

1. Agenda

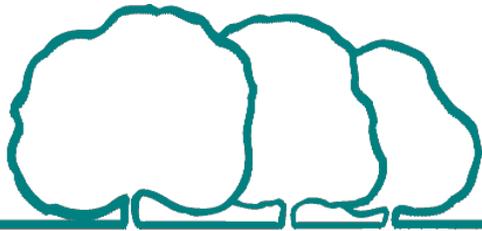
Documents:

[MARCH 20, 2017 CCE ADVISORY COMMITTEE AGENDA \(PDF\).PDF](#)

2. Presentation

Documents:

[MARCH 20, 2017 WOODLAND-VCEA IMPACT ANALYSIS PRESENTATION \(PDF\).PDF](#)



City of Woodland

**COMMUNITY CHOICE ENERGY
TECHNICAL ADVISORY COMMITTEE
March 20, 2017 - 6:00 P.M. – 8:00 P.M.**

**Municipal Service Center
655 N Pioneer Avenue, Woodland CA**

Agenda

1. Welcome and roll call
2. Public comment
This is an opportunity for members of the public to comment on subjects related to Community Choice Aggregation (Community Choice Energy) that are not on the agenda.
3. Meeting notes approval
4. The Energy Authority (TEA) presentation
5. Discuss Council update (March 21) and public meeting (March 29) presentations
6. Member announcements
7. Adjourn

NOTICE: Individuals who need special assistance or a disability-related accommodation, including auxiliary aids or services, in order to participate in this meeting should contact Reyna Piñon, Conservation Coordinator, at least 1 working day before the meeting. Reyna may be reached at (530) 661-2063 or by emailing reyna.pinson@cityofwoodland.org.



Woodland-VCEA Impact Analysis

Mar 20, 2017 Presentation

Revised Apr 7, 2017



Agenda

- Background
- Load Analysis
- Financial Analysis
- Costs by Rate Class
- Risks
- Cost/Benefit to Joining VCEA

Background

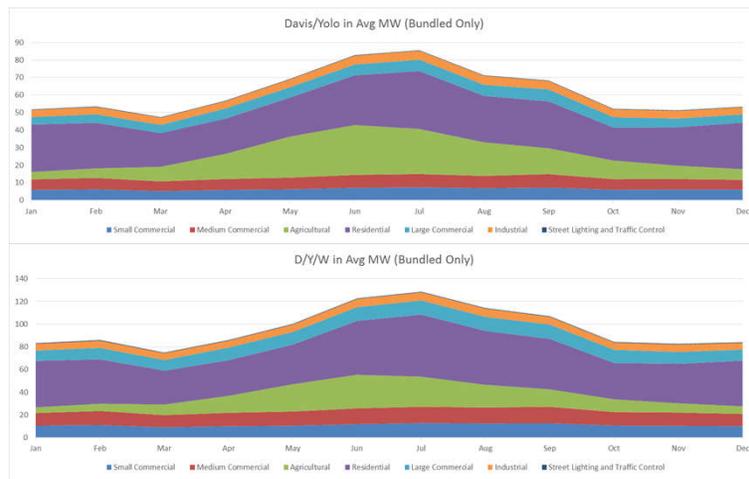
- 2015-2016 TEA prepared report for City of Davis and Yolo County on feasibility of CCE
 - Examined Stand-alone, Joining MCE & Outsourced
 - Supported recommendation by Davis Citizens Advisory Committee to do Stand-alone
- Current Analysis is Update of Davis-Yolo analysis and extended to include Woodland

Current Analysis

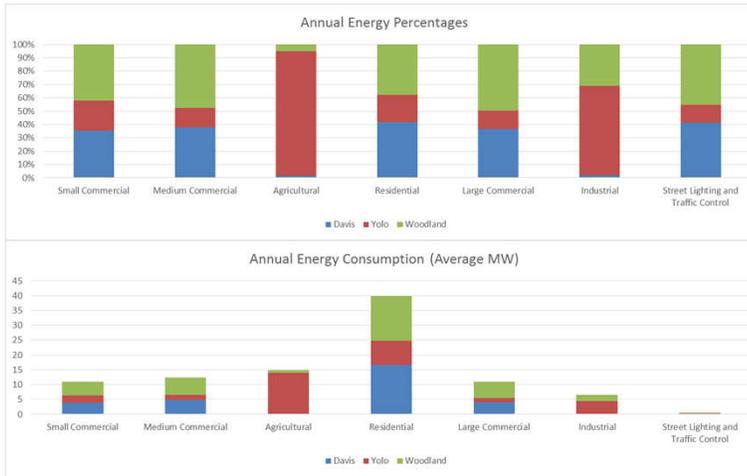
- Updated key inputs
 - New energy, capacity and renewables prices (as of March for energy, and Jan/Feb for Capacity & Renewables)
 - New PG&E generation and PCIA rates and rate forecasts (hired new rates consultant)
- Incorporated Woodland load
- Focus on key issues for Woodland
 - Impact of larger load & load diversification
 - Potential economic contribution

Load Overview

Historical Load by Class



Historical Load – D/Y/W by Class

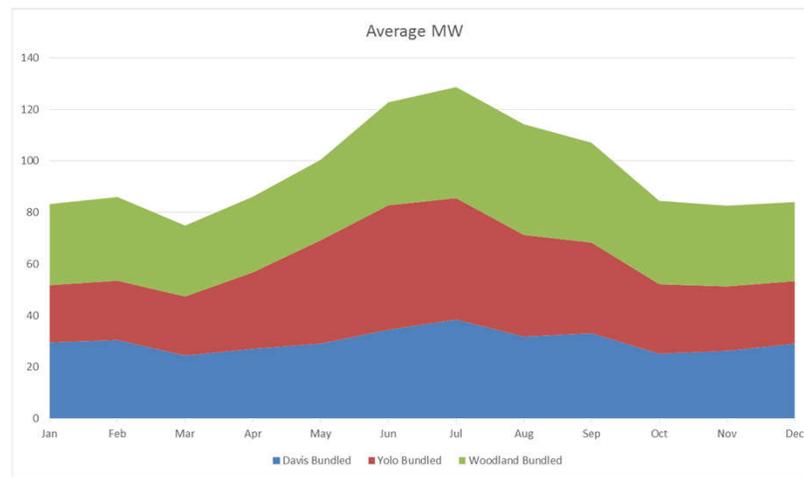


Small Commercial:
load < 17.1 avg kW & demand not > 75 kW for 3 consecutive months

Med Commercial:
demand < 499 kW for 3 consecutive months

Large Commercial:
demand > 499 kW for 3 consecutive months

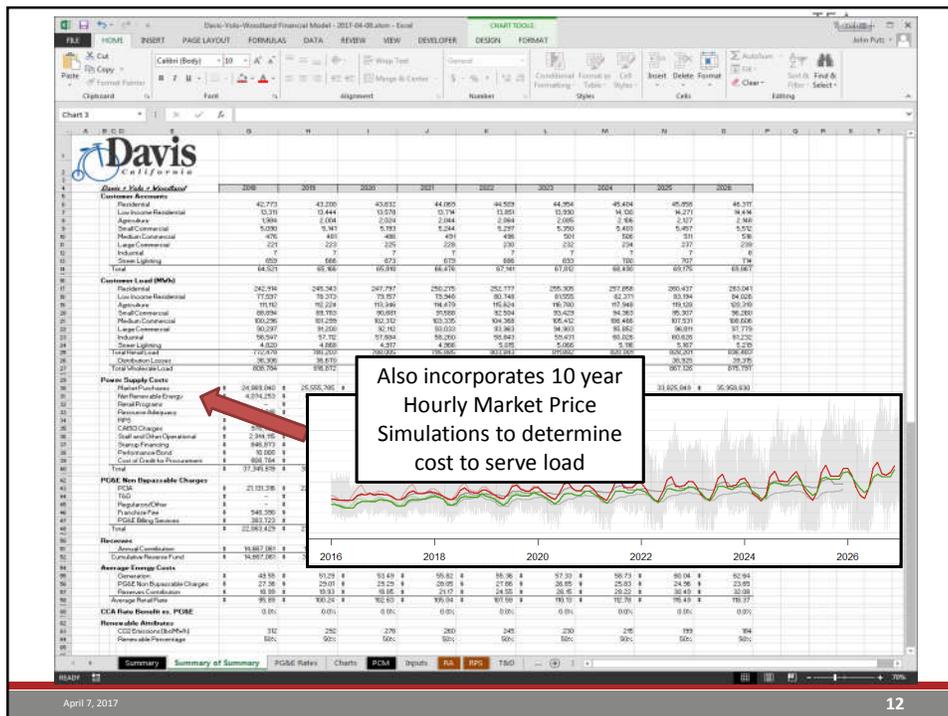
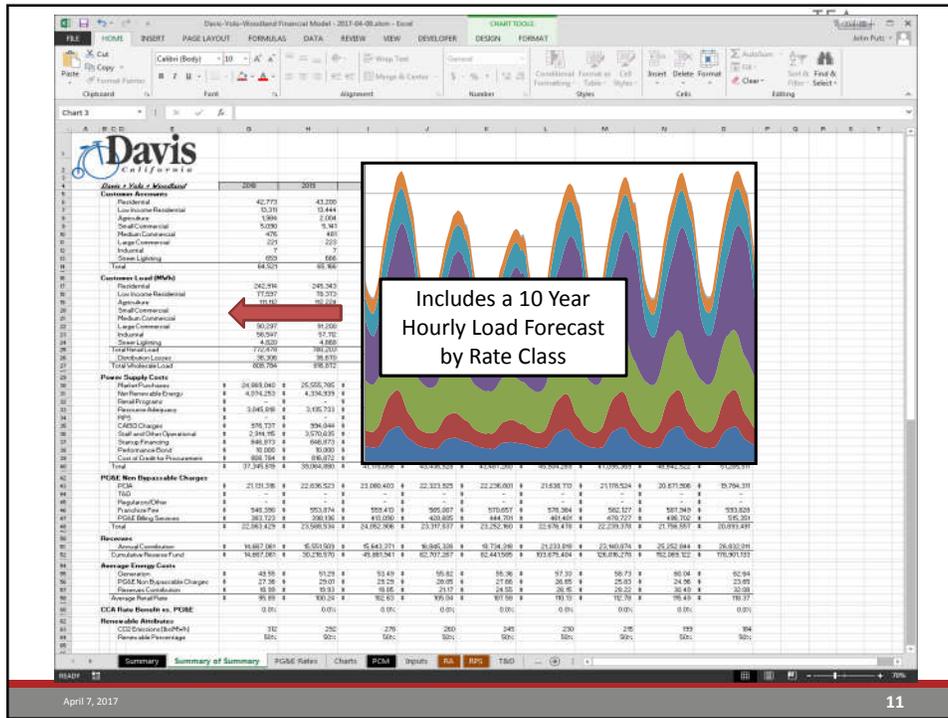
Historical Load – Total Bundled Load

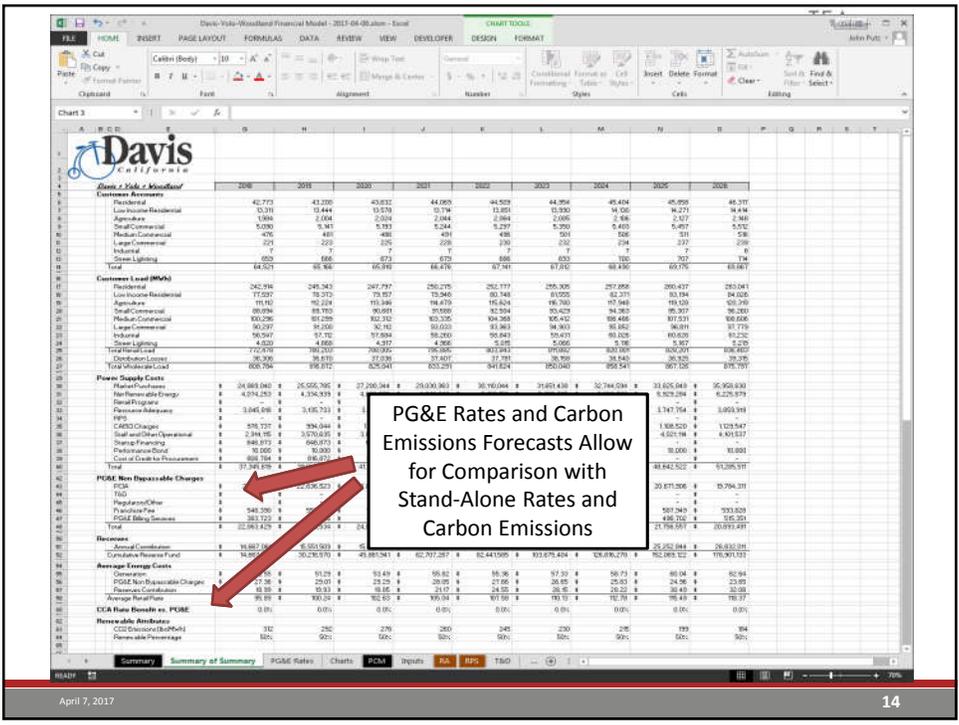
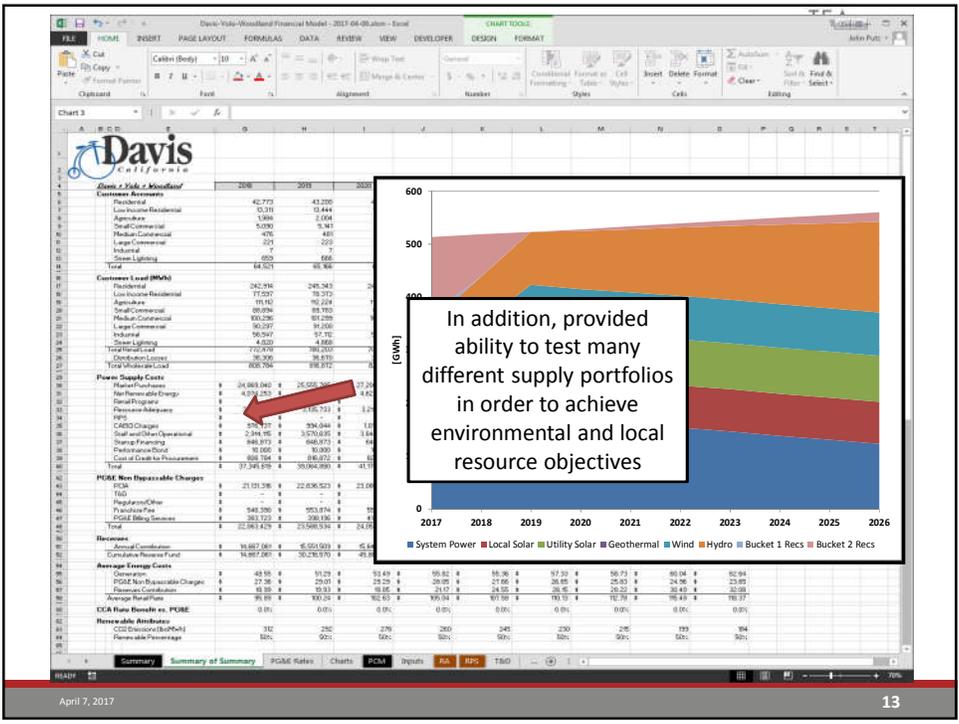


Financial Analysis

10 Year Pro Forma to assess feasibility of VCEA w/ & w/o Woodland

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Customer Revenues										
Residential	42,773	43,200	43,832	44,069	44,500	44,931	45,362	45,793	46,224	46,655
Low Income Residential	12,371	12,444	12,517	12,590	12,663	12,736	12,809	12,882	12,955	13,028
Appliances	1,586	2,004	2,024	2,044	2,064	2,084	2,104	2,124	2,144	2,164
Small Commercial	9,000	9,141	9,282	9,423	9,564	9,705	9,846	9,987	10,128	10,269
Medium Commercial	476	480	484	488	492	496	500	504	508	512
Large Commercial	271	272	273	274	275	276	277	278	279	280
Industrial	650	656	662	668	674	680	686	692	698	704
Street Lighting	44,503	44,946	45,389	45,832	46,275	46,718	47,161	47,604	48,047	48,490
Customer Load (MWh)										
Residential	242,946	245,243	247,540	249,837	252,134	254,431	256,728	259,025	261,322	263,619
Low Income Residential	71,577	72,372	73,167	73,962	74,757	75,552	76,347	77,142	77,937	78,732
Appliances	19,110	20,204	21,298	22,392	23,486	24,580	25,674	26,768	27,862	28,956
Small Commercial	60,874	61,783	62,692	63,601	64,510	65,419	66,328	67,237	68,146	69,055
Medium Commercial	800,296	812,280	824,264	836,248	848,232	860,216	872,200	884,184	896,168	908,152
Large Commercial	90,297	91,056	91,815	92,574	93,333	94,092	94,851	95,610	96,369	97,128
Industrial	94,547	95,702	96,857	98,012	99,167	100,322	101,477	102,632	103,787	104,942
Street Lighting	4,420	4,468	4,516	4,564	4,612	4,660	4,708	4,756	4,804	4,852
Total Residential Load	712,476	718,257	724,038	729,819	735,600	741,381	747,162	752,943	758,724	764,505
Distribution Losses	36,306	36,819	37,332	37,845	38,358	38,871	39,384	39,897	40,410	40,923
Total Industrial Load	408,784	414,443	420,102	425,761	431,420	437,079	442,738	448,397	454,056	459,715
Power Supply Costs										
Market Purchases	24,889,040	25,022,795	25,156,549	25,290,303	25,424,057	25,557,811	25,691,565	25,825,319	25,959,073	26,092,827
Rate Return on Energy	4,076,123	4,134,979	4,193,835	4,252,691	4,311,547	4,370,403	4,429,259	4,488,115	4,546,971	4,605,827
Small Ppurchases	3,043,098	3,116,753	3,190,408	3,264,063	3,337,718	3,411,373	3,485,028	3,558,683	3,632,338	3,705,993
PPS	-	-	-	-	-	-	-	-	-	-
CG&D Charges	574,737	574,044	573,351	572,658	571,965	571,272	570,579	569,886	569,193	568,500
Small and Other Commercial	2,344,195	2,370,035	2,395,875	2,421,715	2,447,555	2,473,395	2,499,235	2,525,075	2,550,915	2,576,755
Street and Other Commercial	848,872	848,872	848,872	848,872	848,872	848,872	848,872	848,872	848,872	848,872
Performance Bond	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Cost of Distribution Provisions	869,764	876,872	883,980	891,088	898,196	905,304	912,412	919,520	926,628	933,736
Total	37,341,879	37,669,890	38,000,000	38,330,110	38,660,220	38,990,330	39,320,440	39,650,550	39,980,660	40,310,770
PG&E Non-Responsible Charges										
PG&E	21,131,336	22,036,523	22,941,710	23,846,897	24,752,084	25,657,271	26,562,458	27,467,645	28,372,832	29,278,019
REG	-	-	-	-	-	-	-	-	-	-
Regulatory Office	-	-	-	-	-	-	-	-	-	-
Regulatory Office	446,206	503,674	561,142	618,610	676,078	733,546	791,014	848,482	905,950	963,418
PG&E Policy Services	383,122	396,136	409,150	422,164	435,178	448,192	461,206	474,220	487,234	500,248
Total	22,961,664	23,946,333	24,930,992	25,915,651	26,900,310	27,884,969	28,869,628	29,854,287	30,838,946	31,823,605
Revenues										
Annual Commodity	14,867,081	15,011,039	15,154,997	15,298,955	15,442,913	15,586,871	15,730,829	15,874,787	16,018,745	16,162,703
Customer Payment Fund	14,997,065	15,138,370	15,279,675	15,420,980	15,562,285	15,703,590	15,844,895	15,986,200	16,127,505	16,268,810
Average Energy Costs										
PG&E	44.18	45.29	46.40	47.51	48.62	49.73	50.84	51.95	53.06	54.17
PG&E Non-Responsible Charges	27.36	29.01	30.66	32.31	33.96	35.61	37.26	38.91	40.56	42.21
Regulatory Office	18.35	20.81	23.27	25.73	28.19	30.65	33.11	35.57	38.03	40.49
Average Retail Price	90.89	95.11	99.33	103.55	107.77	111.99	116.21	120.43	124.65	128.87
VCEA Rate Benefits vs. PORE	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Customer Payment Fund	310	282	254	226	198	170	142	114	86	58
Regulatory Office	500	450	400	350	300	250	200	150	100	50





Financial Viability – Headroom

- Headroom = Difference between PG&E’s Gen Rates for Bundled Customers and Cost Paid by a CCE Customer
 - Costs Paid by CCE Customer:
 - CCE’s Costs (overhead, supply)
 - PG&E PCIA – Exit fee charged to CCE customers but not PG&E Bundled Customers
- Headroom with respect to a base-case costs
- Reflects “Surplus” which can be applied to:
 - Building Reserves
 - Rate savings
 - Investment in lower GHG content, local renewables, programs, etc.

Headroom Calculation – Portfolio Assumptions

- Only Bundled Load (no DA customers) w/ 10% Opt-outs
- 50% Renewable, 5% Lower GHG Emissions than PG&E
- No local or owned supply
- No specific reserves set-aside
- No funding for local programs
- Using overhead assumptions from Davis/Yolo Study
- Base case for PG&E rates & current market prices

Headroom

	Davis + Yolo	Davis + Yolo + Woodland	Notes on Differences
<u>2018</u>			
Load (MWh)	495k	772k	
Supply Cost (\$/MWh)	\$42.58	\$42.68	Larger % of Peaking (Res/Com) load
Overhead (\$/MWh)	\$9.49	\$6.88	Costs Spread over more customers
Headroom (\$/MWh)	\$15.39	\$18.97	Difference between PG&E Gen Rates & CCE Customer Costs (= Supply + O/h + PCIA)
Headroom (\$)	\$7.6mm	\$14.7mm	Greater Headroom / customer * more customers
<u>2020</u>			
Load (MWh)	505k	788k	
Supply Cost (\$/MWh)	\$45.66	\$45.75	
Overhead (\$/MWh)	\$10.82	\$7.74	
Headroom (\$/MWh)	\$15.71	\$19.84	
Headroom (\$)	\$7.9mm	\$15.6mm	

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Economic Impact

- CCE Redirects Funds which would otherwise flow out of Davis/Yolo/Woodland Area
- Headroom
 - will primarily flow to local economy through rate discounts, local programs, reserves
 - ~\$14mm/year
- Admin
 - ~\$2mm/year
- Local Supply
 - Fraction of local supply expenditures will go to local economy (solar installers, etc.)
 - Total Supply Cost ~\$40mm/year

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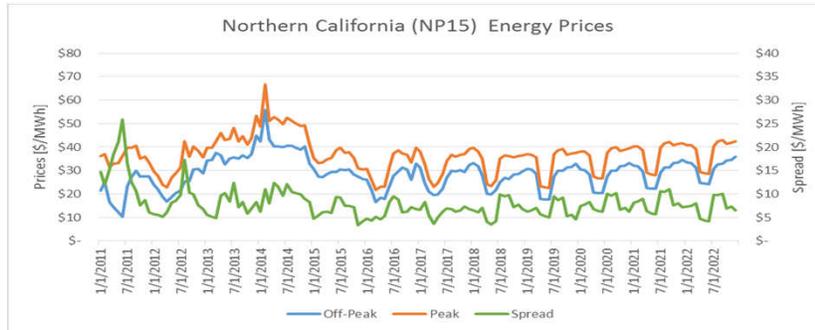
Rate Class Costs/Revenues

Cost to Serve vs Revenue from Rate Classes

- CCE's Rate Structures
 - Generally copy PG&E's but offer discount
 - Relying on PG&E's Cost-of-Service being accurate
 - CCE can structure rates however it likes
- Cost of Rate Class
 - Depends on pattern of energy use
 - summer, peak hours more expensive
 - Depends on when and how large peak use is
 - Coincidence with system peak
 - Cost for capacity higher in peak months (summer)

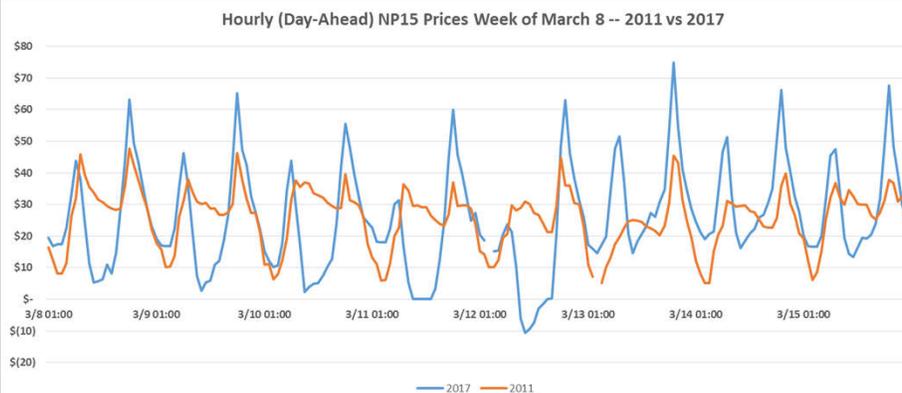
Energy Costs

- Peak – Off-Peak Spreads
 - With \uparrow in solar, Peak – Off-Peak Spreads have \downarrow
- Energy Costs Function of Peak/Off-Peak Ratios



Energy Costs

- Hourly Shapes
 - Solar-based Duck Curve leading to higher afternoon peak, lower midday prices



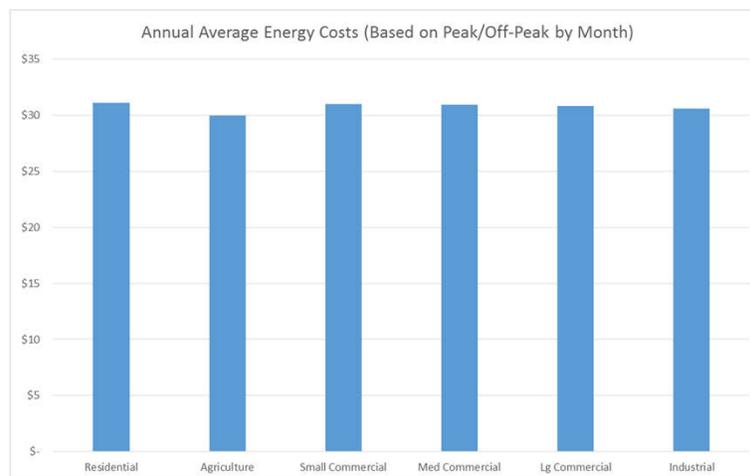
Energy Costs

- Peak/Off-Peak Usage → Determines relative cost to serve for energy
- Presumably PG&E COSA based on average shapes over service area
- Likely Davis/Yolo/Woodland has higher Peak/Off-Peak than average
- However, on daily basis, for non-TOU rates billed based on PG&E load profiles
- As change to TOU rates, usage patterns should correspond more closely to charges

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Energy Costs by Rate Class



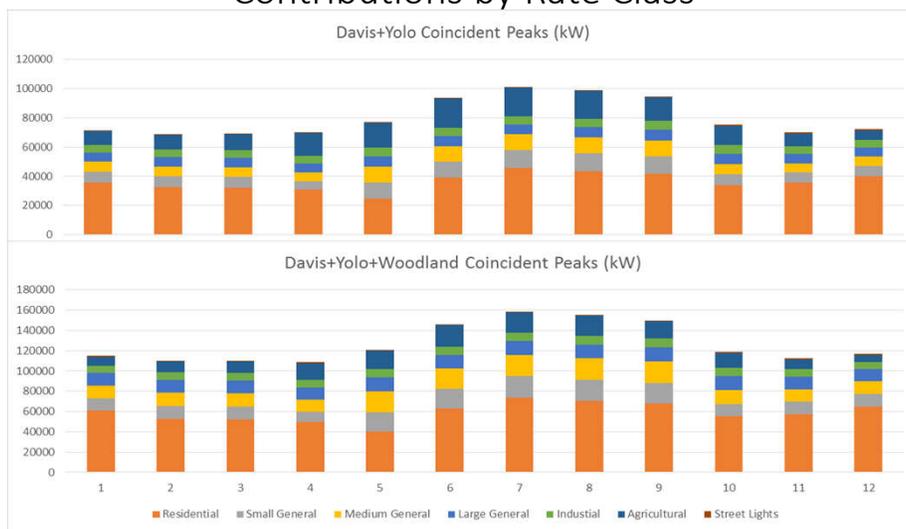
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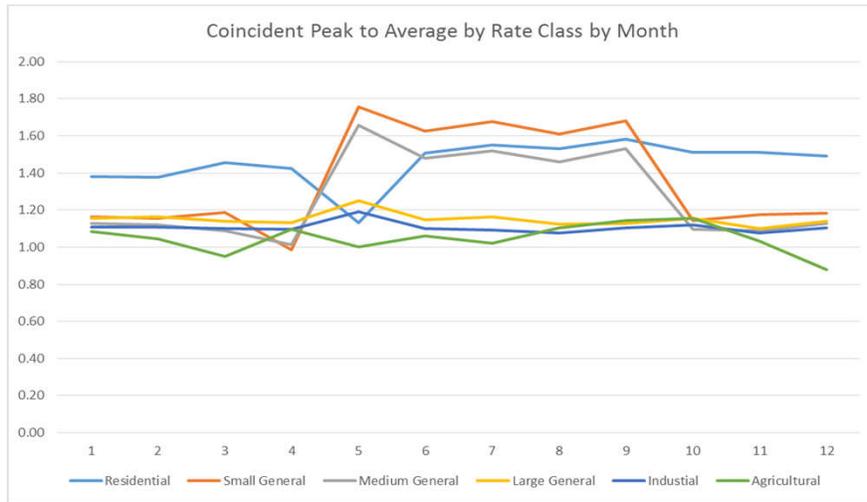
Demand (capacity) Costs

- Relative cost depends on (forecasted) coincidence of peak demand with system peak
- Some rate classes (large commercial, industrial, agriculture) include demand charges
- System peaks likely pretty correlated with D/Y/W peaks

D/Y Peaks vs D/Y/W Peaks Contributions by Rate Class



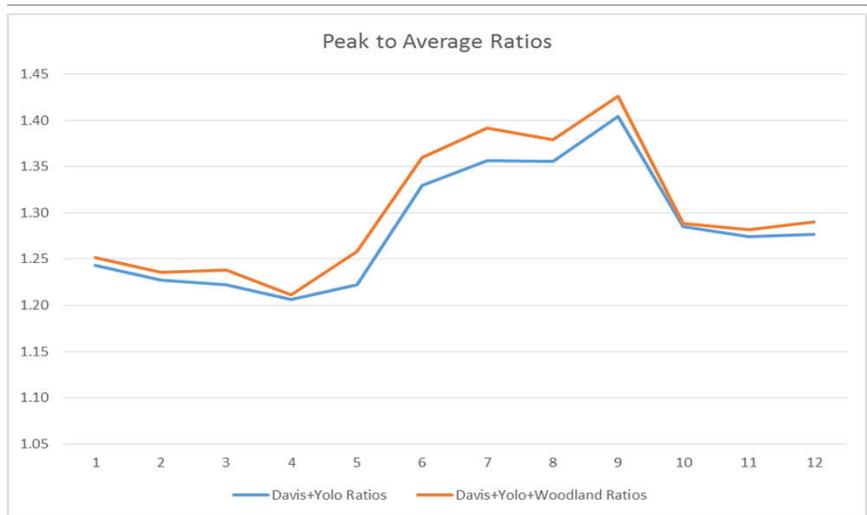
Rate Class Peaks by Month



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Peak/Average Ratios



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Overall Rate Impacts of joining VCEA

- Overall Woodland joining VCEA Reduces Costs through spreading overhead cost over larger customer base
- Little impact on Supply Cost and Revenue
 - Supply cost on \$/MWh basis ~ same
 - Revenue on \$/MWh basis ~ same

Specific Rate Classes

- Industrial
 - Expect PG&E COSA, which provides basis for CCE rates is fair
- Direct Access
 - CCE's have not auto-enrolled DA accounts
 - DA accounts can join – function of rates offered & environmental/other objectives
- Net Energy Metering
 - NEM is subsidized by other ratepayers in CCE
 - CCE's pay a premium for surplus power produced in low-priced periods
 - Don't have data to know how big an impact in D/Y/W

Risks

Risks to CCE's Generally – Regulatory

- PCIA has been rising rapidly
 - Still undercompensating IOUs (according to IOUs)
 - If PCIA continues to increase significantly or is reworked, potential for CCE's to have more difficulty competing
- Wild Cards
 - Energy business is highly regulated
 - Many opportunities for Leg/Reg to impact CCE's
- Mitigations
 - Keep cost structure flexible
 - Build reserves
 - Engage in reg/leg efforts w/ other CCE's

Market Risk

- Key Metric is CCE rate competitiveness w/ PG&E
- CCE supply costs can become expensive relative to PG&E
 - Through PCIA, CCE essentially still owns PG&E supply portfolio
 - If CCE locks in its own high-price supply and market prices decline can get upside-down to PG&E
- Mitigations
 - Build reserves
 - Only moderate amount of long-term supply contracts

Opt-Out Risk

- Primarily a Function of Rate Competitiveness
- MCE customers have shown willingness to pay modestly higher premiums for short periods of time
- Mitigations
 - Maintain rate competitiveness
 - Build brand loyalty through local, service and environmental focus

Sensitivities

- PCIA
 - Any increase is \$-per-\$ decrease in headroom
 - Over last 2 years, rose ~\$20/MWh
 - Expect it to rise more slowly, but may be wrong
- PG&E Generation Rates
 - Any decrease is \$-per-\$ decrease in headroom
 - Large hydro gen, low market prices ↓ PG&E gen cost
- Opt-outs
 - Not too sensitive to increased opt-outs within normal range of CCE opt-outs (0%-15%)
 - Larger opt-outs can lead to death spiral as fixed costs are spread over smaller revenue base
- Supply portfolios
 - Higher cost, longer obligation lead to higher risk of rate uncompetitiveness given continued decline in renewable prices
- Customer type / DA participation – low risk / conservative assumptions

Costs / Benefits of Woodland joining VCEA

Entity	Costs	Benefits
Woodland	Reputational risk should VCEA fail (no financial risk); Loss of share of initial startup costs should VCEA fail to launch	Economic benefit; Lower costs to customers & city; Climate action goals
Customers	None (can choose to opt-out at any time)	Lower rates; greener supply; local programs; better service
VCEA	Potential dilution of control	Better economies of scale; greater reach; more stable