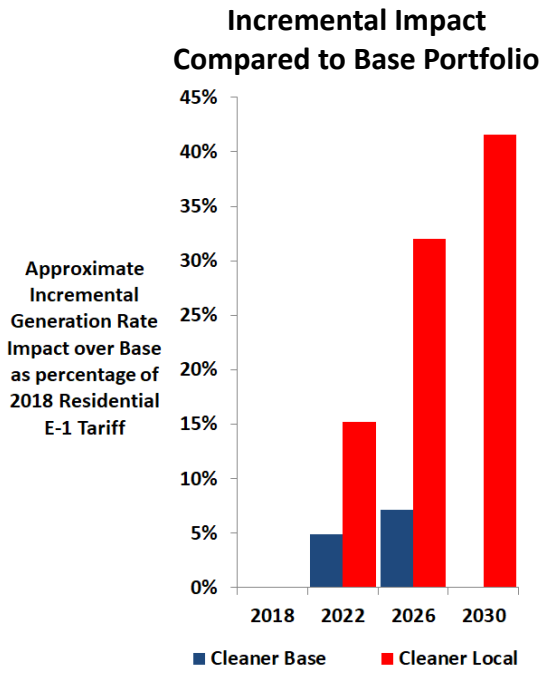
Estimated Generation Costs by Portfolio





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Observations & Recommendations

Observations	Recommendations
Renewable energy costs competitive with long term CAISO market prices	Pursue 50% RPS by 2020 and 80% RPS by 2030
Price premium for carbon free (non-RPS) energy expected to remain moderate	Increase portfolio clean energy content from 75% (current) to 100% by 2022, depending on market price developments
Renewable energy and storage costs have been falling dramatically in the past 10 years. It is likely that this trend continues	Enter long term contracts only to cover regulatory requirements (65% of RPS obligation) and opportunistically pursue additional deals as they arise
Economies of scale continue to make large scale renewables more cost effective than smaller ones; Biomass and Geothermal are significantly higher cost and have limited potential in Yolo County	Focus on large scale "conventional" renewables to save costs and be open to local competitive offers
Local capacity development potential is sensitive to exact location and impact	• Fine-tune procurement strategy and carbon goals later in 2018 using results from RFO and IRP filings of other LSEs • Conduct feasibility study for local renewables

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Cleaner Base Portfolio Recommended
Local renewables when consistent with cost-competitive position

IRP Draft Action Plan

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IRP Action Plan

- **A key element of the IRP is the action plan.**
- **It identifies VCE's key deliverables for the next 1-3 in the CPUC's IRP process.**
- **The listing shown in the packet shows the current list under review by the CAC.**
  - **Over the next few weeks, the CAC will complete its review of the prioritization of this list for inclusion in the final IRP.**
  - **We'll have the final proposed action plan listing for the Board's approval in July.**
- **Highest priority action item is the long-term renewable procurement.**
- **Additionally, the CAC has developed a draft listing of long-term objectives for issue review by the CAC. They will be reviewing with the Board at a later date.**

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Additional Materials

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Comparison and Examples of Utility Scale vs. Distributed Solar

- **Utility Scale – medium to large scale, typically designed as a stand-alone facility**
- **Distributed**
  - **Rooftop**
  - **Parking Lot**

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Rooftop and Parking Lot Solar

- Rooftop solar at the Winery, Brewery and Food Science Laboratory and solar panels shading cars at Parking Lot 1 on UC Davis Campus
- 756 kW capacity

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Rooftop and Parking Lot Solar

- Rooftop and parking lot solar at the City of Woodland Police Department
- 0.45 MW capacity

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Utility Scale Solar

- SMUD Feed-in-Tariff utility scale solar
- 10 MW capacity
- 128 acres

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Utility Scale Solar

- SMUD Feed-in-Tariff utility scale solar
- 18 MW capacity
- 160 acres

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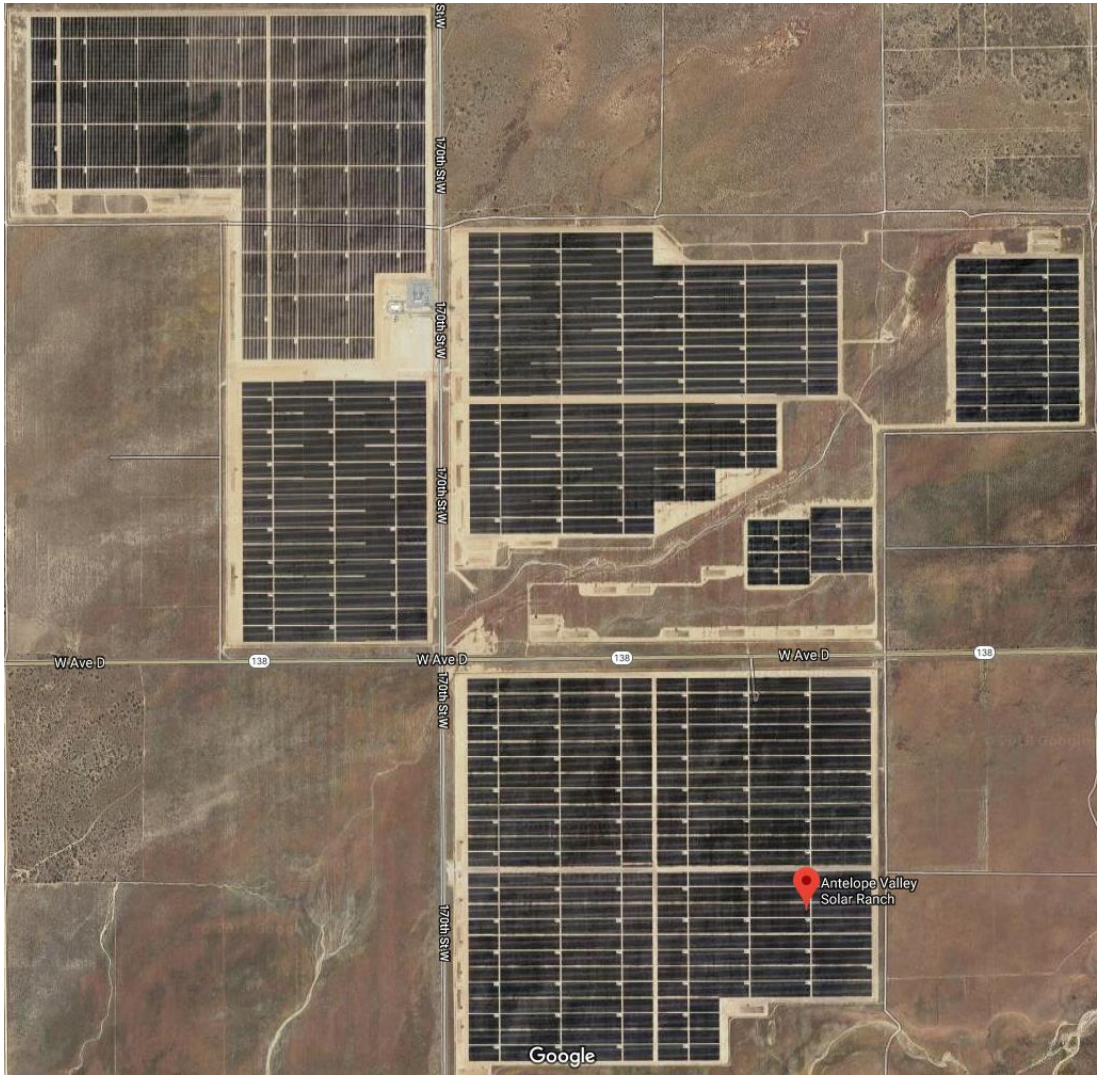
Utility Scale Solar

- Antelope Valley Solar Ranch
  One utility scale solar
- 230 MW capacity
- Spread out over 2,100 acres



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Valley Clean Energy Board Meeting

June 6, 2018

Davis City Council Chambers

Suspension of Forward PCC-2 Renewable Procurements

- **Action – Approve suspension of forward PCC-2 renewable energy procurements**

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Suspension of Forward PCC-2 Renewable Procurements Background

- **RECs indicate ownership of the renewable, carbon neutral attributes of the underlying resource and its displacement of conventional electricity generation.**
- **Historically, entities have used the ownership of RECs to offset the carbon emissions of the electricity actually used to serve them.**
- **This has been the operative assumption behind CCA's CO2 emissions/intensity calculations.**

Table 1. VCEA 2019 Carbon Intensity Calculation Comparisons
No PCC-2 CO2 Emissions

	Content		Retail Load, MWhs		CO2 Emissions Intensity Per Product		CO2 Emissions Per Product		CO2 Emissions Instensity/ Contribution to Total	
Renewable	42%		318,293		0 lb/MWh		0 MT		0 lb/MWh	
PCC-1[1]		23.25%		176,198		0 lb/MWh		0 MT		0 lb/MWh
PCC-2[2]		18.75%		142,095		0 lb/MWh		0 MT		0 lb/MWh
Large Hydro[3]	33%		250,087		0 lb/MWh		0 MT		0 lb/MWh	
Unspecified Market Power[4]	25%		189,460		962 lb/MWh		82,711 MT		241 lb/MWh	
Total	100%		757,840				82,711 MT		**241 lb/MWh**	

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Suspension of Forward PCC-2 Renewable Procurements
CEC AB 1110 Implementation

- **On September 26, 2016, the governor signed AB 1110 into law.**
- **AB 1110 Directs CEC to develop methodology for calculating greenhouse gas emissions intensity for inclusion on the annual power content label required for all load serving entities.**
- **New reporting begins for 2019 deliveries, which are reported in 2020.**
- **The CEC was supposed to have adopted the updated rules by January 1, 2018.**

2016 POWER CONTENT LABEL

Sonoma Clean Power Authority

ENERGY RESOURCES	SCP CleanStart	SCP EverGreen	2016 CA Power Mix**
Eligible Renewable	**42%**	**100%**	**25%**
Biomass & waste	0%		2%
Geothermal	8%	100%	4%
Small hydroelectric	2%		2%
Solar	0%		8%
Wind	31%		9%
Coal	**0%**		**4%**
Large Hydroelectric	**49%**		**10%**
Natural Gas	**0%**		**37%**
Nuclear	**0%**		**9%**
Other	**0%**		**0%**
Unspecified sources of power*	**10%**		**15%**
TOTAL	**100%**	**100%**	**100%**

* "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources.

** Percentages are estimated annually by the California Energy Commission based on the electricity sold to California consumers during the identified year.

For specific information about this electricity product, contact: **Sonoma Clean Power Authority**

1-855-202-2139

For general information about the Power Content Label, contact the California Energy Commission at: California Energy Commission

844-421-6229

http://www.energy.ca.gov/pcl/

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Suspension of Forward PCC-2 Renewable Procurements
CEC Staff Proposal

- **CEC staff proposal for greenhouse gas emissions intensity proposal is not favorable to the treatment of PCC-2 renewable power imports**
  - **For PCC-2 renewable power imports into California, load serving entities will have to report the carbon emissions associated with the underlying power – no offset allowed, despite demonstrating ownership of RECs.**

Table 2. VCEA 2019 Carbon Intensity Calculation Comparisons - PCC-2 CO2 Emissions Based On Unspecified Imports

	Content		Retail Load, MWhs		CO2 Emissions Intensity Per Product		CO2 Emissions Per Product		CO2 Emissions Instensity/ Contribution to Total	
Renewable	42%		318,293		430 lb/MWh		62,033 MT		180 lb/MWh	
PCC-1[1]		23.25%		176,198		0 lb/MWh		0 MT		0 lb/MWh
PCC-2[2]		18.75%		142,095		962 lb/MWh		62,033 MT		180 lb/MWh
Large Hydro[3]	33%		250,087		0 lb/MWh		0 MT		0 lb/MWh	
Unspecified Market Power[4]	25%		189,460		962 lb/MWh		82,711 MT		241 lb/MWh	
Total	100%		757,840				144,744 MT		**421 lb/MWh**	

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Suspension of Forward PCC-2 Renewable Procurements
CEC Staff Proposal

- **If the CEC ends up not adopting staff's proposal, we'll resume PCC-2 procurement as planned.**
- **If the CEC does adopt staff's proposal, we'll need to come back to the Board to discuss options, which may include:**
  - **Continue with PCC-2 procurement with no additional greenhouse gas mitigation...reported emissions intensity may be higher than PG&E's**
  - **Continue with PCC-2 procurement with additional large hydro purchase to provide more offsetting carbon-free energy. At current market prices, this may add up to $750k to the VCE power budget for 2019.**

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Suspension of Forward PCC-2 Renewable Procurements Recommendation

- **Suspend the current forward procurement of PCC-2 Renewable Power pending outcome of the California Energy Commission's effort to update the Power Source Disclosure/Power Content Labeling requirements for load serving entities.**
- **Authorize the General Manager to reactivate PCC-2 Renewable Power Procurement in the event that the outcome of the CEC's change in Power Source Disclosure/Power Content Labeling requirements is favorable as to the treatment of PCC-2 Power. The General Manager will report back to the Board with such information.**
- **Require staff to return for additional authorization in the event that CEC's change in Power Source Disclosure/Power Content Labeling requirements is not favorable as to the treatment of PCC-2 Power.**

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