

Board of Directors

Regular Meeting

Thursday, August 19, 2021

Virtual Meeting via Zoom

The OPALCO Board of Directors are following CDC and San Juan County guidelines for social distancing and all OPALCO public gatherings are cancelled until further notice in order to err on the side of caution in face of tremendous uncertainty with the current pandemic. Board meetings will be conducted as scheduled via remote video conferencing until further notice.

Members may participate in the regular board meetings via Zoom. The first part of the meeting is reserved for member questions and comments. Use the chat feature on Zoom and staff will respond as soon as possible following the meeting. Please follow the protocols listed below:

- Mute yourself unless talking,
- Use your first and last name in your Zoom identity,
- Chat if you have a question/comment and the monitor will put you in the queue,
- OPALCO's Policy 17 - Member Participation at OPALCO Meetings decorum must be followed.

The Zoom link will be updated monthly and published in the board materials the Monday before each meeting. The link for this meeting is:

Meeting URL: <https://opalco.zoom.us/j/83306313480>

Meeting ID: 833 0631 3480

Members may also submit any comments and questions in writing no less than 24 hours in advance of each meeting to: communications@opalco.com

Sequence of Events

- OPALCO Board Meeting
- Executive Session



Board of Directors

Regular Board Meeting

August 19, 2021 8:30 A.M.*

Virtual Meeting via Zoom

**Time is approximate; if all Board members are present, the meeting may begin earlier or later than advertised. The Board President has the authority to modify the sequence of the agenda.*

WELCOME GUESTS/MEMBERS

Members attending the board meeting acknowledge that they may be recorded, and the recording posted to OPALCO's website.

Members are expected to conduct themselves with civility and decorum, consistent with Member Service Policy 17. If you would like answers to specific questions, please email communications@opalco.com for post-meeting follow-up.

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EXECUTIVE SESSION

Legal, Personnel, Competitive, Other

ADJOURNMENT

ACTION ITEMS

Consent Agenda

All matters listed with the Consent Agenda are considered routine and will be enacted by one motion of the Board with no separate discussion. If separate discussion is desired, that item may be removed from the Consent Agenda and placed as an Action Item by request of a Board member.

The Consent Agenda includes:

- **Minutes** of the previous meeting – attached.
- **Approval of New Members** – attached {as required by Bylaws Article I Section 2 (d)}

NEW MEMBERS – June and July 2021

District 1 (San Juan, Pearl, Henry, Brown, Spieden)

645 VICTORIA DRIV, E LLC
ALFORD, DORIS
BACON, BENJAMIN
BASHAW, JEFFREY & BASHAW, ASHLEY
BORGAN, CHRISTINE
BOUCHER, SHELBY & BOUCHER, DUSTIN
BUTLER, STEPHANIE
CAPRON-GUILLERMO, MELISSA & GUILLERMO, SHAWN
CHAPPELL, STEPHEN
COCHRAN, HEATHER
CONWAY, HILARY & PEARSON, JOEL
CULLEN, ALISON & BRETHERTON, CHRISTOPHER
CUNIO, THAXTER & GIMLETT, MANON
CURBOY, ELIZABETH
DEAN, DANIELLE & LORD, THOMAS
DRAKE, LAUREN & DRAKE, JOHN
ECKLEIN, BRYCE & ECKLEIN, NICOLE
ERICSON, RYAN & ERICSON, JAYNA
FARR, RANDALL & ROIT, SAMANTHA
FORMAN, CYRUS
GARNER, KIMBERLY
GAUTHIER, NOELLE
GILMORE, JAMES
GLINES, MICHAL & RACY, MICHAEL
GORDON, DAVID & GORDON, KARAN
GULBRONSEN, JEANETTE
HARBOR VILLAGE SUITES LLC
HARRIS, SAM
HAVRO, BRENDA
HERRING, ALEX
HOLROYD, LADD
JOH, HYESU
JOHNSON, LARRY & JOHNSON, KAYLENE
KNUDTSON, ALEX
KRATTLI, GENE & KRATTLI, KATHLEEN
LANGE, DALE
LAPWING, BEQUIN
LINDSEY, KELCI
MAGUIRE, ANGELA & MAGUIRE, CHRISTOPHER
MAHONEY, STEPHEN
MARCIANO, STEFANO

MARTIN, FRANCOISE & MARTIN, PASCAL
MCAULIFFE, ALICE & MCAULIFFE, PATRICK
MEADOWS, MORGAN
NIICHEL, RICHARD
OLNESS, JUDY & ROBERTS, RICHARD
OMEGA INDUSTRIES, INC
POLLARD, LINDA
QUELLE, REINHARDT
R HARBOR LLC
REDMAN, KRISTIN & REDMAN, MICHEAL
REISS, PAUL & REISS, BEATRICE
REYES-SOSA, MARIA ELENA
RICHARDSON, NICKI
RIDENOUR, KIMBERLEY & RIDENOUR, PAUL
RISENHOOVER, KEVIN
ROHWER, DUSTIN
ROSS CARDS AND CO, FFEE
ROSSI, JANET & ROSSI, RICHARD
SHARP, JEFFERY
SMITH, EMILY & SHORT, CHAD
SPEER, JACKIE
SPENCER, JEFF & AZERSKY, ALLISON
STRICKLING, JENNIFER
STRUM, E
SUNDSTROM SHANKS, REBECCA
THE HUDSON INN (ETTAS PLACE SUI
THOMPSON, LANCE & ROTHMILLER, DAVID
VOGEL, HEATHER
WAMSLEY & CO LLC
WILEY, MICHAEL & LIBBING, JESSI
WILLIAMS, COURTNEY & WILLIAMS, JAMES
WILLOWS, DENNIS & PHILLIPS, NICOLE
WISE, AMY & WISE, SPENCER

District 2 (Orcas, Armitage, Blakely, Obstruction, Double, Alegria, Fawn)

81 STARR DRIVE LLC
ALVORD, LORI
ARBO ORCAS ISLAND LLC
BASAR, COLE
BECKMAN, STACY
CHAPIN, ARTHUR & ZBAGERSKA, RUSLANA
COGHILIN, JASON
CRIGGER, WILL & CRIGGER, SARAH



DIXON, JESSICA & HORTON, BARD
 EVANS, TERRY & EVANS, GINGER
 FORTENBERRY, RADON & FORTENBERRY, JUDITH
 HARRIS, HARRY
 HARRIS, MICHAEL & HARRIS, LAURIE
 HARVEY, JAMES
 JOCHIM, ROBERT
 KALUDZINSKI, SVEN & CRAIG, COLLEEN
 KOEHLER, ERIK
 LAM, KAYU & RASMUSSEN, SARA
 LATHAM, ALEXANDRA & JOHNSON, KENNETH
 LENSING, BRETT & LAMB, SUZETTE
 MAHONEY, PATRICK
 NEIGHBORS, MELISSA & NEIGHBORS, DAN
 PATRIKIOS, JASON
 PHILLIPS, BRIAN
 QUIROS, KRISTIN & QUIROS, JUAN
 REA, DOUGLAS & HAMILTON, KELSEY
 RIVERA, VALENTINA & RIVERA, EDWARD
 ROBERTS, ALLYSON
 STAHL, SUSAN & GOODMAN-MILLER, MIRIAM
 STIEFEL, PRESTON
 STOCKSTILL, PATRICK & CROTHERS, RACHEL
 STURTZ, ERIC
 TARBELL, JARED
 TAYLOR, JUSTIN & TAYLOR, KEARY
 THOMAS, HEATHER
 VENSEL, KELLY & VENSEL, EVANGELIA
 WILTZ, CAROLINE
 WINCHESTER, SIMON & BOZAK, JEFFERY

District 3 (Lopez, Center, Decatur, Charles)

BAYNHAM, CHRISTINE
 BODILY, SARA & BODILY, DOUG
 CAHILL, DAVID
 CASTO, DEVIN & CASTO, AMY
 CHESNUTT, NANCY & HOOK, GEORGE
 DUPLER, CRAIG & PARKER, SUE
 EVERSON, TANYA
 HAGER, LAUREN
 HARRON, SCOTT
 LANE, CRISTINA
 LOPEZ, RODRIGO & JIMENEZ, ALEJANDRA
 MARSHALL, RICHARD & MARSHALL, JANET
 MARTIN, WAYNE & MARTIN, KRISTIN
 MHI 2 LLC
 MILLER, CHRISTEN & MILLER, PATRICK
 MITCHELL, MIKE
 RAZWICK, NICHOLLE
 REZNICK, JUSTIN & POSAVAD, CHRISTINE
 RHODE, DANA & ROHDE, ADAM
 SOOT & BONE
 TRIMARCO, WILLIAM & TRIMARCO, SARAH
 VIGNERI, STACIA & VIGNERI, SAMUEL
 WEDOW, AMANDA & JUNE, SETH
 WHEELER, DAN & WHEELER, CAROL
 WISCOMB, CHRISTOPHER & WISCOMB, JANNA

District 4 (Shaw, Crane, Canoe, Bell)

SHAW ISLAND JOINT ACCOUNT

- Capital Credit payments to estates of deceased members and/or organizations no longer in business as shown below:

August	
Customer #	Amount
72081	235.40
26455	913.25
35650	945.21
51291	2,524.34
13551	1,582.27
84871	256.44
33940	594.80
81311	487.84
78829	364.22
Total	\$ 7,903.77

- RUS 219s Inventory of Work Orders of projects completed from the Construction Work Plan. These forms are submitted to RUS for approval of loan funds.

Inventory	Amount	RUS Description
202105	\$92,130.32	Transclosure Replacement and Protective Equipment
AS2105	\$74,888.94	
Total	\$167,019.26	

Staff requests a motion to approve the Consent Agenda.



Orcas Power & Light Cooperative

Minutes of the Board of Directors Meeting

Thursday, June 17, 2021

Streaming through Zoom attendees were: President Vince Dauciunas, Board members Rick Christmas, Jerry Whitfield, Brian Silverstein, Mark Madsen, Tom Osterman and Jeff Struthers. Staff present were General Manager Foster Hildreth; Manager of Engineering and Operations Russell Guerry; Manager of Finance and Member Services Nancy Loomis; Public Relations Administrator Suzanne Olson; Head Accountant Travis Neal, and Executive Assistant Kelly Koral (serving as recording secretary). Also present were Legal Counsel Joel Paisner and consultant Jay Kimball.

Member comment session commenced at 8:30 a.m.

Members in attendance:

Ray Glaze	Angela Anderson
Chom Greacen	Toby Cooper
Lincoln Bormann	Heather Nicholson

Member comments

None

Regular Session – 8:31 a.m.

Suzanne Olson welcomed all and reviewed Zoom meeting protocols, CCC work for fire prevention, emphasized the need for volunteers for the EGC. EV Happy Deal, Island Way campaign.

President Vince Dauciunas opened the meeting and reviewed the agenda.

Consent Agenda

1. **MOTION** was made to accept the consent agenda. Seconded by Christmas. Passed unanimously by voice vote.

RUS Debt Limit

General Manager reviewed funding limits

RESOLUTIONS 3-2021 and 4-2021– Discussion was held.

2. **MOTION** to approved both Resolutions made by Struthers, second by Christmas. Passed unanimously by voice vote.

RENEWABLE SITING CHALLENGES

GM reviewed the current challenges in siting renewables in San Juan County. Slide presentation followed.

Discussion was held with Lincoln Bormann, San Juan County Land Bank and Angela Anderson, San Juan Preservation Trust.

Break 10:23

Back 10:38

PRE-PAY BILLING PROGRAM

Discussion was held about creating a pre-pay billing program.

COVID UPDATE

GM REPORT

GM report was reviewed. Noted OPALCO just submitted for a DOC grant in the amount of \$150K to apply towards tidal investigation. Discussed bio char and fire safety.

End of Regular Session 12:03

EXECUTIVE SESSION – 12:30 pm

Vince Dauciunas, President

Brian Silverstein, Secretary/Treasurer



Orcas Power & Light Cooperative

Revision: 108578

06/24/2021 1:56:58 pm	RUS Form 219 Inventory Of Work Orders	Page: 1
	Period: MAY 2021	System Designation: WA O9

Inventory: 202105

Loan	Year	Work Order		Bdgt (3)	Gross Funds Required		Deductions		Contrib In Aid Of Constr and Previous Advances (8)	Loan Funds Subject To Advance By RUS (9)
		Construction (1)	Retirement (2)		Cost Of Construction: New Constr Or Replacements (4)	Cost Of Removal: New Constr Or Replacements (5)	Salvage Relating To New Construction Or Replacements (6)	Retirements Without Replacements (7)		
601	2018 3352		3352	1	32,521.21	2,075.61	0.00	0.00	0.00	33,335.85
601	2018 3497		3497	1	12,009.18	492.27	0.00	AFUDC: 1,260.97	0.00	6,012.95
601	2018 3624		3624	1	31,527.23	0.00	28.96	AFUDC: 12.14	0.00	31,357.66
					76,057.62	2,567.88	28.96	AFUDC: 140.61	0.00	70,706.46
603	2018 3454		3454	1	100,207.44	197.65	78,501.87	0.00	0.00	21,423.86
					100,207.44	197.65	78,501.87	AFUDC: 479.36	0.00	21,423.86
Grand Totals:					\$ 176,265.06	\$ 2,765.53	\$ 78,530.83	\$ 0.00	\$ 6,476.36	\$ 92,130.32

55009

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Orcas Power & Light Cooperative

Revision: 108578

06/24/2021 1:56:58 pm	RUS Form 219 Inventory Of Work Orders	Page: 4
	Period: MAY 2021	System Designation: WA O9

Inventory: 202105

Budget	Loan	Project	Amount
	1	601	70,706.46
	1	603	21,423.86
	Total:		92,130.32

BORROWER CERTIFICATION

WE CERTIFY THAT THE COSTS OF CONSTRUCTION SHOWN ARE THE ACTUAL COSTS AND ARE REFLECTED IN THE GENERAL ACCOUNTING RECORDS. WE FURTHER CERTIFY THAT FUNDS REPRESENTED BY ADVANCES REQUESTED HAVE BEEN EXPENDED IN ACCORDANCE WITH THE PURPOSES ON THE LOAN, THE PROVISIONS OF THE LOAN CONTRACT AND MORTGAGE, RUS BULLETINS, AND THE CODE OF FEDERAL REGULATIONS RELATIVE TO THE ADVANCE OF FUNDS FOR WORK ORDER PURPOSES. WE CERTIFY THAT NO FUNDS ARE BEING REQUESTED FOR REIMBURSEMENT OF CONSTRUCTION WORK IN A CBRA AREA.

SIGNATURE (MANAGER)

DATE

SIGNATURE (BOARD APPROVAL)

DATE

ENGINEERING CERTIFICATION

I HEREBY CERTIFY THAT SUFFICIENT INSPECTION HAS BEEN MADE OF THE CONSTRUCTION REPORTED BY THIS INVENTORY TO GIVE ME REASONABLE ASSURANCE THAT THE CONSTRUCTION COMPLIES WITH APPLICABLE SPECIFICATIONS AND STANDARDS AND MEETS APPROPRIATE CODE REQUIREMENTS AS TO STRENGTH AND SAFETY. THIS CERTIFICATION IS IN ACCORDANCE WITH ACCEPTABLE ENGINEERING PRACTICE.

INSPECTION PERFORMED BY

FIRM

LICENSE NUMBER

DATE

SIGNATURE OF LICENSED ENGINEER

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Orcas Power & Light Cooperative

Revision: 108578

06/24/2021 1:56:58 pm	RUS Form 219 Inventory Of Work Orders	Page: 3
Period: MAY 2021 System Designation: WA O9		

Inventory: AS2105

Project	Loan	Year	Work Order		Bdgt (3)	Gross Funds Required		Deductions		Contrib In Aid Of Constr and Previous Advances (8)	Loan Funds Subject To Advance By RUS (9)
			Construction (1)	Retirement (2)		Cost Of Construction: New Constr Or Replacements (4)	Cost Of Removal: New Constr Or Replacements (5)	Salvage Relating To New Construction Or Replacements (6)	Retirements Without Replacements (7)		
1600		2018 3573	3573		1	47,265.73	211.35	0.00	0.00	0.00	46,829.94
1600		2018 3612	3612		1	26,678.85	1,529.92	0.00	AFUDC: 647.14 0.00	0.00	28,059.00
						73,944.58	1,741.27	0.00	AFUDC: 149.77 0.00	0.00	74,888.94
Grand Totals:						\$ 73,944.58	\$ 1,741.27	\$ 0.00	\$ 0.00	\$ 0.00	\$ 74,888.94

Minor Construction Work Orders

Work Order: 3573 - REPLACE OLD TRANSFORMERS AND PUT IN CONDUIT IN MEMBER PROVIDED TRENCH

Work Order: 3612 - REPLACE OH OPALCO OWNED SECONDARY WITH BURIED SECONDARY IN CONDUIT

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Orcas Power & Light Cooperative

Revision: 108578

06/24/2021 1:56:58 pm	RUS Form 219 Inventory Of Work Orders	Page: 5
Period: MAY 2021 System Designation: WA O9		

Inventory : 2105

Budget		
Loan	Project	Amount
1	100	36,460.90
1	608	184,193.34
Total:		220,654.24

BORROWER CERTIFICATION	
<p>WE CERTIFY THAT THE COSTS OF CONSTRUCTION SHOWN ARE THE ACTUAL COSTS AND ARE REFLECTED IN THE GENERAL ACCOUNTING RECORDS. WE FURTHER CERTIFY THAT FUNDS REPRESENTED BY ADVANCES REQUESTED HAVE BEEN EXPENDED IN ACCORDANCE WITH THE PURPOSES ON THE LOAN, THE PROVISIONS OF THE LOAN CONTRACT AND MORTGAGE, RUS BULLETINS, AND THE CODE OF FEDERAL REGULATIONS RELATIVE TO THE ADVANCE OF FUNDS FOR WORK ORDER PURPOSES. WE CERTIFY THAT NO FUNDS ARE BEING REQUESTED FOR REIMBURSEMENT OF CONSTRUCTION WORK IN A CBRA AREA.</p>	
_____ SIGNATURE (MANAGER)	_____ DATE
_____ SIGNATURE (BOARD APPROVAL)	_____ DATE
ENGINEERING CERTIFICATION	
<p>I HEREBY CERTIFY THAT SUFFICIENT INSPECTION HAS BEEN MADE OF THE CONSTRUCTION REPORTED BY THIS INVENTORY TO GIVE ME REASONABLE ASSURANCE THAT THE CONSTRUCTION COMPLIES WITH APPLICABLE SPECIFICATIONS AND STANDARDS AND MEETS APPROPRIATE CODE REQUIREMENTS AS TO STRENGTH AND SAFETY. THIS CERTIFICATION IS IN ACCORDANCE WITH ACCEPTABLE ENGINEERING PRACTICE.</p>	
_____ INSPECTION PERFORMED BY	_____ FIRM
_____ LICENSE NUMBER	_____ DATE
_____ SIGNATURE OF LICENSED ENGINEER	

55009

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tnsal

DISCUSSION ITEMS

Tariff – ECA *Energy Charge Adjustment* (FIRST READ)

As previously discussed, the Board directed staff to revisit one of our billing components called the Energy Charge Adjustment (ECA) to provide us with financial certainty. A large portion of the fixed costs of operations are collected via variable billing components and thus are not received when we experience weather fluctuations. The current ECA is designed to handle the fluctuations limited to power costs due to weather variability.

In order to meet our board approved directives laid out in the Integrated Resource Plan (IRP), Long Range Plan (LRP), and long-range financial forecast, it is critical that our year-end equity targets are met. These plans lay out the specific capital projects that are intended to meet the renewable energy, conservation, and carbon reduction targets as mandated by Washington State's Clean Energy Transformation Act (CETA).

Staff is proposing one of the following options:

1. Existing ECA – Power only
2. Weather ECA - Power Cost Variance + Revenue Variance including cap on magnitude adjustment to spread impact
3. Equity Certainty - Operating Margins Variance including cap on magnitude adjustment to spread impact (example tariff below)

Mike Searcy from Guernsey will be attending our meeting to discuss these ECA rate options to the Board.

ORCAS POWER AND LIGHT COOPERATIVE

TARIFF – ECA

ENERGY CHARGE ADJUSTMENTS

ENERGY CHARGE ADJUSTMENTS (ECA)

A variable true-up adjustment (surcharge or credit) will appear as a line item on member bills to reflect increases or decreases in the operating margins (equity) ~~power sales~~ due to weather. The adjustment amount will be solely based on ~~power costs~~ **operating margin** and calculated by comparing budgeted vs. actual **operating margin** ~~power cost~~ per kWh sold. The purpose of the ECA is address the lack of **financial** predictability in weather forecasting for kWh sales and revenue ~~as power costs represent between 25% to 30% of annual revenue requirements~~. The ECA includes two adjustment mechanisms:

- 1) An automated monthly reoccurring true-up (surcharge or credit) to be applied to each member billing on a kWh basis, which adjusts for increases or decreases in the actual **operating margin** ~~cost of power purchased~~ as compared to the budgeted ~~vs. actual cost~~ **operating margin** per kWh sold (see below for calculation); and
- 2) On an as-needed basis and subject to board approval, a variable mechanism that balances the fluctuation in revenues to meet strategic directives.

~~For the purposes of calculating the ECA, Total Purchase Power Cost shall mean power purchases and credits from all power suppliers; excluding credits or purchases from all suppliers that may be applied directly to particular Members; including all power supply related costs but not limited to: monthly fixed charges, electric power production costs, fuel costs, market power purchases, transmission costs, substation costs, costs for any facilities that will be billed to the Cooperative by power suppliers, power supplier surcharges for programs such as, but not limited to, energy efficiency and demand response programs, other power supply related costs.~~

~~The Budget Cost of Power shall equal the total projected future cost of power at the time the current Cooperative rates were established (power cost embedded within current rates) divided by the total projected future kWh sales at the time the current Cooperative rates were established (kWh sales used to develop current rates).~~

Monthly ECA Factor

The automated monthly charges on member bills shall be increased or decreased on a uniform per-kWh basis computed monthly as follows:

$$ECA = \frac{OM_B \text{ Actual Power Cost}}{kWh_{sold}} - \frac{OM_A \text{ Budgeted Power Cost}}{kWh_{sold}} + \frac{\text{Prior Month Uncollected}}{kWh_{sold}}$$

The figures for the above variables can be found in **Board approved budget and in the** financial statements, **and** on the Sales and Usage Report

Where:

ECA	Energy Cost Adjustment (\$/kWh) to be applied to energy sales for the billing period.
kWh_{sold}	Total estimated energy sales for the billing period (excluding kWh sales associated with direct recovery of power cost charges or credits).
OM_A Actual Power Cost	Total actual operating margin purchased power cost from all suppliers for the billing period as defined above.
OM_B Budgeted Power Cost	Total estimated budgeted operating margin purchased electricity costs included in the Cooperative's base rates for the billing period as defined above.
Prior Month Uncollected	Difference in the total ECA revenue collected from the prior month and the total ECA calculated collection for the prior month.

Discretionary Adjustment

On an as-needed basis and subject to board approval, a variable (kWh) ECA adjustment that balances the fluctuation in revenues to meet strategic directives.

Solar Rates Discussion (See Appendix for reference materials)

The board discussion on adjusting solar rates continues with a presentation from Mike Searcy of Guernsey this meeting. Mr. Searcy will present some solar rate alternatives to the Board.

One of the key concepts in this process is a clear understanding about the shift of fixed costs from Member Generators (MG) to members who are not participants (the rest of the membership). MG members cover a portion or even all of their energy needs in summer and get to withdraw any exports in the rest of the year. Because the current rate design depends heavily on energy component to recover fixed costs, MG members are not paying their fair share of the fixed costs. The under recovery of fixed costs is paid for by the rest of the membership. The goal of any rate review is to ensure that each member is paying their fair share of the cost to deliver power.

Timeline:

- ✓ May 20th Member Generation Trends and Modeling
- ✓ June 17th Internal Staff Review
- ✓ August 19th Guernsey review of alternatives
- September 16th Impact on co-op members (low-income, low-use, high-use, etc.)
- September 20th Solar Town Hall – member feedback
- October 21st Rate Options Review
- November 18th Budget and 2022 Rate Proposal (first read)
- December 16th 2022 Rate Structure (second read) January 2022 Rate Implementation
- January 1st Rate Implementation

COVID-19 Update

San Juan County has experienced a resurgence of cases due to the delta variant and recommends masking in public indoor places. Please note that OPALCO offices remain closed to the public and its members. Staff has reinstituted remote work to ensure redundancy in the workforce.

For current information from San Juan County Health please use the link below:

<https://www.sanjuanco.com/1668/2019-Novel-Coronavirus>

The current estimate for the state to lift the disconnect moratorium is on September 30th for disconnection for nonpayment. Staff is working with all our members who have accounts in arrears to establish payment arrangement plans. Those who are in compliance with current payment arrangement plans will not be disconnected. Our communication with members in arrears includes:

4. Robo calls
5. Disconnect Tags
6. Website pop ups
7. Ads in the papers
8. Newsletter
9. Bill Inserts



Featured News

JUN 9

Important OPALCO Billing Updates: Get a Payment Plan to Stay Connected, Capital Credit Statements and New Payment Option

Governor Inslee is going to lift the moratorium on all utility disconnects on September 30, 2021. Since the beginning of the pandemic, OPALCO has worked with its members to offer bill-pay assistance and long-term payment options for those who have fallen behind on their bills. Members who have payment plans in place will NOT be disconnected! OPALCO staff are available ...



OPALCO COVID-19 Update (Figures are reported from March 20th, 2020 to the date of transmittal, unless otherwise stated)

COVID Assistance

Board Approved Funding includes all funding allocated for 2020 and 2021.

	# of Accounts	Amount (\$)	Board Approved Funding (\$)	Remaining Budget (\$)
Energy Assist (EAP-C) Commercial COVID	116	128,409	200,000	71,591
Energy Assist (EAP) Residential COVID	94	38,386	100,000	61,614
Extend Project PAL Benefits - COVID	165	19,300	70,000	50,700
Grand Total	346	186,095	370,000	183,905

Fee Assistance (Lost Revenue)

(Based on variance from collections comparing 2019 to 2020 for the period April 1st to Date)

Penalties	95,493
Reconnection Fees	6,932

Measures

Energy Assist (EAP-C) Commercial COVID
 Energy Assist (EAP) Residential COVID
 Extend Project PAL Benefits COVID
 Penalties
 Reconnection Fees

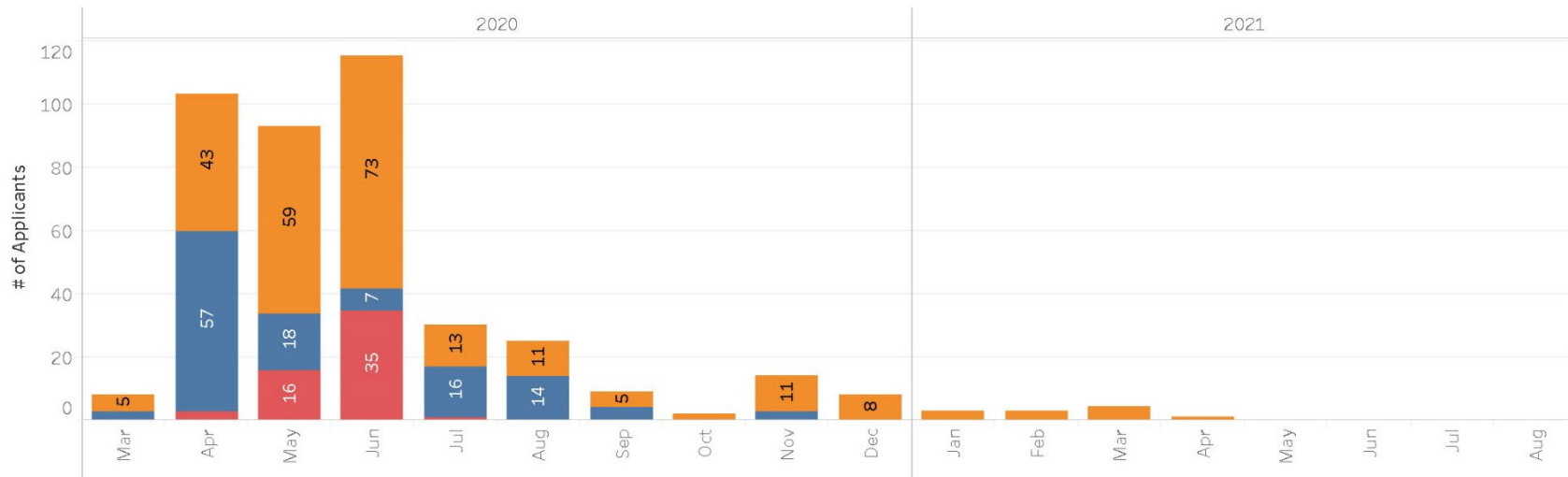
Benefit

\$67.57 per mo., based on number of meters on a commercial rate
 Assistance ranges from \$31.41 to \$61.41, based on number of permanent household occupants
 \$100
 Waiving of late penalties (Normal penalties are 5% of the total balance post-due date)
 Waiving of reconnect fees (Normal reconnect fee is \$50 per instance of reconnecting after a disconnect for non-payment)

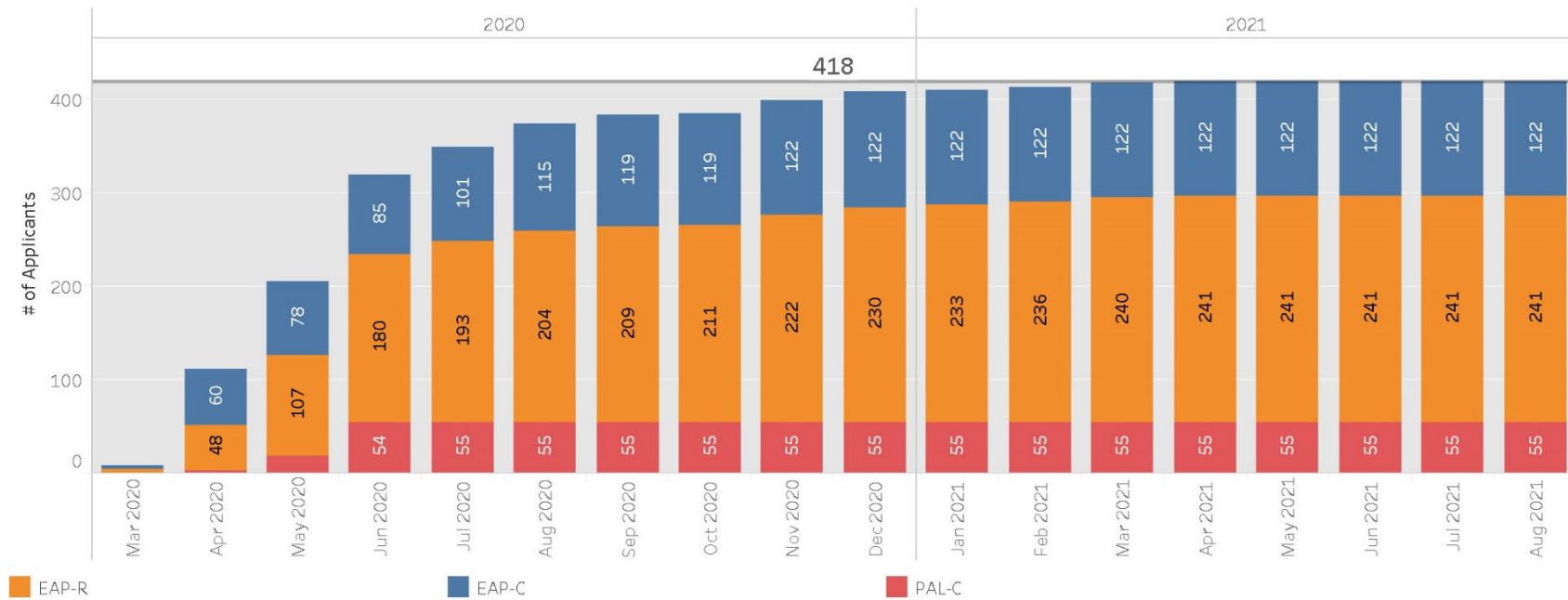
Member Donations to COVID-19 Relief Efforts

Staff will continue to communicate with members regarding the COVID-19 relief measures, including a request for donations. Staff continues to encourage members to donate to our PAL program.

COVID-19 Assistance Applications



COVID-19 Assistance Applications Cumulative



EAP-R

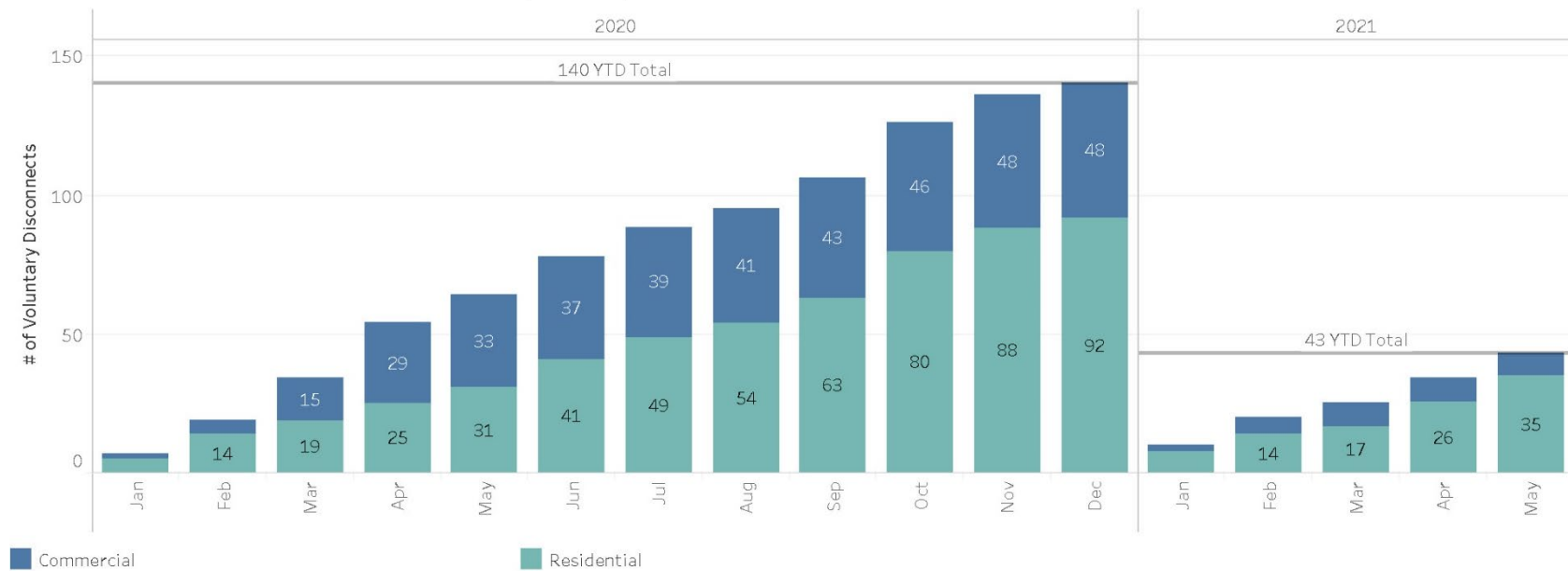
EAP-C

PAL-C

Voluntary Disconnects (Meters)



Voluntary Disconnects Cummulative (Meters)



A/R 30-60-90

- 30-day A/R is trending slightly higher.
- 60-day A/R is notably higher and stabilizing.
- 90-day A/R notably higher and stabilizing.
- We are seeing a flow through into the 90-day with a notable uptick on the 90-day accounts receivable. The lower usage profiles of the summer will aid in moderating this yet will become dramatic in the late fall. At this stage staff feels this is manageable through the summer and will revisit at the Q3.

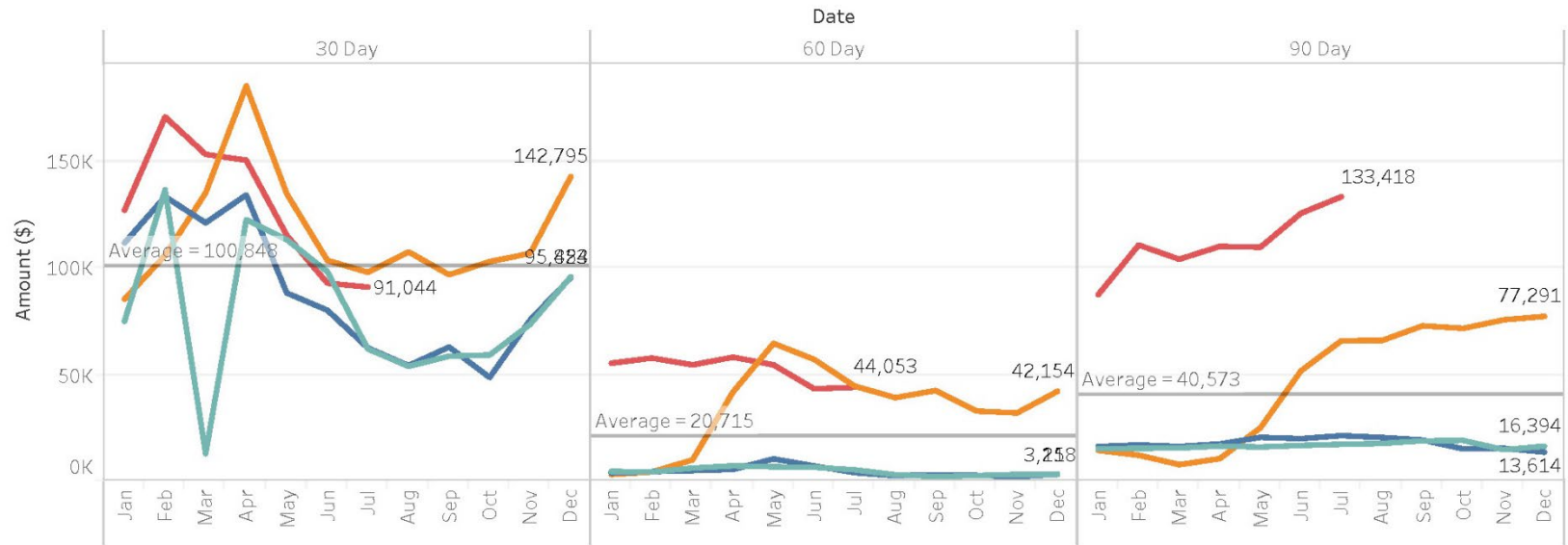
Long Term AR Comparisons - 30/60 Day

	30 Day			30 Day % Difference			60 Day			60 Day % Difference		
	2019	2020	2021	2019	2020	2021	2019	2020	2021	2019	2020	2021
Jan	111,730	85,379	127,074	-23.58%	48.84%		3,837	3,101	55,338	-19.18%	1,684.60%	
Feb	133,447	105,886	170,874	-20.65%	61.37%		4,511	4,333	57,736	-3.93%	1,232.33%	
Mar	121,185	135,225	153,276	11.59%	13.35%		4,962	9,976	54,542	101.04%	446.76%	
Apr	134,240	185,370	150,556	38.09%	-18.78%		5,479	41,845	58,142	663.72%	38.95%	
May	88,272	134,798	115,334	52.71%	-14.44%		10,457	64,616	54,541	517.89%	-15.59%	
Jun	80,172	103,575	92,861	29.19%	-10.34%		7,126	57,091	43,314	701.17%	-24.13%	
Jul	62,481	97,956	91,044	56.78%	-7.06%		4,004	44,576	44,053	1,013.19%	-1.17%	
Aug	54,195	107,577		98.50%			2,543	39,191		1,441.27%		
Sep	62,931	96,832		53.87%			3,010	42,513		1,312.28%		
Oct	48,634	102,980		111.75%			2,725	32,868		1,106.30%		
Nov	75,636	106,860		41.28%			2,078	31,986		1,439.43%		
Dec	95,454	142,795		49.60%			3,218	42,154		1,209.94%		

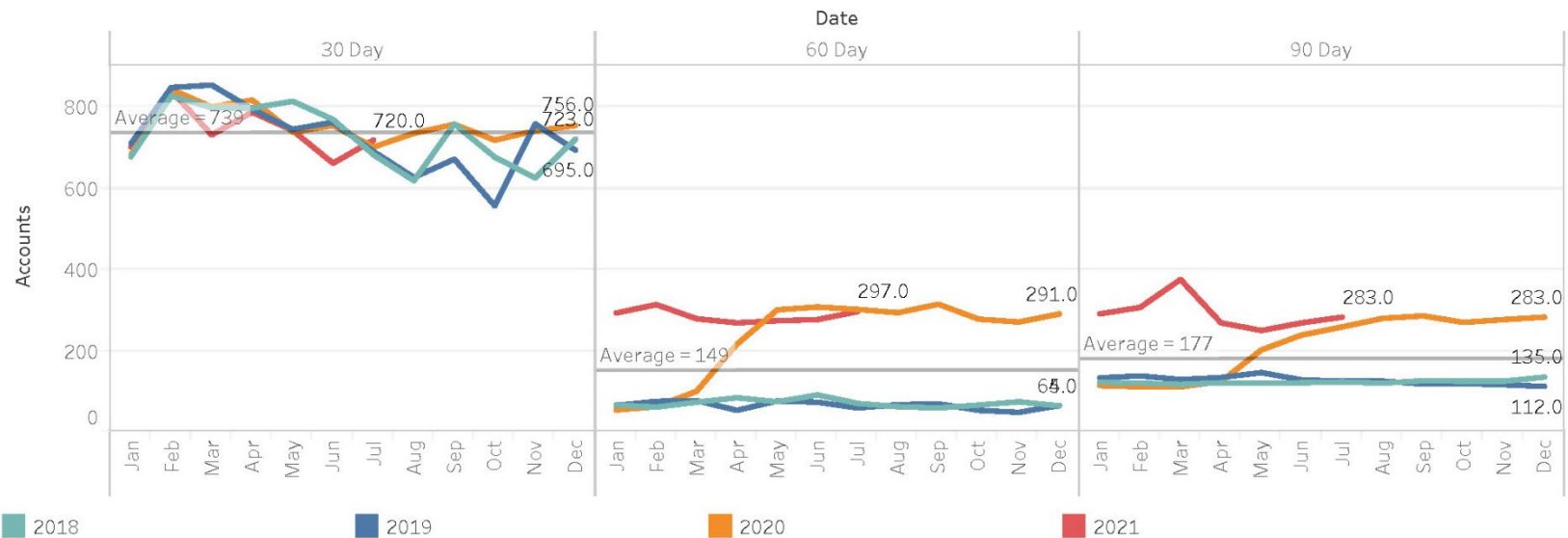
Long Term AR Comparisons - 90 Day

	90 Day			90 Day % Difference		
	2019	2020	2021	2019	2020	2021
Jan	16,248	14,427	87,419	-11.21%	505.95%	
Feb	16,995	12,166	110,764	-28.42%	810.45%	
Mar	16,257	7,762	104,089	-52.25%	1,241.04%	
Apr	17,451	10,546	110,135	-39.57%	944.38%	
May	20,553	25,016	109,719	21.72%	338.59%	
Jun	19,925	51,746	125,665	159.70%	142.85%	
Jul	21,349	65,931	133,418	208.82%	102.36%	
Aug	20,486	66,002		222.19%		
Sep	19,305	72,854		277.39%		
Oct	15,115	71,660		374.08%		
Nov	15,429	75,673		390.47%		
Dec	13,614	77,291		467.75%		

Long Term AR (\$)



Long Term AR (Count)



AR - 90 Day with 5 month Forecast (\$)

The forecast (seen in the light blue with a shaded prediction confidence bands) ratched down due to the plateau.



Forecast Details (All forecasts were computed using exponential smoothing.)

Forecast forward: 5 months (Aug 2020 - Dec 2021)

Forecast based on: Jan 2018 - Jul 2021

Initial Forecast Value: 130,533 ± 15,151

Change From Initial: 8,510

Quality: Poor

Model Details

Level: Additive

Trend: Additive

Quality Metrics

RMSE: 9,211

MAE: 5,385

MASE: 1.28

MAPE: 18.3%

AIC: 819

Smoothing Coefficients

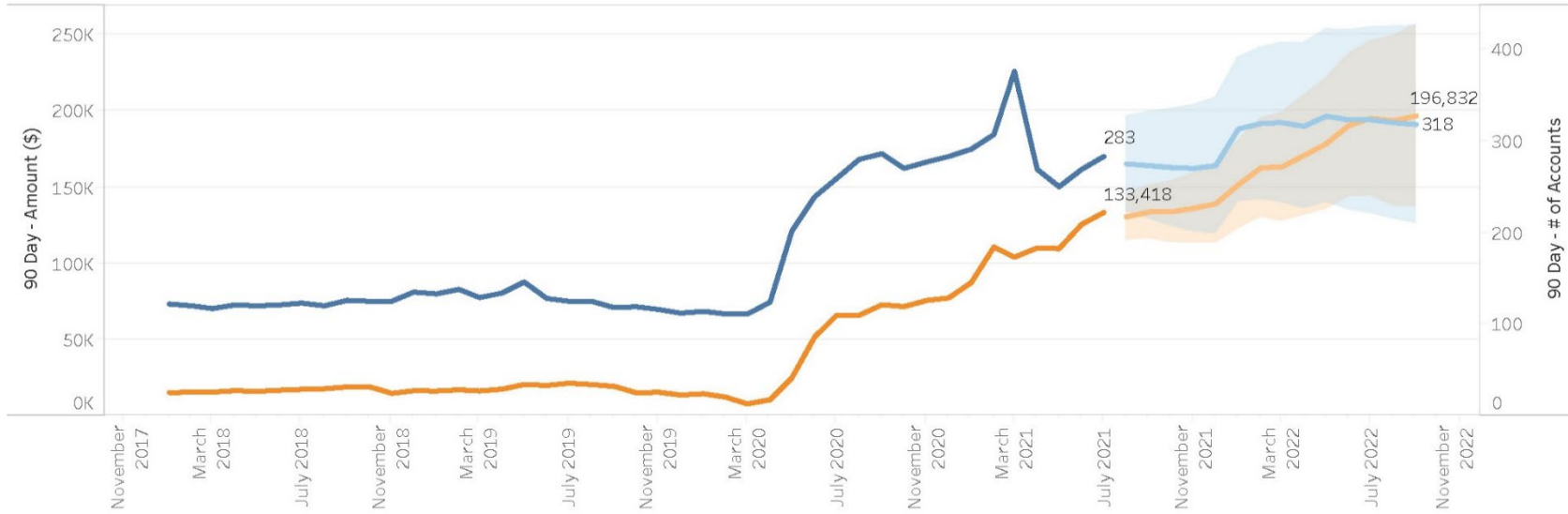
Alpha: 0.500

Beta: 0.146

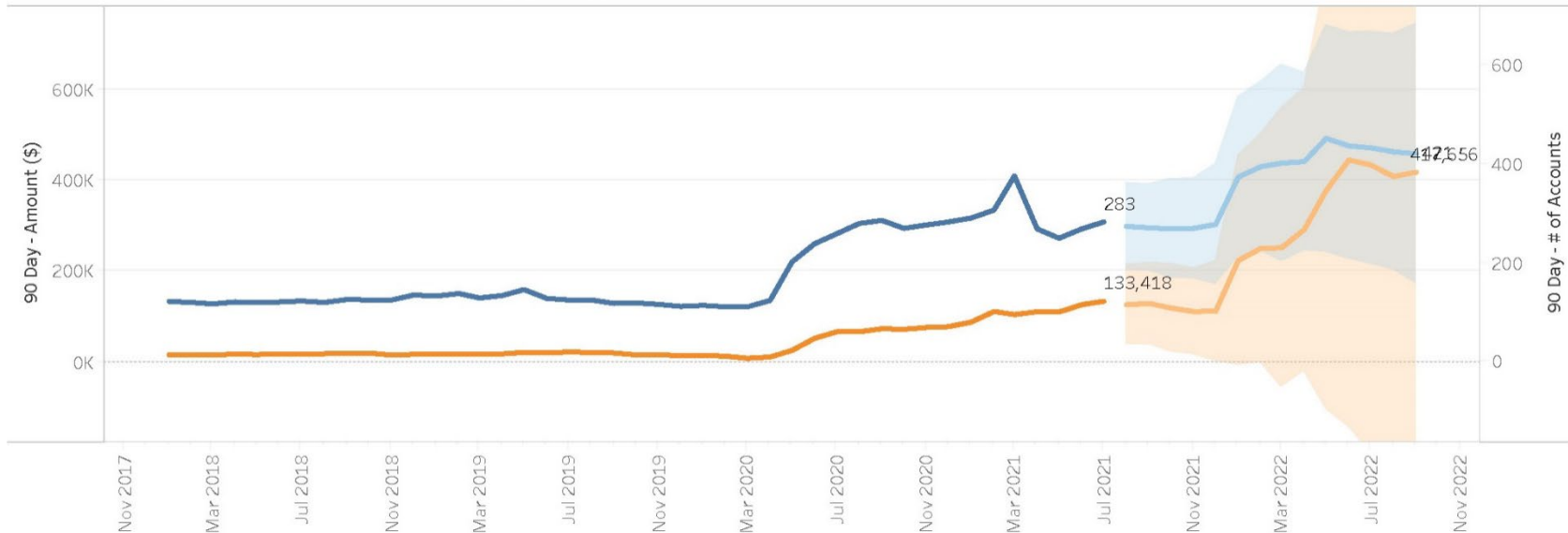
Gamma: 0.232

AR - 90+ Day with YE2021 Forecast (\$) - Assumed

The forecast (seen in the light blue with a shaded prediction confidence bands) ratched down due to the plateau.



AR - 90+ Day with YE2021 Forecast (\$) - High



30/60/90 Day AR Per Account Totals

30 Day - # of Accounts

460

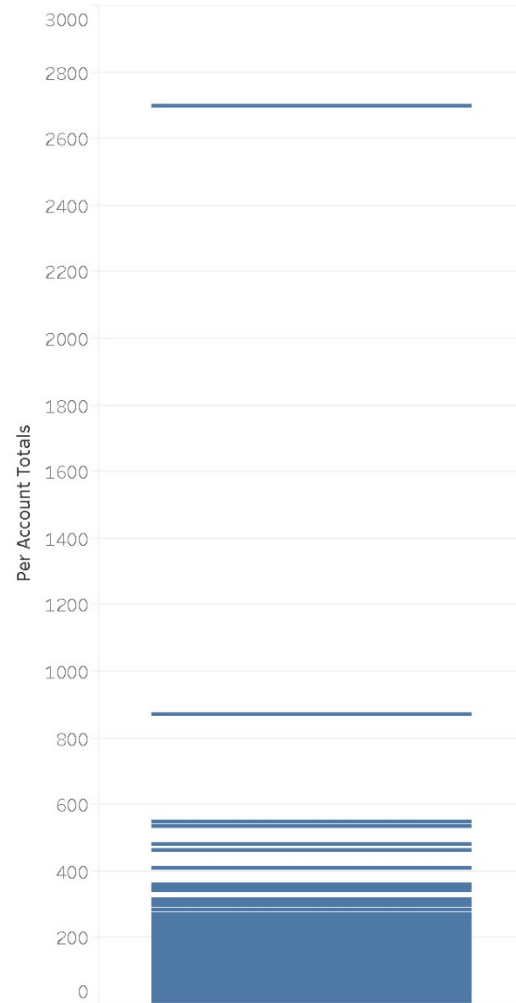
60 Day - # of Accounts

234

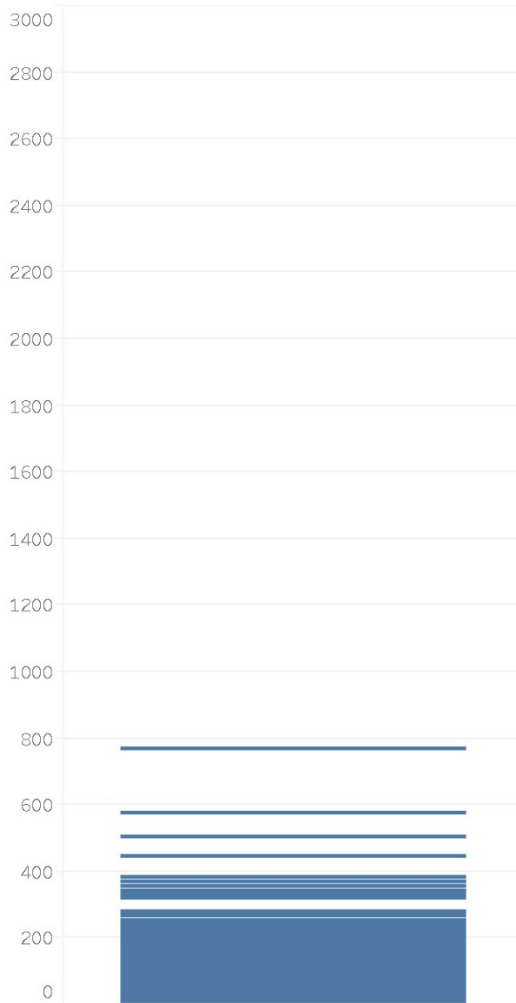
90 Day - # of Accounts

255

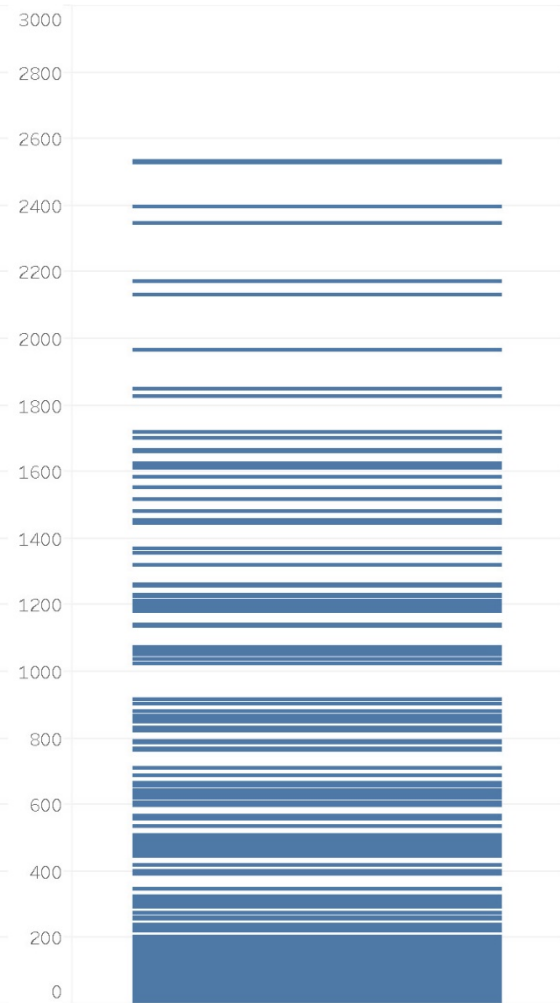
30 Day - per Account Totals



60 Day - per Account Totals



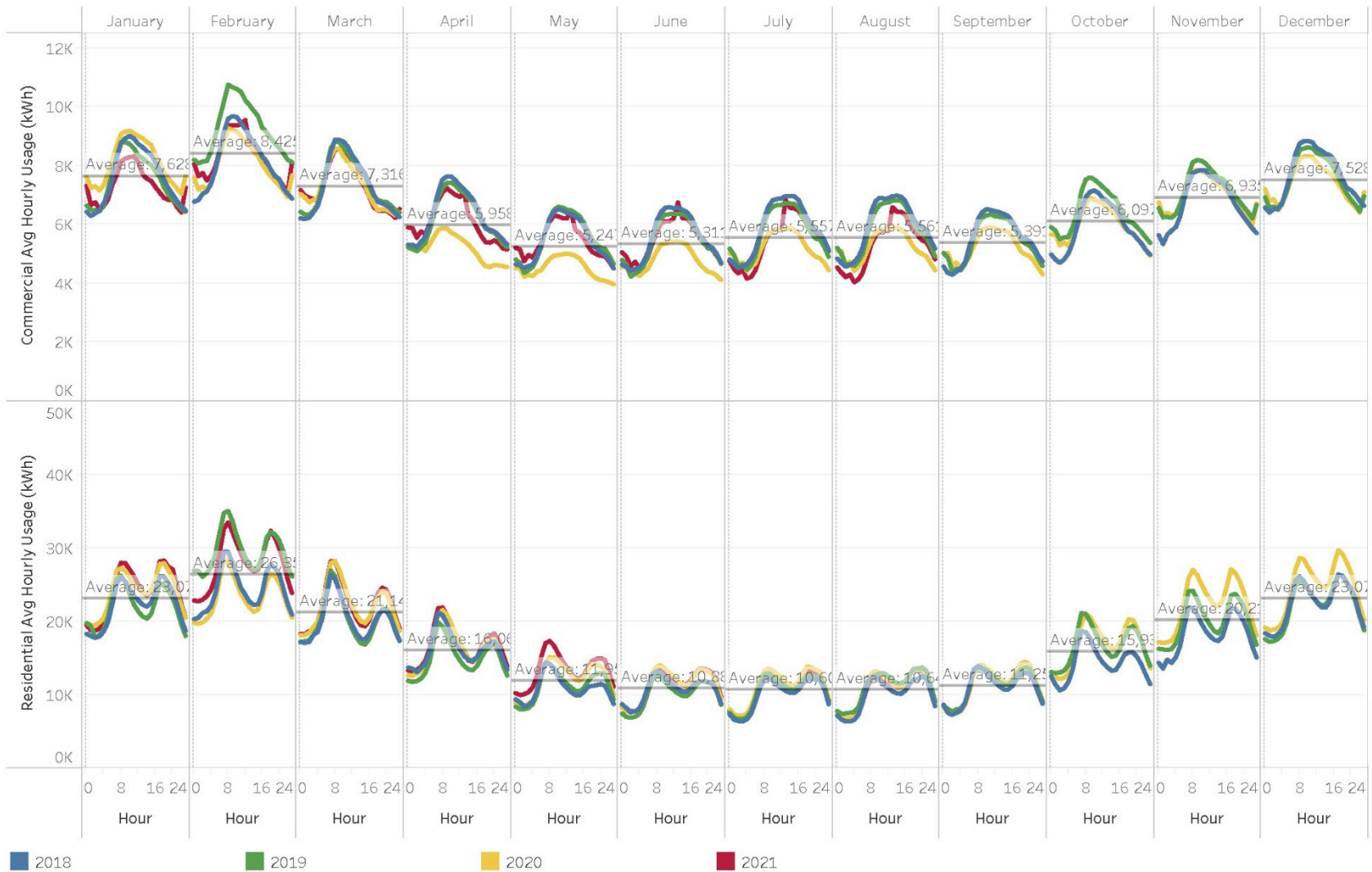
90 Day - per Account Totals



Load Shape - Residential and Commercial

General:

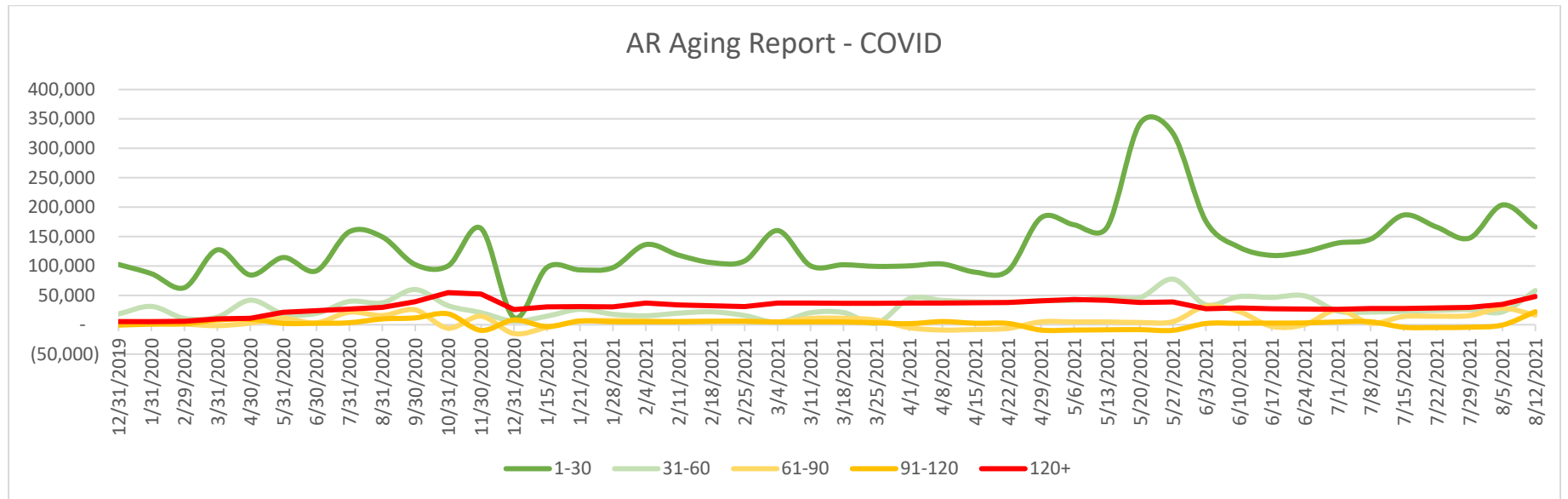
- We are seeing decreased usage in commercial and small increased usage in residential. The difference of overall kWh usage is within the normal margin of error.
- Overall estimated decrease of 12% in commercial usage over the summer of 2020.
- Overall estimated increase of >1% in residential usage since April 1st.
- Current reporting month is a partial data set.



Rock Island COVID-19 Update

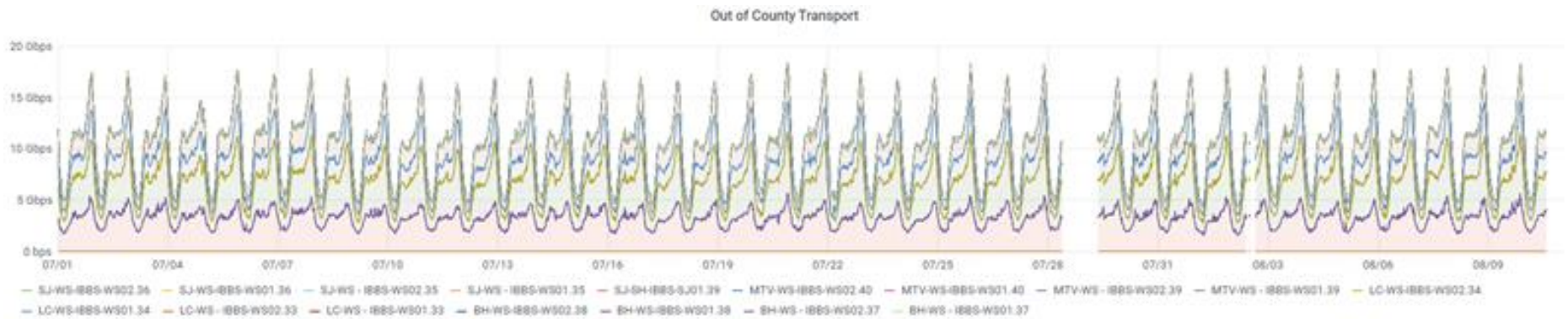
30-60-90 Accounts Receivable Trends

Long-term receiving (120+) is showing a little upward trend. Rock Island maintains the moratorium on disconnects due to COVID.



Transport Network

Transport usage remains steady at about 17GB of our 130GB capacity.



REPORTS

2021 Q2 Financials

Please see attached the full 2021 2nd quarter financial report. Included in the report package are the Statement of Revenues and Margins (along with a notable driver analysis), Balance Sheet, Statement of Cash Flows (GAAP), and capital projects budget tracking.

The energy charge adjustment (ECA) returned \$622k (\$211k in January based on December 2020 calculation) to the membership through Q2 2021, which was driven by higher kWh sales than budgeted. The continued impact of COVID-19 on our commercial members is notable as commercial revenue was below budget by ~\$128k. While much commercial consumption shifted to residential, sales were also bolstered by higher overall kWh sales than budgeted. Coupled with overall expenses coming in under budget by ~\$640k, all factors combined resulted in an increase in the margin of \$1,041M as compared to budget.

The table below is a high-level projection of full-year 2021 financial results using actuals from Q2 and budget projections for future months.

Income Statement Summary (in thousands)	2021 Projection w/Q2 actuals		
	Budget	Projected	Variance
Operating Revenue	\$ 31,454	\$ 31,525	\$ 71
ECA Surcharge / (Credit)*	\$ -	\$ (622)	\$ (622)
Revenue	\$ 31,454	\$ 30,903	\$ (551)
Expenses:			
Cost of Purchased Power	\$ 9,745	\$ 9,780	\$ 35
Transmission & Distribution Expense	6,799	6,400	(399)
General & Administrative Expense	5,443	5,248	(195)
Depreciation, Tax, Interest & Other	8,826	8,497	(329)
Total Expenses	30,813	29,925	(888)
Non-op rev (Int, Patronage, other)	373	375	2
Net Margin	1,014	1,975	961
TIER	2.00	3.04	1.04
HDD	1,398	1,395	(3)
kWh Purchases	216,000	223,521	7,521
kWh Sales	203,260	212,442	9,182

* The ECA returned \$622k to members in the form of bill credits through June 2021

For more detail, please note the following key points:

- Heating Degree Days (HDD) were spot on with budgeted levels (actual of 863 vs. budget of 863). Overall kWh sales were 9.2M kWh above budget (118.4M vs. budget of 109.2M) primarily resulting from residential revenue which is ~4.0% above budget.
- 2021 power purchases were \$34k higher than budgeted, due to a combination of higher overall kWh purchases and a slightly lower cost/kWh than budgeted. Actual kWh purchases were 7.5M kWh above budget (123.5M vs. budget of 116M).
- Excluding purchased power, Q2 YTD operating expenses were approximately \$636k under budgeted amounts.
- The ECA for 2021 was a net credit to members (and reduction to operating revenue) of \$622k, or \$27.22 for a member using 1000 kWh/month. Due to the one-month lag in billing the calculated ECA, ~\$211k of the 2021 ECA was derived from December 2020 results.
- Rock Island Communications 2021 Financials included in separate packet.

OPALCO 2021 Financial Package under separate cover.

General Manager

DASHBOARDS

Please review the dashboards at <https://www.opalco.com/dashboards>. Note that all the dashboards are within board approved strategic parameters.

Finance	Member Services	Outage
Budget Variance	Disconnects	Historical SAIDI - Graph
TIER/Margin	Uncollectable Revenue	Historical SAIDI - Figures
Expense	PAL	Outage Stats – Rolling 12 Mo
Cash	EAP	Outage Stats – Monthly
Power Cost	Service Additions	SAIDI by Category
Purchased Power	Annual Service Additions	Outage Summary
Annual Power Metrics	Revenue Dist. By Rate	
Capital		
Debt/Equity		
WIP		
Income Statement Trends		

ENGINEERING, OPERATIONS, AND INFORMATION TECHNOLOGIES

WIP

As of August 12, 2021, there are 421 work orders open totaling \$7.6M. Decatur Energy Storage System is \$1.5M of the balance. Operations has completed construction on 137 work orders, totaling \$1.5M.

Safety

John Spain of Northwest Safety Service conducted Flagger training and recertification for operations and engineering staff. The total current hours worked without a loss time accident 108,437 hours.

Tidal

As a part of staff's ongoing conversations on tidal power, Orbital Marine, Pacific Northwest National Laboratory (PNNL), and OPALCO met to kick off the process for regulator investigations, placement, and grant submittals.

Grants

Washington Department of Commerce - Grid Modernization

- Decatur Battery Energy Storage System (ESS) (Grant \$1M) (partnered with PNNL) – System handoff to PNNL for analysis has begun with an anticipated completion by end of Q3.
- San Juan Microgrid (Grant \$2.4M) (partnered with PNNL) – Staff will meet with San Juan County DCD for pre-application walkthrough by end of July.
- WA DOC CEF4 Grid Modernization Grants. OPALCO has received conditional award of the following projects. This conditional award awaits the negotiation of contracts with WA DOC and final approval to proceed.
 - San Juan Islands Tidal Generation Design (Phase 1 – Preliminary Design) – Analysis and preliminary design for a potential tidal energy project located in the Rosario Strait. Tidal energy could increase resilience and energy independence for island communities, particularly during winter months when solar microgrids have lower production.
 - Friday Harbor Ferry Electrification Design (Phase 1 – Preliminary Design) – Analysis and preliminary design for a solar + storage microgrid with the capacity to support five different modes of transport: OPALCO's electrified medium-duty truck fleet, public/private light duty vehicle charging, electric bicycle charging, Washington State Ferries serving Friday Harbor and other marine craft.
 - Orcas Biomass (Phase 2 – Detailed Design) - Detailed design and engineering to build a biomass combined heat and power facility with microgrid controls. The facility, fueled by residual materials such as organic waste collected from electricity grid maintenance and forest fuel reduction efforts, would reduce winter peak demand charges and increase energy independence for the islands.

Washington Department of Commerce – Clean Energy Fund 3 Solar (partnered with PNNL)

- Low-Income Community Solar Deployment (Grant \$1M) – Construction of ~1MW of community solar with ~45% of the array output to be applied to the OPALCO Energy Assistance Program. Staff is negotiating the contract with WA DOC to commence. Staff will meet with San Juan County DCD for pre-application walkthrough by end of July.

US Forest Service (partnered with Wisewood Energy) (minor in-kind efforts only)

- Biomass Generation with Biochar (60% Design Grant \$72,835) – Funds for preliminary design of a ~1MW Biomass Combine Heat and Power generation. These funds will be paired with in-kind engineering from staff to interconnect. Anticipated kickoff in Q3 of 2021.

US Department of Energy (partnered with NRECA and Lawrence Berkeley National Laboratory)

- For microgrid projects with solar + storage, cooperatives and small utilities need help designing fair and sustaining community solar rates that allocate benefits rationally to each customer class. OPALCO

also seeks to maximize community solar program value and service delivery for our low-income members and develop a decision-tree tool for our Board that enables rate design with full valuation to the microgrid and solar components, while passing benefits from the solar generation to members. Modeling that recognizes our net metering cap, enables transmission deferral, and identifies clear solar rate differentials is needed.

Clean Energy States Alliance (CESA) for the Implementation of Innovative Energy Storage Pilot Projects

- The Orcas Community Microgrid (OCM) has an estimated total project budget of \$6 million and includes 1 MW of solar, 2.7 MWh of lithium-ion energy storage, a pilot deployment of green hydrogen energy storage; sophisticated voltage balancing; multiple layers of monitoring; communications and control; EV fast charging; and the nation's first implementation of the innovative residential energy subscription market mechanism. Importantly, tidal and biomass energy will be investigated as local renewable energy sources that could incrementally scale up the OCM, especially in winter, when solar is less. The initial OCM will provide unparalleled resilience to numerous critical commercial facilities, including multi-unit housing.

FINANCE

2021 Budget Tracking

Energy (kWh) purchases and sales were higher than budgeted through July 2021. Overall, gross revenue surpassed budget by ~\$1,050k, largely driven by increased kWh sales. This amount was curtailed by the ECA in the amount of \$607k (\$210k related to December 2020, one month billing lag) resulting in a net sales revenue variance of +\$443k through July. Power cost is \$45k under budget despite higher kWh purchases due to a lower cost/kWh than budgeted. The table below presents full year 2021 projection with actuals through July.

Income Statement Summary (in thousands)	2021 Projection w/ Q2 & July actuals		
	Budget	Projected	Variance
Operating Revenue	\$ 31,454	\$ 32,504	\$ 1,050
ECA Surcharge / (Credit)*	\$ -	\$ (607)	\$ (607)
Revenue	\$ 31,454	\$ 31,897	\$ 443
Expenses:			
Cost of Purchased Power	\$ 9,745	\$ 9,700	\$ (45)
Transmission & Distribution Expense	6,799	6,432	(367)
General & Administrative Expense	5,443	5,238	(205)
Depreciation, Tax, Interest & Other	8,826	8,486	(340)
Total Expenses	30,813	29,856	(957)
Non-op rev (Int, Patronage, other)	373	373	-
Net Margin	1,014	3,021	2,007
TIER	1.71	2.72	1.02
HDD	1,398	1,395	(3)
kWh Purchases	216,000	222,500	6,500
kWh Sales	203,260	211,227	7,967

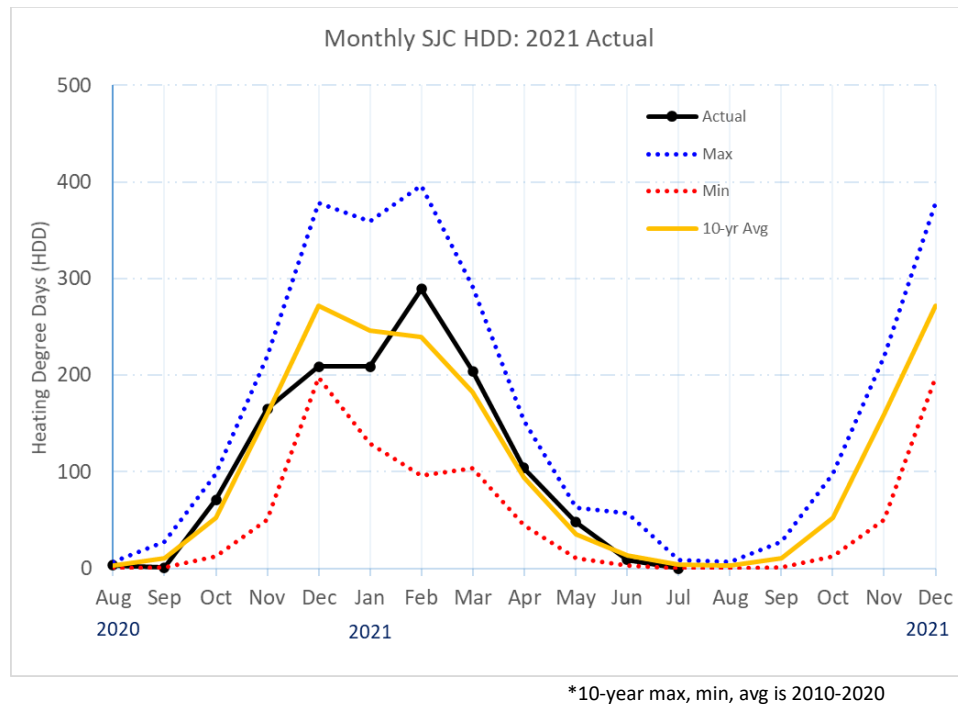
* The ECA returned \$607k to members in the form of bill credits through July 2021

Monthly ECA

The calculated amount for the July ECA was a bill surcharge of \$.001144 per kWh which collected \$14,094 from members, or \$1.14 per 1,000 kWh. The August billing period ECA will be a bill credit of \$.002101 per kWh.

Heating Degree Days (HDD)

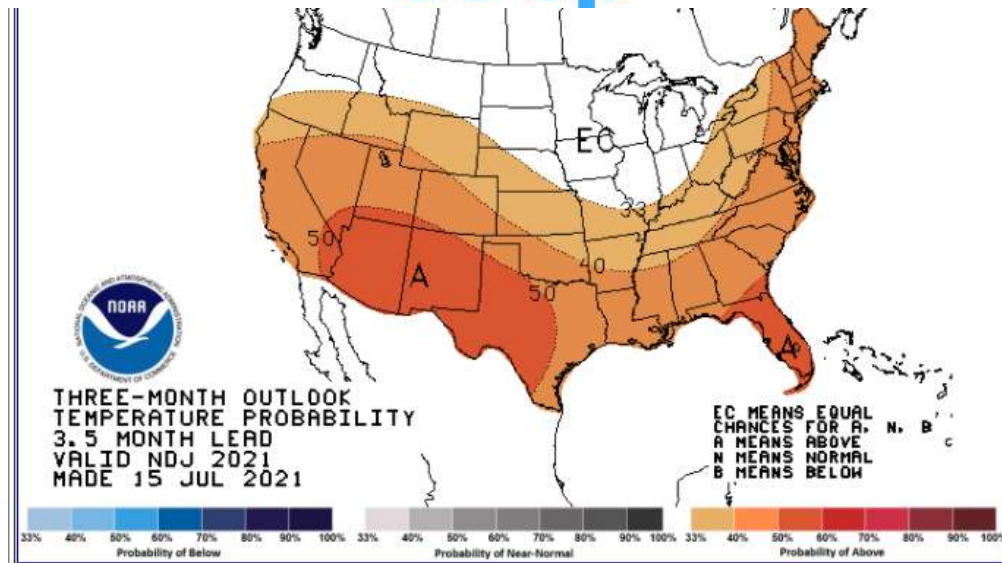
The fall of 2020 began to settle back to near historic averages. Then December and January began trending more towards an El Niño pattern. This pattern flipped in February and March 2021 as HDDs came in above historical averages for the months. Q2 and into Q3 2021 has settled near the historic average as the spring and summer months are expected to follow this trend.



Weather Forecast

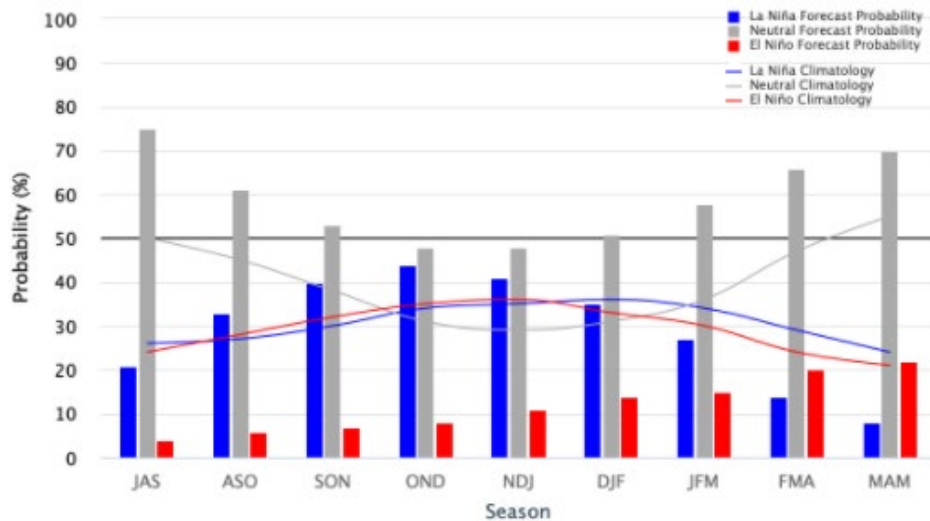
Looking ahead to the NOAA 'three-month outlook temperature probability' for Nov-Dec-Jan 2021 – 22 there is uncertainty in next winters weather outlook showing 'equal chances (EC)' of above/normal/below temperatures in our region for the winter. We continue to monitor these predictors on a monthly basis.

2021-22 Nov-Dec-Jan Outlook



Mid-July 2021 IRI/CPC Model-Based Probabilistic ENSO Forecasts

ENSO state based on NINO3.4 SST Anomaly
Neutral ENSO: -0.5 °C to 0.5 °C



Source: NOAA National Weather Service

MEMBER SERVICES

Energy Assistance

EAP: During June 2021, 278 members received ~\$10.3K from the low-income Energy Assist program, compared to 309 members who received ~\$11.4k in assistance in June 2020. During July 2021, 301 members received ~\$11.1k from the low-income Energy Assist program, compared to 318 members who received ~\$11.9k in assistance in July 2020.

Project PAL: During June 2021 14 Members received ~\$2.9K in Community/Family Resource Center Awards. During July 2021 51 Members received ~\$13.95k.

Covid Project PAL: During June 2021 8 Members received \$800 in Awards. During July 2021 35 Members received \$3.5k. in Awards.



LIHEAP: Notifications continue to arrive and Member accounts are being credited.

Pre-Pay Account Implementation

Staff have been implementing a pre-pay program as another payment method alternative for members who wish to enroll. The implementation process is currently in the test mode for the disconnect/connect features of new meters. The software will soon be in place for the program with anticipated rollout in Q1 of 2022.

E Signature Smart Hub New Membership Process

Member Services Staff have continued to perform file maintenance and updates in an effort to streamline and simplify the new member application process.

Switch it Up!

There are now 189 projects complete and billing for a total of \$1.5M outstanding. There are another 32 projects in various stages of the process. Some projects have been delayed as residential contractors have been limited by COVID-19.

Energy Savings

There were 32 rebates paid out to members totaling ~\$40.76k. This includes eight fuel switching ductless heat pump rebates and three EV charging station rebates.

Solar Interconnects

There were 21 new interconnect applications submitted in June and July, 12 members were interconnected with solar for a total of 456 (<https://energysavings.opalco.com/member-generated-power/>). There are an additional 30 pending connections.

Community Solar

During the June 2021 billing cycles, the [Decatur Community Solar](#) array produced 77,360 kWh. A total of ~\$8,089 was distributed to 264 accounts. During July 2021 billing cycles, the Decatur array produced 82,560 kWh and a total of ~\$8,095 was distributed to 264 accounts.

COMMUNICATIONS

Island Way Workshops

The EV Jamboree drew more than 200 members in a festival-like event in OPALCO's Eastsound parking lot that included EV test drives, a member EV car show, electric bike rides, electric garden tools – members took an electric UTV and electric zero-radius lawn mower for test drives. Kids rode on an electric Island Way jeep and played with inflatable earth balls. People of all ages enjoyed free hot dogs and popcorn, the Smile Booth photo activity – and picked up useful items to promote the Island Way campaign. Members who arrived at the event carbon free were given a free t-shirt or hoodie. There were EV car dealers from Ford, VW and the local Island eCars – as well as a local Greenworks dealer with electric lawn tools and Wildlife Cycles, an Orcas Island bike shop that specializes in electric bikes. Staff handled two hours of member questions about EVs and each of the dealers reported they were busy with member interactions.

throughout the event. Staff received overwhelmingly positive feedback from members and dealers – all of whom said they'd love to do it again.



There are two more Island Way workshops as part of the 2021 series:

- August 26 @ 12 pm: How to use SmartHub – Virtual
- September 20 @ 5pm: Solar Town Hall #2 – Virtual

To attend a session, contact communications@opalco.com for the link – or tune into a FaceBook Live @orcaspower (starting June 14). Members will be credited with a raffle entry for each session attended. Raffle drawing for 10 shares of the next community solar project and a Greenworks lawn mower will be on October 1st.

Island Way Podcast Series

Staff added a new podcast about EVs in August and will record another with an expert on Ductless Heat Pumps later this month, based on the success of the workshop. The podcast series is published on OPALCO's Island Way page (<https://energysavings.opalco.com/the-island-way/>) and will continue to host guest speakers and address a wide range of hot topics to further the conversation and support the transition to renewable power and local resiliency.

EV Happy Deal

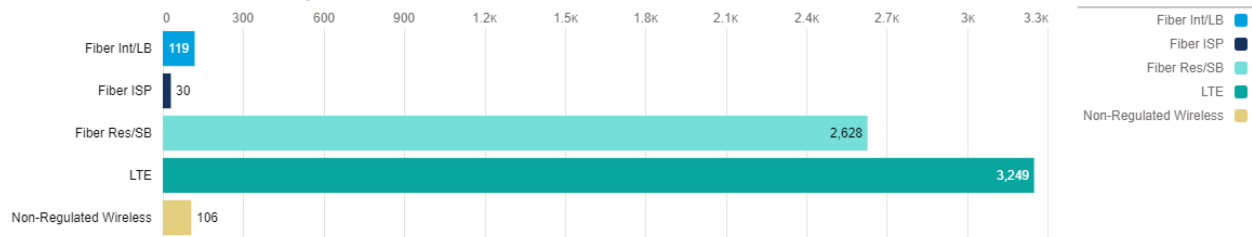
To date, 23 members have purchased a used EV from Island eCars. The grant from the Bonneville Environmental Foundation provides members who buy a used EV with a Smart Home EV Charger, installation cost of charger, tab fees, sales tax (WA \$16K + OPALCO), and 12 months of home charging for

qualified members. Supplies are limited. Total project funds will cover about 30 member “happy deals”, approximately 7 remain.

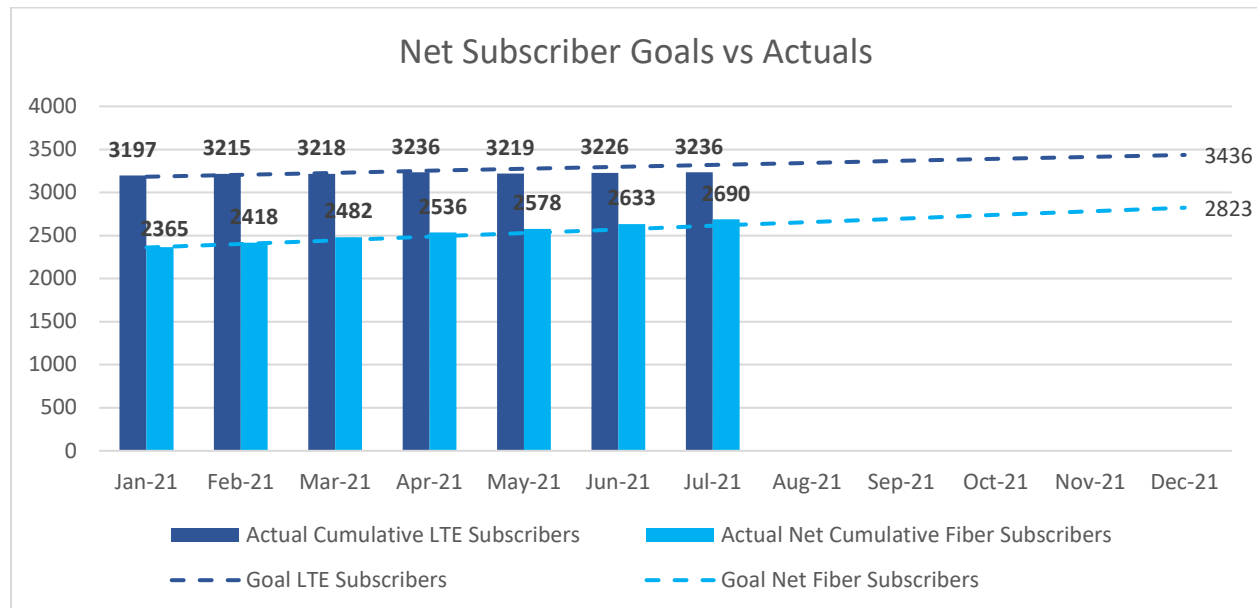
Youth in Trades Program

OPALCO staff worked with the EDC to offer two courses to students aged 11-14 in July: GIS mapping and a tour of the Lopez substation. Each course was presented using Zoom and included a student project. GIS Tech Daniel Martz gave an exciting glimpse into the GIS platform for utilities and other uses and the students created their own maps of utility infrastructure in their neighborhoods. Steve Dengler and Ken Bair gave students a close up look at the Lopez substation and switching yard, opened up a transformer using a hot stick and Ken discussed the Apprentices program. The students each received a wire generator kit to build on their own. The EDC and 4H program staff created and supervised the program.

Rock Island Snapshot



6,132 Internet Service Customers (As of Aug 12)



Subscriber numbers are adjusted to reflect the Access EDU services. The no cost education services are not being counted in the net total of Fiber and LTE.



* June/July Revenues affected by radio project buildout. July revenues are not closed out and are subject to change.

APPENDIX

MEMBER GENERATION: BACKGROUND MATERIAL

OPALCO

Board Meeting
August 2021

Rates Review: Timeline

✓	May 2021	Member generation trends and modeling
✓	June	Internal staff review
✓	August	Guernsey review of alternatives
	September	Impact on co-op members (low-income, low-use, high-use, etc.)
	Late September	Solar Town Hall - member feedback
	October	Rate Options Review
	November	Budget and 2022 Rate Proposal (first read)
	December	2022 Rate Structure (second read), 1/2022 rate implementation
	January	Rate implementation

Local Solar Challenges and Solutions

- Increasing demand spikes
 - dispatchable load
 - dispatchable storage
 - When to charge storage and when to discharge - EVs, Storage
- Land Acquisition
 - updated land use tables
 - grants
- Rooftop pros and cons
 - no land issues
 - member pays capital cost
 - less efficient
- Cost of Energy
 - updated rates
- Over-generation (starts to happen after 12.5% of members (1,438 member generators))
 - curtailment (slows member payback)
 - sell to mainland - Can we do it? What are challenges?
 - store for winter (expensive hydrogen storage)

Page 3

Current Member Generator Rates

Overview

- Member Generator (MG) production rates are specified in OPALCO Policy 14
- Option to apply a fixed fee for administrative costs
- Must comply with nameplate capacity no greater than 200 kW
- OPALCO is not obligated to accept MG over-generation and can interrupt, reduce or curtail

Net Metering

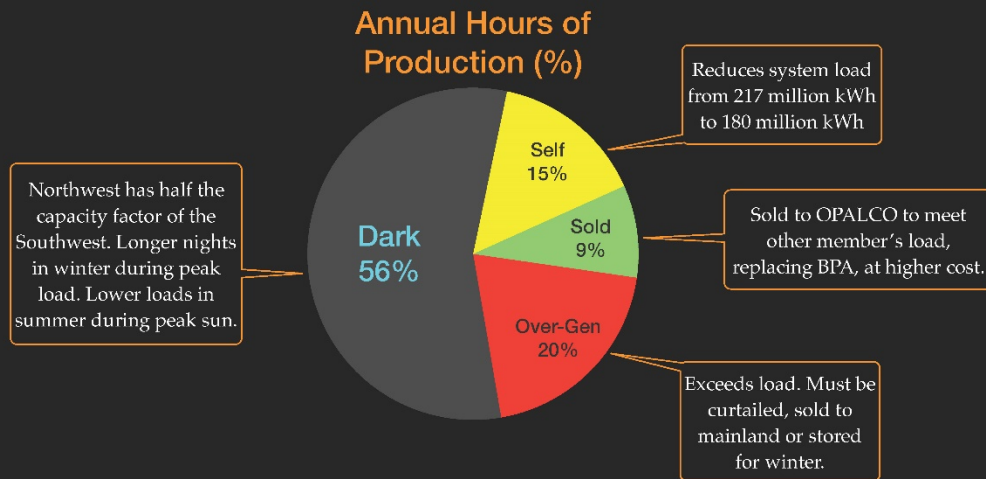
- Monthly production nets with monthly usage, over-generation is banked to following months until the following April true-up. Annual production greater than annual load, is paid at PNGC/BPA + 1¢ per kWh of excess.
- WA RCW requires net metering, as we have applied it, to be offered to the first 4% of 1996 Peak consumers or until Jun 30, 2029. Our System Peak in 1996 was 54.985 MW AC (4% = 2.199 MW AC).
- Our current connected solar as of today is 3.878 MW (DC) (estimated 3.684 MW AC); several systems are underreported. As of today, we have no obligation to connect further members at the existing rate structure for solar connected services.

Buy/Sell - production only, no load

- Five members in system
- PNGC/BPA + 1¢ per kWh of production

Page 4

What portion of the year does Net-zero solar member provide power?



Page 5

Capacity Needed to Serve Seasonal Load: Solar, Tidal, Storage

How much solar or tidal capacity would be needed to meet seasonal load?

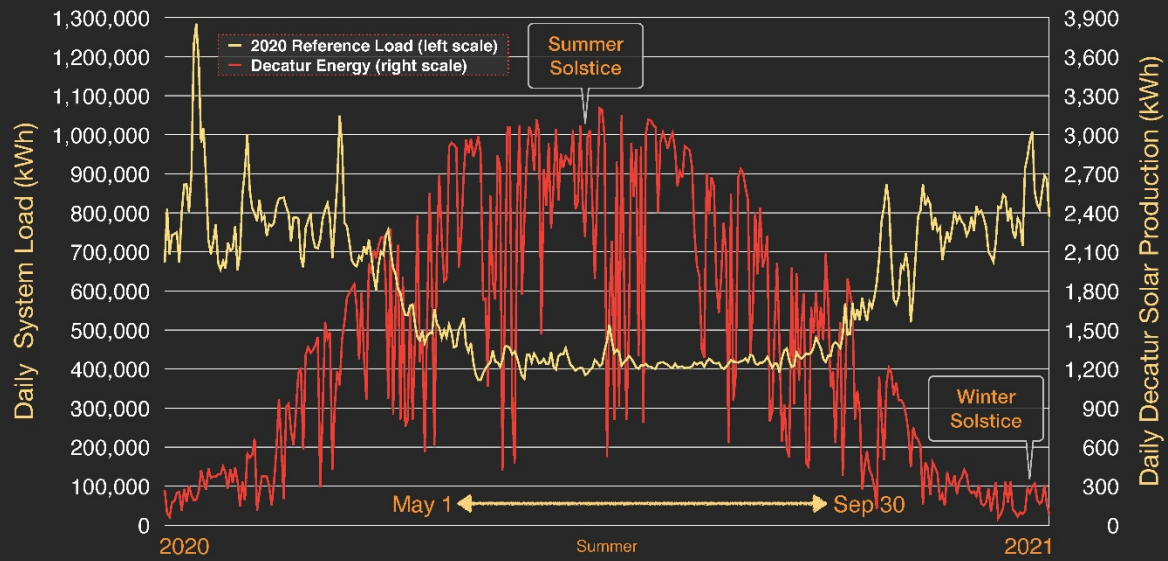
	System Load (MW)	Solar Capacity (MW)	Rooftops Equivalent	Tidal Capacity (MW)
Winter Average	33	1,100	61,111	100
Winter peak	62	2,067	114,815	188
Summer Average	17	40	2,249	52
Summer Peak	27	64	3,571	82
Production		day only	day only	day/night

Notes

- Solar Based on Decatur array performance
 - Capacity Factor (summer day) = 42%
 - Capacity Factor (winter day) = 3%
 - Production: daytime only
 - 18 kW per rooftop (residential and commercial)
- Tidal Based on Orbital performance
 - Capacity Factor (year round) = 33%
 - Production: day and night, except during slack tides
- Storage
- What is land cost contribution per watt or acre

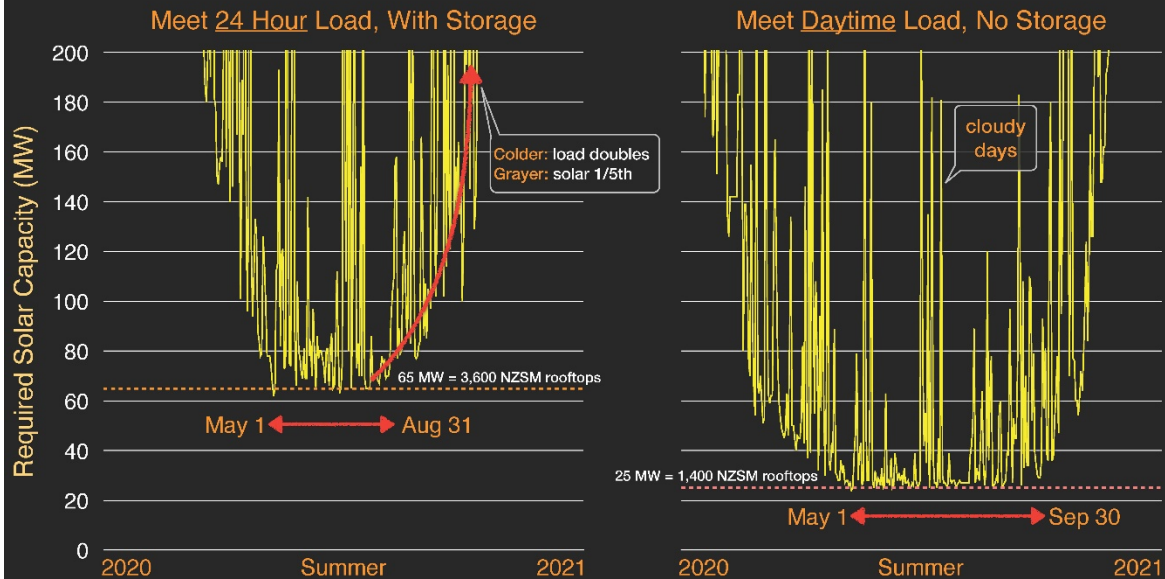
Page 6

Daily 2020 Reference Load and Solar Production (kWh)



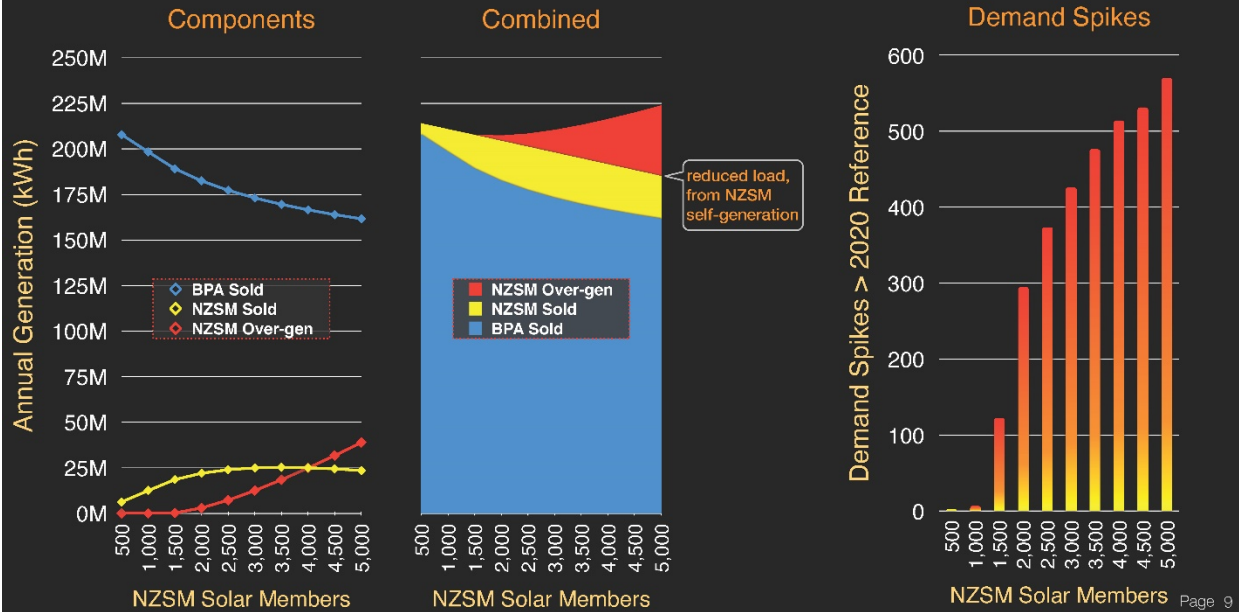
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Solar Capacity Needed To Meet Daily System Load



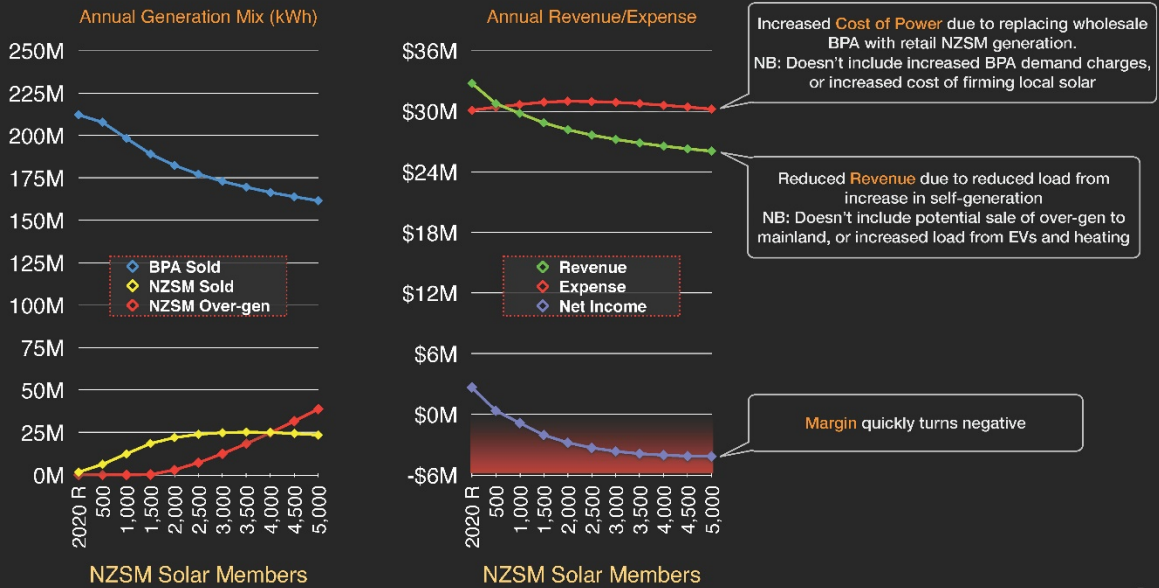
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Annual Generation Mix: BPA Sold, NZSM Sold, NZSM Over-generation



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Impact on Financials: Reduced Revenue, Increased Expense



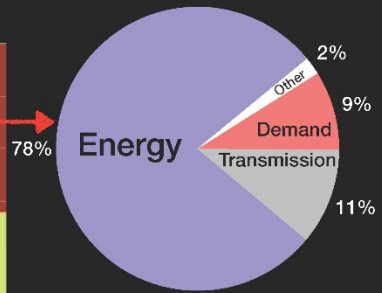
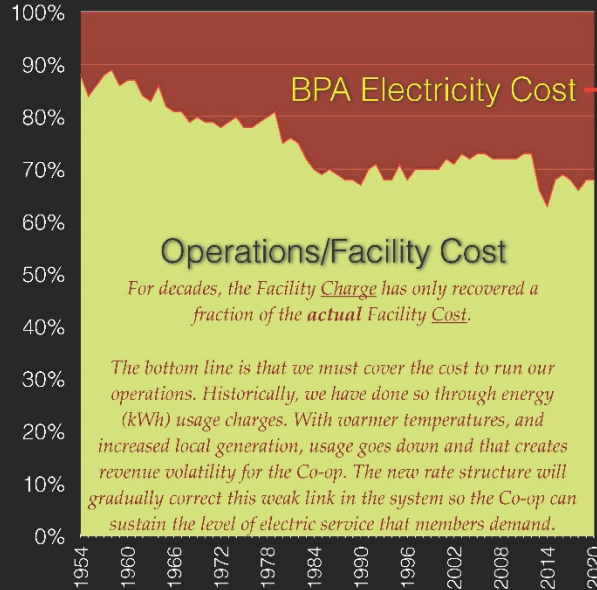
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Billed Versus Actual Cost as a % of Total Cost

Typical OPALCO
Residential Bill

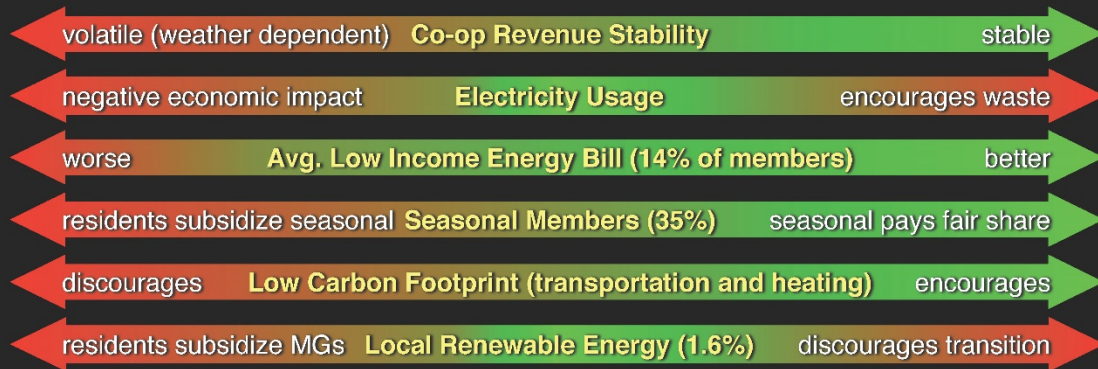


Actual OPALCO Costs



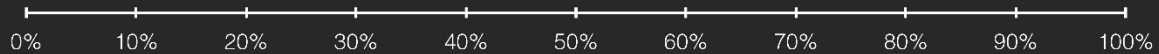
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OPALCO Facility Charge Analysis



No Facility
All Usage

All Facility
No Usage



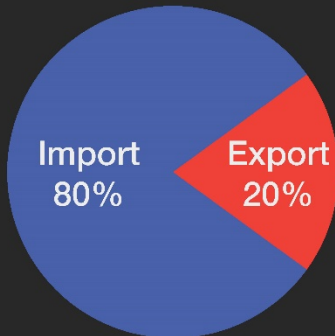
Base/Facility Percentage of Bill

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2020 OPALCO Member Generation: Import/Export Balance

Member generators are always using the grid, either *importing* or *exporting* energy. The OPALCO grid is increasingly transactional, helping members to *buy and sell* energy, as needed.

Annual Energy Import/Export

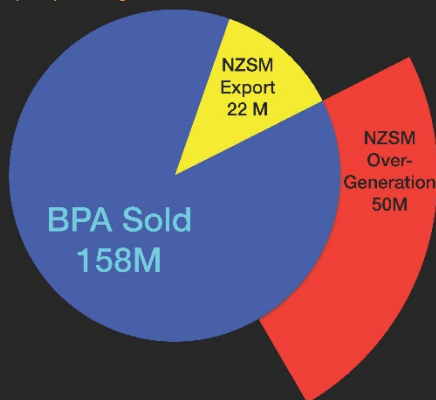


- A typical member generator will produce more solar in the summer than they need, and will export it to the grid, for billing credit, offsetting winter, when solar production is 20% of summer.
- Even though they produce a good portion of what they consume, they depend on the grid to firm their solar - during nights, gray days, and especially in winter.
- A typical member generator will import energy from the grid about 80% of the time - during nights, gray days, and especially in winter (chart at left).

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50% NZSM Model Summary

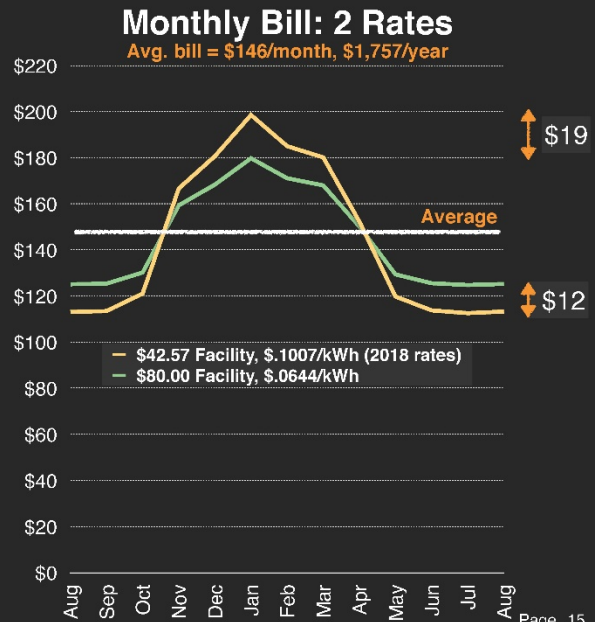
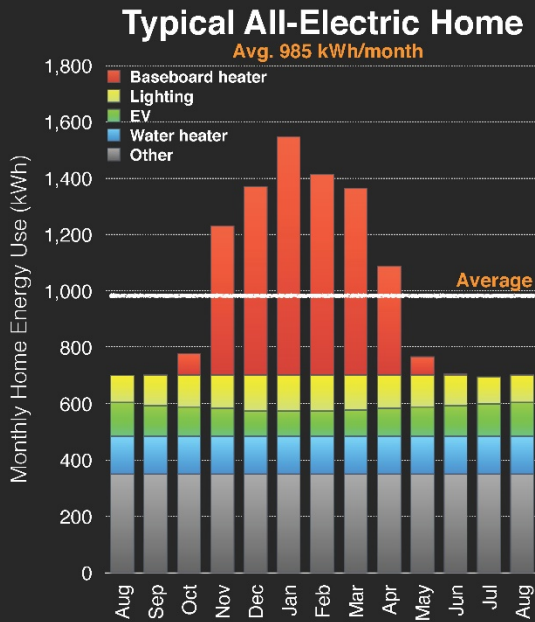
NZSM Model Energy Generation Mix (kWh), serving reduced 180M kWh Load



- 5,750 NZSM members, 5,750 regular members (no generation)
- Resultant Energy Mix to serve 180 million kWh load
 - BPA 88% (158 million kWh)
 - Local Solar 12% (22 million kWh)
- NZSM members will collectively produce 109 million kWh annually
 - 37 million kWh for self (reducing total annual kWh sold to 180 million)
 - 22 million kWh resold to OPALCO for regular member load, displacing BPA
 - 50 million kWh over-generation (curtailed?, sold to BPA?, stored for winter?)
- NZSM members collectively would have 110,000 kW of solar capacity
 - covering 660 acres of surface, mostly rooftop
 - 19 kW dc capacity each (average among residential and commercial members)
- NB: Over-generation starts to happen after 12.5% of members are NZSM (1,438).

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Typical Monthly Residential Energy Use: All Electric Home, Three Rates



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Community Solar Cost Metrics: System, Land, Grants

	Decatur Fixed Array	San Juan Tracking Array	San Juan Fixed Array
Capacity (MW DC)	0.512	3.409	5.085
Annual Energy (MWh)	0.5	5.2	6.3
Cost	\$1,000,000	\$5,000,000	\$6,800,000
System Cost per Watt	\$1.95	\$1.47	\$1.34
Cost per kWh (25 year life)	7.87¢	3.87¢	4.31¢
Land (acres)	3	16	16
Land Cost	\$0	\$510,000	\$510,000
Grants	\$0	\$1,000,000	\$1,000,000
Total Cost	\$1,000,000	\$4,510,000	\$6,310,000
Total Cost per Watt	\$1.95	\$1.32	\$1.24

Notes

- San Juan Site: Tracking array has better stormwater infiltration to the soils and greater grazing area while maintaining good economics and annual production

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2018 Value of Solar Analysis: per kWh

Avoided Costs (per kWh)

BPA Energy - Tier 1	\$0.04219
Transmission - Reg & Frequency Response	\$0.00012
Transmission - Spin Reserve Requirement	\$0.01140
Transmission - Supp Reserve Requirement	\$0.01045
Transmission - Peak Dues Charge	\$0.00005
Transmission - WECC Dues Charge	\$0.00005

Notes

Unlike rooftop, substation location has no distribution system avoided costs

Increases rapidly as more member generators contribute to "duck curve" from increased demand spikes at sunrise and sunset.

Incurred Costs (per kWh)

Demand Charge	-\$0.00010
Fuel mix adjuster	-\$0.00170
Inverter load (generating and quiescent)	-\$0.00008

due to solar production reduction of aHLH demand charge credit

37 grams per kWh more carbon from solar compared to BPA - \$40 per ton

2018 VoS \$0.06238

Based on industry methodology for calculation of VoS

20 year average future value \$0.10000

Based on 20 year average, at 4.7% BPA inflation. Excludes intangible economic benefits

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Discussion

reduced load revenue impact on fixed costs

increased cost of purchased energy

increased cost of storage for firming

increased demand spikes and cost

what to do with over-generation

increased cost of grid modernization for firming

how to balance needs of solar and non-solar members

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Rates Review: Timeline

✓	May 2021	Member Generation Trends and Modeling
✓	June	Staff Analysis
✓	August	Guernsey review of alternatives
	September	Impact on co-op members (low-income, low-use, high-use, non-member generator, member generator, etc.)
	Late September	Solar Town Hall - member feedback
	October	Rate Options Review
	November	Budget and 2022 Rate Proposal (first read)
	December	2022 Rate Structure (second read)
	January	Rate Implementation

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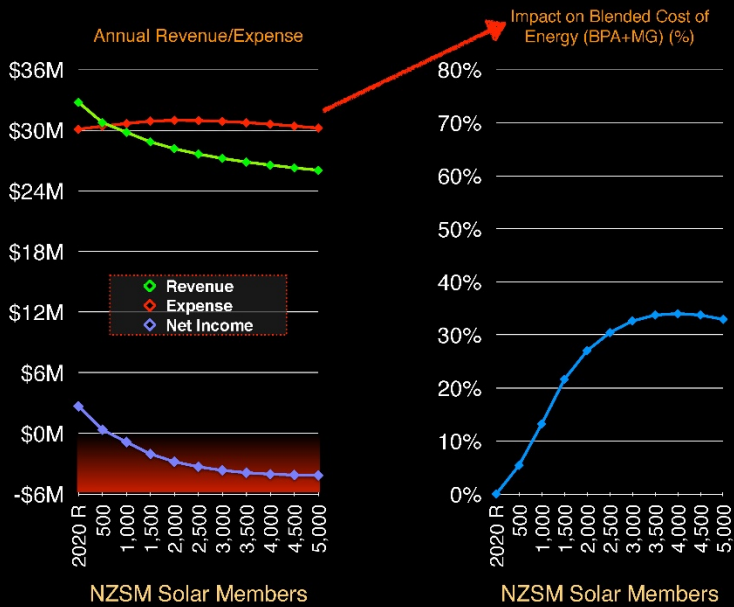
Thank You!

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Appendix

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Impact on Financials: Increasing Blended Cost of Energy

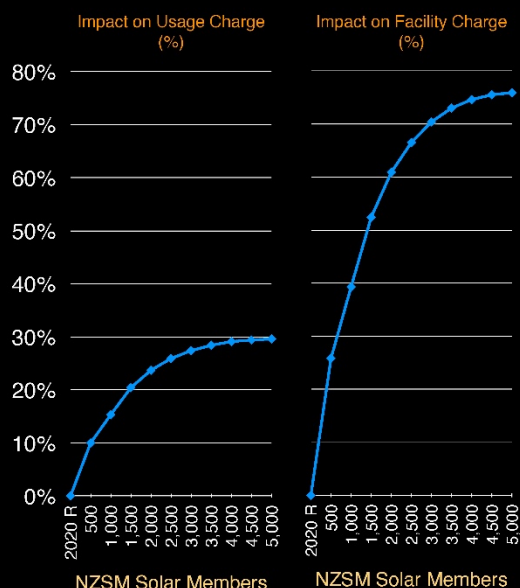


Notes

- Cost of Energy (relative to 2020 Reference)
 - A blend of BPA + local member generation
 - BPA = 4.22¢, MG = 10.89¢ per kWh
 - BPA becomes smaller share due to decreasing load, and increasing purchase of local MG kWh at retail rate.
 - This impact is felt most by non-MGs since most MGs are increasingly net-zero load.

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Member Generator Impact on Rates to Maintain Margin: Energy and Fixed Costs

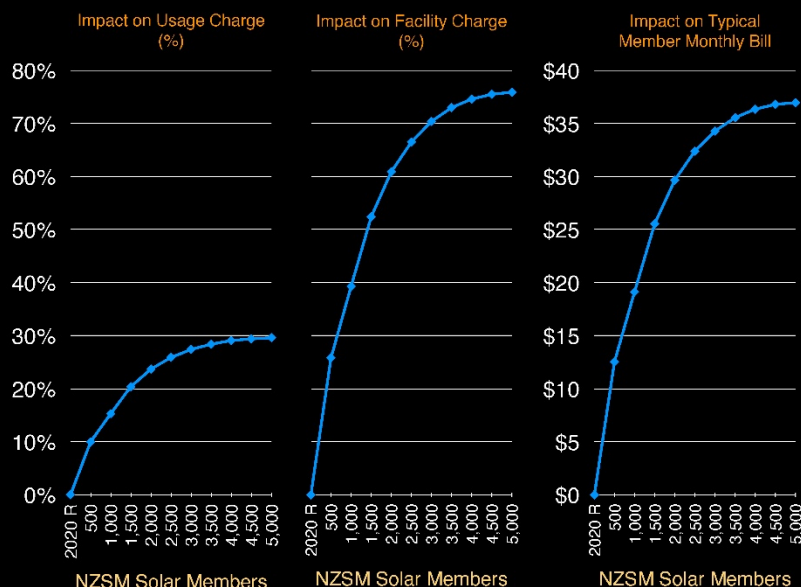


Notes

- As number of MGs increases, margin will decrease due to reduced load and increased blended cost of energy. To maintain margin will require some combination of fixed and/or usage charge increases, directed at all members or MGs.
- Usage Charge (relative to 2020 Reference)
 - Change of just Usage Charge to maintain 2020 reference margin.
 - Impacts non-MG members only, since MGs are net-zero usage.
- Facility Charge (relative to 2020 Reference)
 - Change of just Facility Charge to maintain 2020 reference margin.
 - Impacts all members equally.
- Fixed and Energy Costs in 2020
 - Total Cost is 68% fixed, 32% energy
 - Total Revenue is 29% fixed, 71% energy
 - This amplifies the negative impact of load reduction
 - Actual Monthly Cost is \$110 fixed, \$52 energy (5.2¢/kWh), per average member

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Member Generator Impact on Rates to Maintain Margin: Member Bill

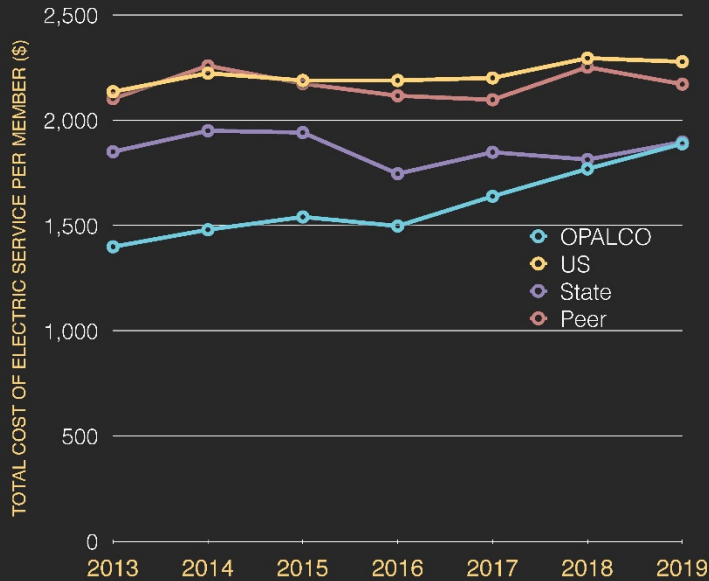


Notes

- As number of MGs increases, margin will decrease due to reduced load and increased cost of energy. To maintain margin will require some combination of fixed and usage charge increases, directed at all members or MGs.
- The chart at left shows, the impact on a typical member monthly bill, as number of MGs increases.
- Either way, current rates will need to be adjusted to maintain balanced financials.
- New rates must balance;
 - encouraging local renewable energy
 - while limiting negative impact on those members unable to afford renewables
 - maintain stable revenue stream, regardless of variation in weather

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KRTA Comparable's: Total Cost of Electric Service Per Member (KRTA #107)



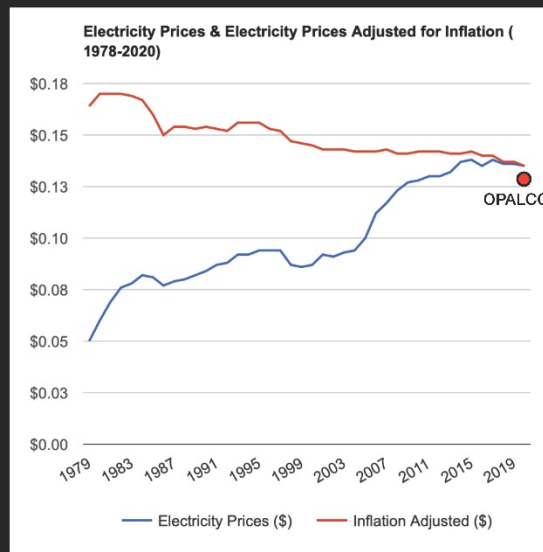
Notes

- Electricity is about 3% of a typical San Juan County household budget
- This is the average annual electric bill per member. OPALCO's average member bill is lower than typical US, State and Peer co-op bills.
- Inline with our mission, we keep the cost of service as low as possible for our members - despite more complex island grid, OPALCO service costs less than our mainland counterparts.
- Source notes: US median, WA median, Size median (similar to OPALCO total members)

Source: KRTA, Low Income Needs Assessment

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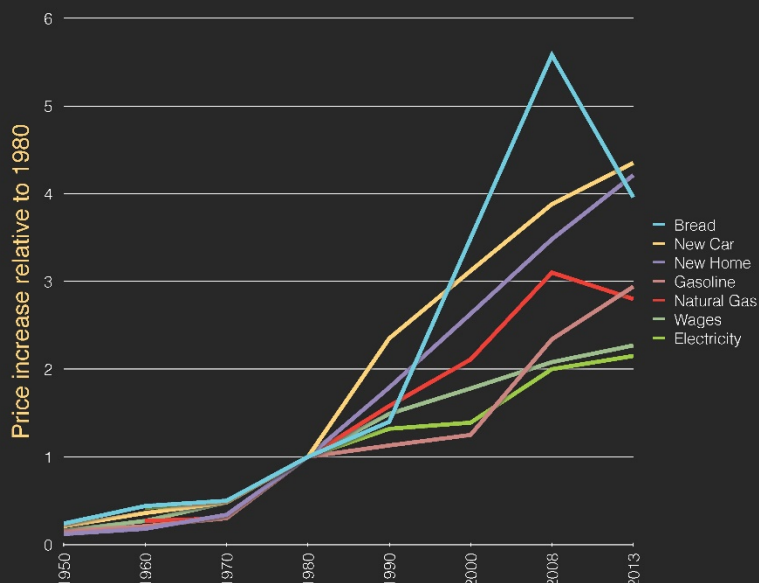
Electricity Price: National, OPALCO, Inflation Adjusted



Source: BLS, OPALCO

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Cost Index of U.S. Consumer Items: Not Inflation Adjusted



Notes

- Prices indexed to 1 in 1980
- Electricity has increased the least
- Wages have not kept up with most household expenses
- Food prices are volatile, often moving in concert with the price of oil and natural gas

Source: Bureau of Labor Statistics

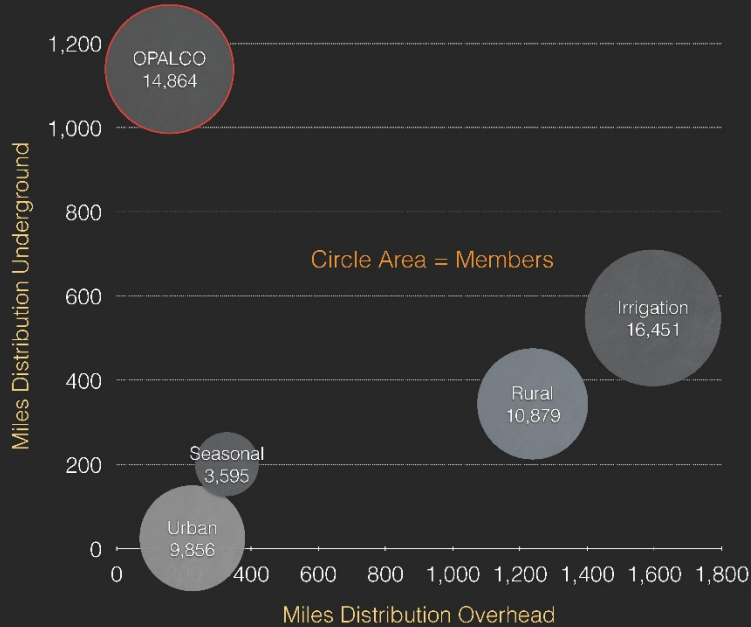
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OPALCO's 20 island service area and infrastructure is one of the most complicated in the nation for a rural community.

To track how we are doing, we review annual comparable performance metrics, which supports our prudent use of resources.

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Distribution: Overhead versus Underground Cable



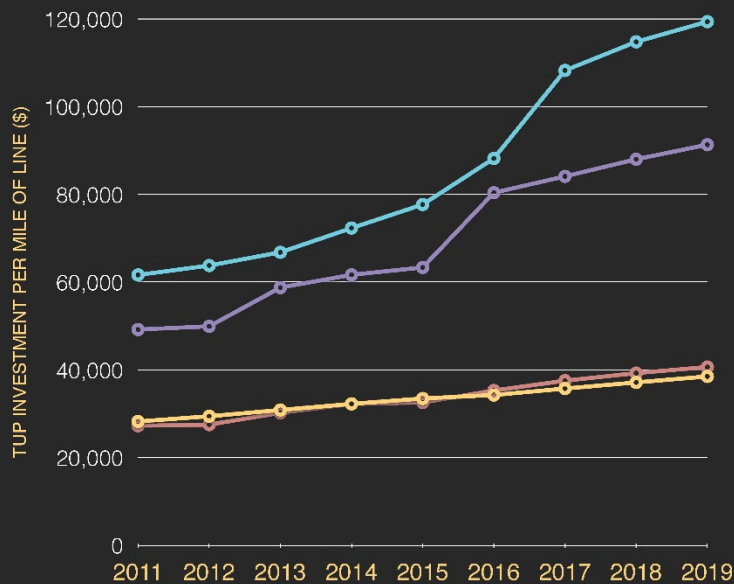
Notes

Serving 20 Islands with storm-hardened infrastructure requires very expensive buried distribution cable for comparable reliability

- "Rural" co-op service area 200 times larger than OPALCO
- "Seasonal" co-op territory size similar to OPALCO, with concentrated neighborhoods rather than our scattered rural population

OPALCO 2017 Budget Overview – page 29

KRTA Comparables: Total Utility Plant Investment Per Mile Higher (KRTA #124)



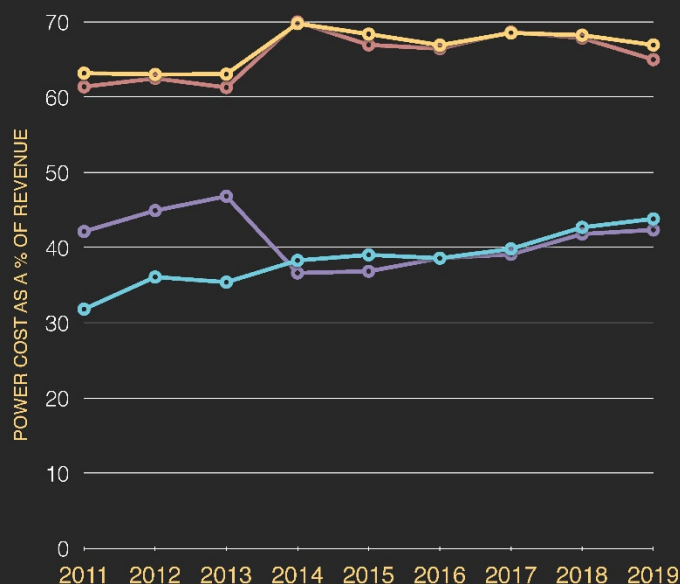
Notes

- Due to our County's 20 island service area, interconnected with submarine cables and multiple substations, OPALCO invests more to build & maintain the grid than our US, state & size peers
- Lopez San Juan cable was major driver in 2017 and 2018.
- Source notes: US median, WA median, Size median (similar to OPALCO total members)

Source: KRTA

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KRTA Comparables: Power Cost % Much Lower (KRTA #88)



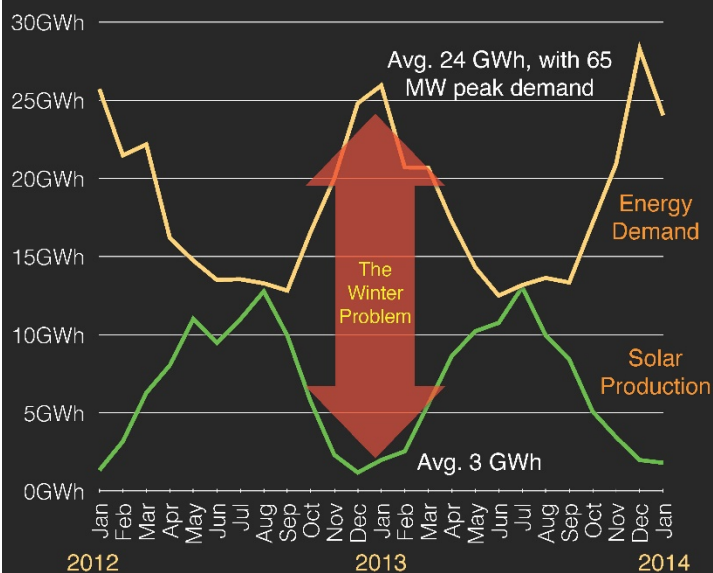
Notes

- While OPALCO facility costs from our more expensive island grid are much larger than our mainland counterparts, our power costs are comparable to WA and much lower than US and Peer.
- Source notes: US median, WA median, Size median (similar to OPALCO total members)

Source: KRTA

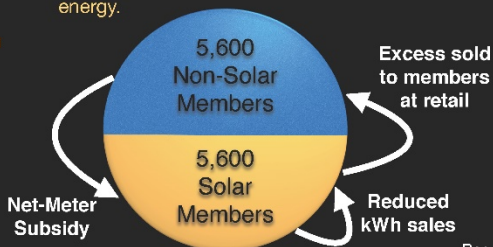
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Side-effects of local energy production: Economics and Subsidies



Example Notes & Assumptions

- Solar production from 5,600 rooftop arrays of 13.4 kW each = 75 MW, producing 82.6 million kWh per year, mostly in summer.
- Solar system cost \$150 million = \$27,000 per rooftop (\$2/Watt, not including financing and grid integration)
- Solar would produce 41% of energy consumed. In-home reduces OPALCO kWh sales, excess replaces 4¢/kWh hydro with 11¢/kWh net-meter energy. Since retail kWh sales pay a portion of facility cost, non-solar members subsidize solar members for the shortfall in facility, as well as the increased cost of energy.

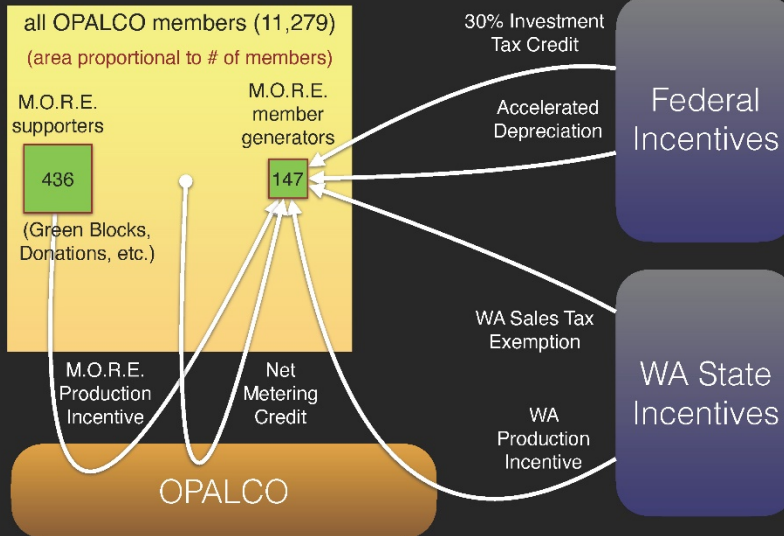


Source: OPALCO, PVWatts

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2016 M.O.R.E. Member Generator Incentives and Subsidies

Local Incentives



Notes:

M.O.R.E. member total kWh generated drives WA production and M.O.R.E. incentive payments.

OPALCO net metering credit based on net kWh after usage. Net metering rate is retail (versus BPA wholesale), hence all members pay subsidy to member generators.

Typically solar member generators shift excess summer production to winter consumption, using the grid as a seasonal battery.

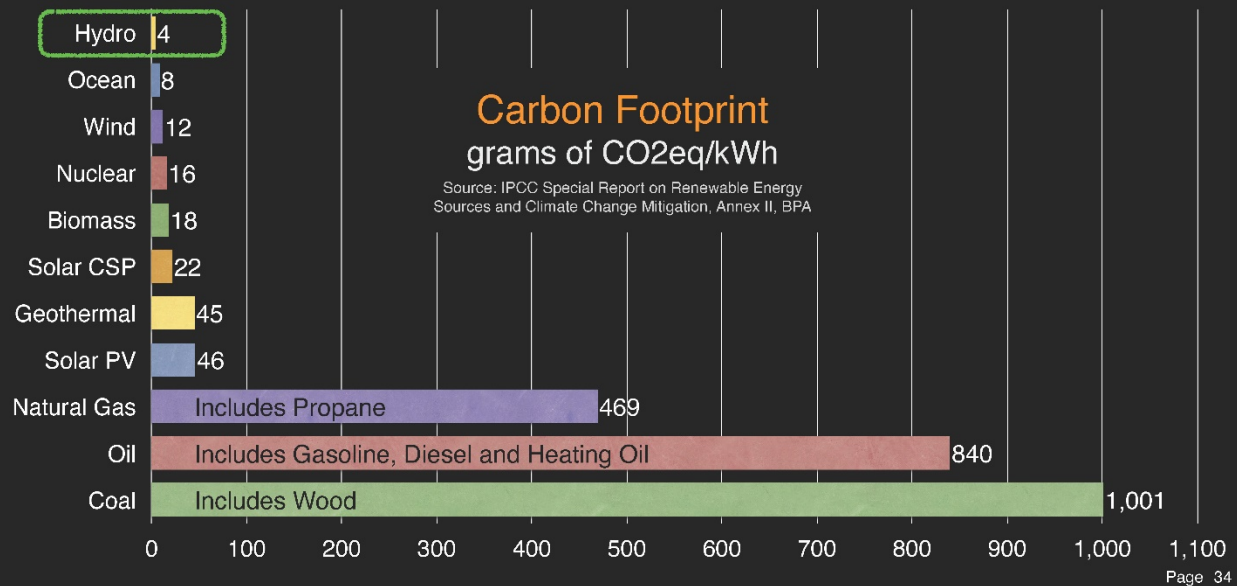
OPALCO receives, administers and distributes WA and M.O.R.E. incentives.

WA incentive payments are subject to \$100,000 WA annual cap.

OPALCO Member Generator Incentives 33

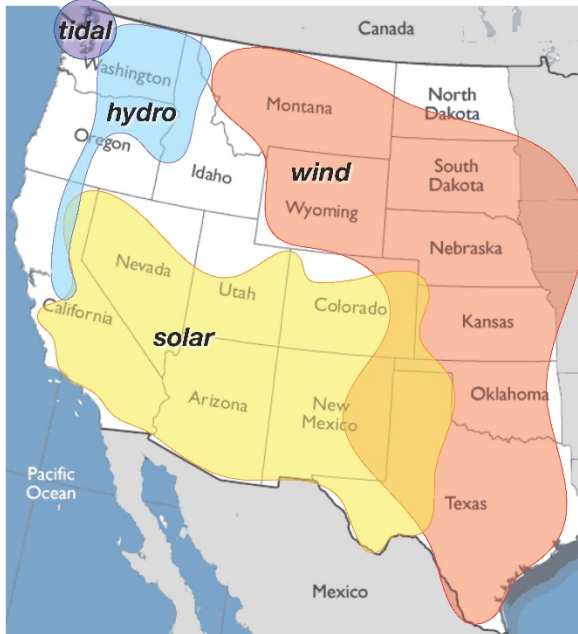
Carbon Footprint of Various Forms of Energy

OPALCO Electricity is much cleaner than fossil fuels

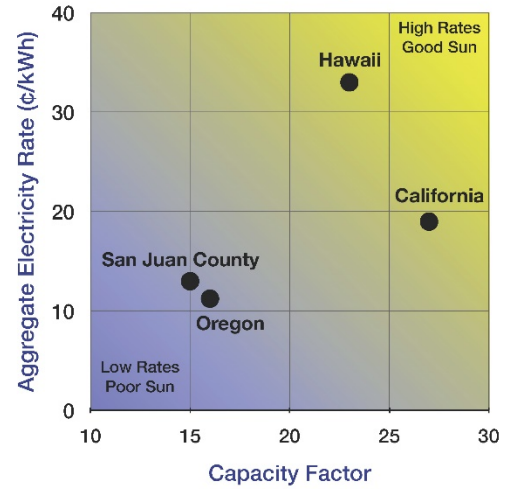


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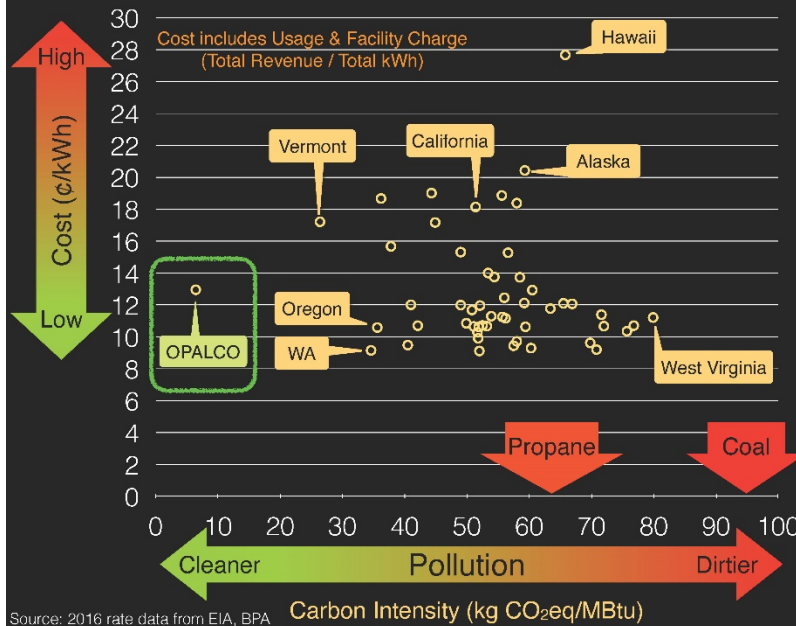
Optimal Locations for Renewables



Solar Grid Parity Drivers



Retail Electric Rates: National View



Notes

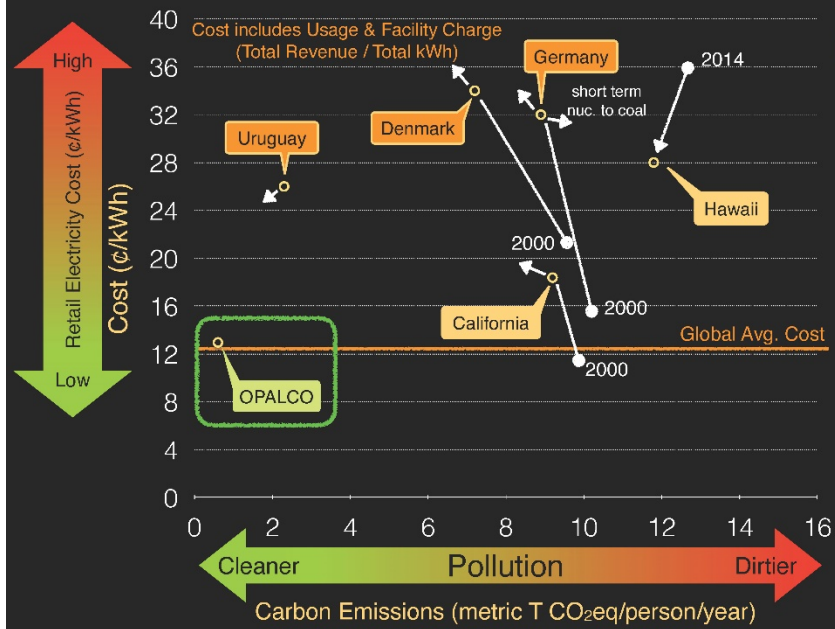
Though OPALCO's 20 island service area has one of the most complex and expensive infrastructures in the nation, we deliver some of the lowest cost, cleanest energy.

- Hydro: low cost, very clean
- BPA fuel mix is predominately hydro, with some wind, biomass and coal. Coal will be phased out over the next decade.

Source: 2016 rate data from EIA, BPA

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2016 Retail Electric Rates: Global View



Notes

- OPALCO cost of energy is similar to global average
- And much less expensive and cleaner than renewable energy early adopters

Source: EIA, BPA, IEA - 2015 data

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