



CHUGACH ELECTRIC ASSOCIATION, INC.
ANCHORAGE, ALASKA

OPERATIONS COMMITTEE MEETING

AGENDA

Mark Wiggin, Chair
Jim Nordlund, Vice Chair

Sisi Cooper, Director
Bettina Chastain, Director
Sam Cason, Director

December 20, 2023

4:00 p.m.

Chugach Board Room

- I. CALL TO ORDER (4:00 p.m.)
 - A. Roll Call
- II. APPROVAL OF THE AGENDA* (4:05 p.m.)
- III. APPROVAL OF THE MINUTES* (4:10 p.m.)
 - A. October 11, 2023 (Cacy)
- IV. PERSONS TO BE HEARD (4:15 p.m.)
 - A. Member Comments
- V. NEW BUSINESS (4:20 p.m.)
 - A. Eklutna Project Update (Hasquet/Laughlin) (4:20 p.m.)
 - B. Overview of Net Metering (Ayers/Henspeter) (4:40 p.m.)
 - C. Natural Gas Supply (Rudeck/Thompson/Gerlek) (4:55 p.m.)
 - D. Campbell Substation Update (Laughlin/M. Miller) (5:15 p.m.)
- VI. EXECUTIVE SESSION (scheduled) (5:25 p.m.)
 - A. Natural Gas Supply (Rudeck/Thompson/Gerlek) (5:25 p.m.)
 - B. Power Pooling (Thornton) (5:45 p.m.)
 - C. Eklutna Project (Board) (6:05 p.m.)
- VII. NEW BUSINESS (continued) (6:25 p.m.)
 - A. Strategic Planning Update (Miller/Board) (6:25 p.m.)
- VIII. DIRECTOR COMMENTS (6:45 p.m.)
- IX. ADJOURNMENT* (7:00 p.m.)

* Denotes Action Items

** Denotes Possible Action Items

12/15/2023 12:36:27 PM

CHUGACH ELECTRIC ASSOCIATION, INC.
Anchorage, Alaska

October 11, 2023
Wednesday
4:00 p.m.

OPERATIONS COMMITTEE MEETING

Recording Secretary: Sandra Cacy

I. CALL TO ORDER

Chair Wiggin called the Operations Committee meeting to order at 4:02 p.m. in the boardroom of Chugach Electric Association, Inc., 5601 Electron Drive, Anchorage, Alaska.

A. Roll Call

Committee Members Present:

Mark Wiggin, Chair
Bettina Chastain, Director (*via teleconference*)
Sisi Cooper, Director
Sam Cason, Director

Committee Members Absent:

Jim Nordlund, Director

Board Members Present:

Susanne Fleek-Green, Director (*via teleconference*)
Rachel Morse, Director

Guests and Staff Attendance

Present:

Arthur Miller	Julie Hasquet	Bart Armfield, Consultant
Andrew Laughlin	Todd McCarty	Jim Madigan
Matthew Clarkson	Josh Resnick	Josh Travis
Sherry Highers	Jean Kornmuller	Mike Brodie
Trish Baker	Jake Lodinoff	Philip Zemple
Kate Ayers	Emily Mueller	Scarlett Masten

Via Teleconference:

Ashton Doyle	Heather Slocum	Samantha Owen,
Sean Skaling	Karen Griffin	McMillan

II. APPROVAL OF THE AGENDA

Director Cason moved and Director Cooper seconded the motion to approve the agenda. Director Cooper proposed a friendly amendment to add item V.D. Eklutna Project Update to the Agenda. The amended motion passed unanimously.

III. APPROVAL OF THE MINUTES

Director Cooper moved and Director Cason seconded the motion to approve the September 6, 2023, Operations Committee Meeting minutes. The motion passed unanimously.

IV. PERSONS TO BE HEARD

- A. *Member Comments*
None.

V. NEW BUSINESS

- A. *Third Quarter 2023 BRU Production Update (Armfield)*
Bart Armfield, Fuel and Corporate Planning Consultant, provided an update on BRU production as of 3rd Quarter 2023 and responded to questions from the Committee.
- B. *One Campus Plan (Resnick)*
Josh Resnick, Manager of Security & Facilities Maintenance, and Josh Travis, VP of Administrative Services, updated the Committee on the One Campus Plan including Building C Renovations and the Equipment Storage Structure. Mr. Resnick and Mr. Travis then responded to questions from the Committee.
- C. *Capital Credit Retirement** (Highers)*
Sherri Highers, Chief Financial Officer, discussed with the Committee the 2022 Capital Credit Retirements and responded to questions from the Committee.

Director Cooper moved, and Director Cason seconded the motion that the Operations Committee recommend the Board of Directors approve the attached resolution authorizing a retail capital credit retirement not to exceed \$3,364,092, which will retire the remaining balance of capital credits for the year 1991 and is expected to be distributed no later than December 31, 2023. The motion passed unanimously.

- D. *Eklutna Project – add in*
The Committee asked Samantha Owen, McMillan, Andrew Laughlin, Chief Operations Officer, and Mike Brodie, Manager of Maintenance & Operations Services & Transformer Shop, to update them on the Eklutna Project and respond to questions from the Committee, during open session.

VI. EXECUTIVE SESSION

- A. *Eklutna Project Update (Owen/Laughlin)*
B. *Cyber Security Update (McCarty)*

At 5:04 p.m., Director Cason moved and Director Cooper seconded the motion that pursuant to Alaska Statute 10.25.175(c)(1) and (3), the Board of Directors go into executive session to: 1) discuss and receive reports regarding matters the immediate knowledge of which would clearly have an adverse effect on the finances of the cooperative; and 2) discuss with its attorneys matters the immediate knowledge of which could have an adverse effect on the legal position of the cooperative. The motion passed unanimously.

The meeting reconvened in open session at 7:42 p.m.

VII. DIRECTOR COMMENTS

Comments were made at this time.

VIII. ADJOURNMENT

At 8:05 p.m., Director Cason moved and Director Cooper seconded the motion to adjourn. The motion passed unanimously.



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ANCHORAGE, ALASKA

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Summary of Comments on Draft Program

Overall Summary

- **Flow Release Location**
 - ADFG and ADNR support the use of the AWWU portal valve to provide flows to 11 out of 12 miles of the river
 - USFWS, NMFS, and NVE are advocating for alternatives that would water all 12 miles of the Eklutna River
- **Year-Round Base Flows**
 - USFWS, NMFS, and NVE are advocating for higher base flows/water budget now
 - ADFG is requesting the potential to increase the base flows/water budget in the future if needed
 - USFWS requested the ability to bank water indefinitely (instead of only one year) and to change the flow regime throughout the year (instead of once a year)
- **Channel Maintenance Flows**
 - USFWS, NMFS, and NVE are requesting significantly higher channel maintenance flows
 - ADFG is requesting marginally higher channel maintenance flows if needed
- **Fixed Wheel Gate**
 - USFWS, NMFS, and ADFG are requesting the fixed wheel gate in order to provide higher magnitude channel maintenance flows
 - NMFS is also advocating for the fixed wheel gate because of climate change, which will likely increase glacier melt, increasing inflows to the lake, and increasing the probability of uncontrolled spill events.
- **Fish Passage**
 - NVE is advocating for volitional fish passage now
 - USFWS and NMFS have requested a phased approach to fish passage
 - ADFG did not request any fish passage
- **Monitoring Program**
 - ADFG is requesting a more robust monitoring program and specific monitoring efforts
- **Physical Habitat Manipulation**
 - ADFG and USFWS are advocating to include physical habitat manipulation in the program
- **Lakeside Trail Repairs**
 - ADFG requested that the Project Owners include supplemental funding for lakeside trail repairs
 - State Parks did not provide any written comments
- **Dam Removal**
 - NVE and Eklutna, Inc. have proposed removing the Eklutna Lake dam within ten years when sufficient renewable power generation is available to offset the lost power generation from dam removal.
 - We have received one public comment so far, which advocates to keep the dam... this is due to dwindling natural gas supplies, rising electricity costs, and climate change.

Public Comment *(received 11/2/2023)*

- Titled “Keep the Damn Dam”
- I am a voting Chugach Electric member and homeowner in Anchorage. I grew up in Washington State which has 80%+ of its power coming from renewable energy AND has some of the lowest power costs in the nation. It is because of its hydroelectric resources that it can accomplish is.
- With dwindling natural gas supplies, rising electricity costs, a warming planet, and hundreds of undammed rivers across this state, it’s incredulous to me to think that we’re seriously considering removing a reliable source of renewable energy from our electricity portfolio.
- I generally support the Anchorage Assembly, but do not on this topic. The Municipality has a Climate Action Plan that has been sitting on a shelf, collecting dust, not being acted on or taken seriously while the Assembly and Mayor squabble over homelessness. I find it offensive that our “progressive” elected leadership is taking time and effort to weigh in on this issue without offering any reasonable alternatives AND acting upon them. It feels to me like this yet another example of “playing politics.”
- **Let’s return the salmon to the stream without removing the dam.** Let’s build more dams that do not block salmon runs. And let’s quit burning fossil fuels. Real leadership would accomplish this.

ADFG Comment Summary *(received 11/27/2023)*

- **Flow Regime** – If monitoring indicates that the proposed flow regime is not providing the additional spawning and rearing habitat that has been modeled, then the adaptive management strategy should allow for the water budget to be increased up to 60 cfs in the Jul/Aug, 48 cfs in Sep/Oct, and 31 cfs in the winter.
- **Fixed Wheel Gate** – The AWWU portal valve could provide a maximum of 80 cfs, and the existing drainage outlet gate can provide a maximum of 190 cfs, with a combined total of 270 cfs. If monitoring shows that the base flows need to be increased all the way to ADFG’s proposed 60/48/31 cfs flow regime, then the fixed wheel gate would be needed to provide the corresponding peak flows (325 cfs).
- **Monitoring Program** –
 - Monitoring efforts should include scour depths in spawning areas to assess impacts of the maintenance flows timing on spawning habitat for adaptive management purposes.
 - Five years of monitoring would be inadequate to assess changes or determine long-term trends. Therefore, a more robust monitoring program should be proposed.
 - Determining potential straying should be based on the results of spawner surveys on the Eklutna River and the results of the stock origin analysis (not angler days or catcher per unit effort data).
 - Criteria should be developed to determine if the plan is successful or not.
- **Physical Habitat Manipulation** – should be incorporated into the program. While there is potential federal funding for this, there is no guarantee that this outside funding will be secured.
- **Lakeside Trail** – Regardless of funding secured by the State of Alaska to address current damage to the lakeside trail, additional funding should be dedicated as part of this program to remediating any additional trail damage that occurs as a result of project operations.

ADNR Comment Summary *(received 11/27/2023)*

- **Water Rights** – Suggested minor text edits to the water rights summary.
- **Dam Safety** – The Eklutna River Release Facility next to the AWWU Portal Valve would likely NOT require a Certificate of Approval from ADNR, but the installation of monitoring instrumentation and automation of the existing gate would require updates to the O&M Manual.

Eklutna, Inc. Comment Summary *(received 11/27/2023)*

- **Economic Analysis** – Encouraged a more thorough examination of the economic impact on Eklutna, Inc. due to the devaluation of landholdings and the consequential impact on fisheries.
- **Property Rights** – NALA mandates that Eklutna, Inc. must consent to most forms of development on its land within Chugach State Park. They requested a description of all lands proposed for use in the portal valve option.
- **Pre-1928** – Suggested including a detailed accounting of the Eklutna River before the first hydroelectric project.
- **Subsistence** – Suggested included a detailed description of subsistence rights and resources.
- **Tailrace Fishery** – Requested an explanation regarding the obligation to mitigate potential impacts to the artificial fishery.
- **Dam Removal** – We believe it is work exploring an option where the Eklutna Dam is removed once adequate renewable energy sources are commissioned to replace the production of the Eklutna Project.
- **Public Interest Determination** – Requested greater clarity on which agency or division within the State of Alaska will be responsible for the public process and the Governor’s public interest determination.
- **Financial Analysis** – Requested more detail on the financial implications of dam replacement and the accuracy of revenue generation estimates, as well as more detail on ratepayer increases.

NVE Comment Summary *(received 12/4/2023)*

- **Fish Passage** – NVE rejects the AWWU portal valve alternative because it does not provide volitional fish passage.
- **Flow Release Location** – NVE rejects the AWWU portal valve alternative because it does not water all 12 miles of the river.
- **Dam Removal** – NVE proposes removing the Eklutna Lake dam within ten years when sufficient renewable power generation is available to offset the lost power generation from dam removal.

NMFS Comment Summary *(received 12/6/2023)*

- **Flow Release Location** – The entire river should be re-watered on a year-round basis.
- **Flow Regime** –
 - Winter Flows – To re-establish a broader range of habitat availability within the Eklutna River, moderate increases in winter flow to 40-70 cfs is a better option.
 - Summer Flows – Our recommended summer flow of 160 cfs provides greater habitat availability to address project related impacts.

- **Channel Maintenance Flows** – Our proposal for flushing flows of 700 cfs will result in significant, meaningful habitat modifications, consistent with natural hydrographs in unmodified rivers, and will mitigate impacts to the Eklutna River from hydropower development.
- **Fixed Wheel Gate** – Incorporating a new spillway gate at the existing dam, as discussed throughout the alternatives assessment process, would expand the range of flows released to the Eklutna River to mitigate direct project related impacts and build resilience to the project infrastructure in the face of climate change.
- **Fish Passage** –
 - Belugas – Improving fish passage and habitat connectivity, as we recommend here, is anticipated to have beneficial effects to both the Cook Inlet beluga whale and its critical habitat and will support recovery of the population.
 - Adaptive Management – The potential benefits of improved connectivity warrant continued discussion among the technical working group members in the capacity of the adaptive management team. We recommend the draft Program be modified to incorporate this topic as an item within the scope of the adaptive management plan working group.
- **Committee Chair** – A designee appointed by the Governor may be too far removed from the process to ensure consistency and advocacy for successful mitigation. It may provide disruption as the Governor and associated administration priorities change. We recommend the adaptive management team be coordinated by a representative who has a more direct investment in the process and will ensure successful implementation.

USFWS Comment Summary *(received 12/6/2023)*

- **Flow Release Location** – Provide water to the full length of the river on a year-round basis.
- **Fish Passage** – Provide a long-term solution to get marine derived nutrients from the river to the lake.
 - Phased Approach – We have expressed openness to a phased approach in returning sockeye salmon to the lake. The Final Program should provide a commitment to design a phased approach within five-years of the Final Program.
- **Fixed Wheel Gate** – Include methods to facilitate larger channel maintenance flows from the lake, such as a new gate at the dam.
- **Flow Regime** – Include a higher instream flow regime to increase downstream salmon rearing habitat; the channel maintenance flow regime should be increased commensurate with the increased instream flow regime.
- **Physical Habitat Manipulation** – Include physical habitat manipulation as components in both the Program as well as in the Adaptive Management Plan.
- **Flexibility** – Provide more flexibility in the Adaptive Management Plan so that PMEs can be implemented as effectively as possible.
 - Requested the ability to bank water indefinitely (instead of only 20% for one year).
 - Requested the ability to modify the flow regime throughout the year (instead of only once a year).

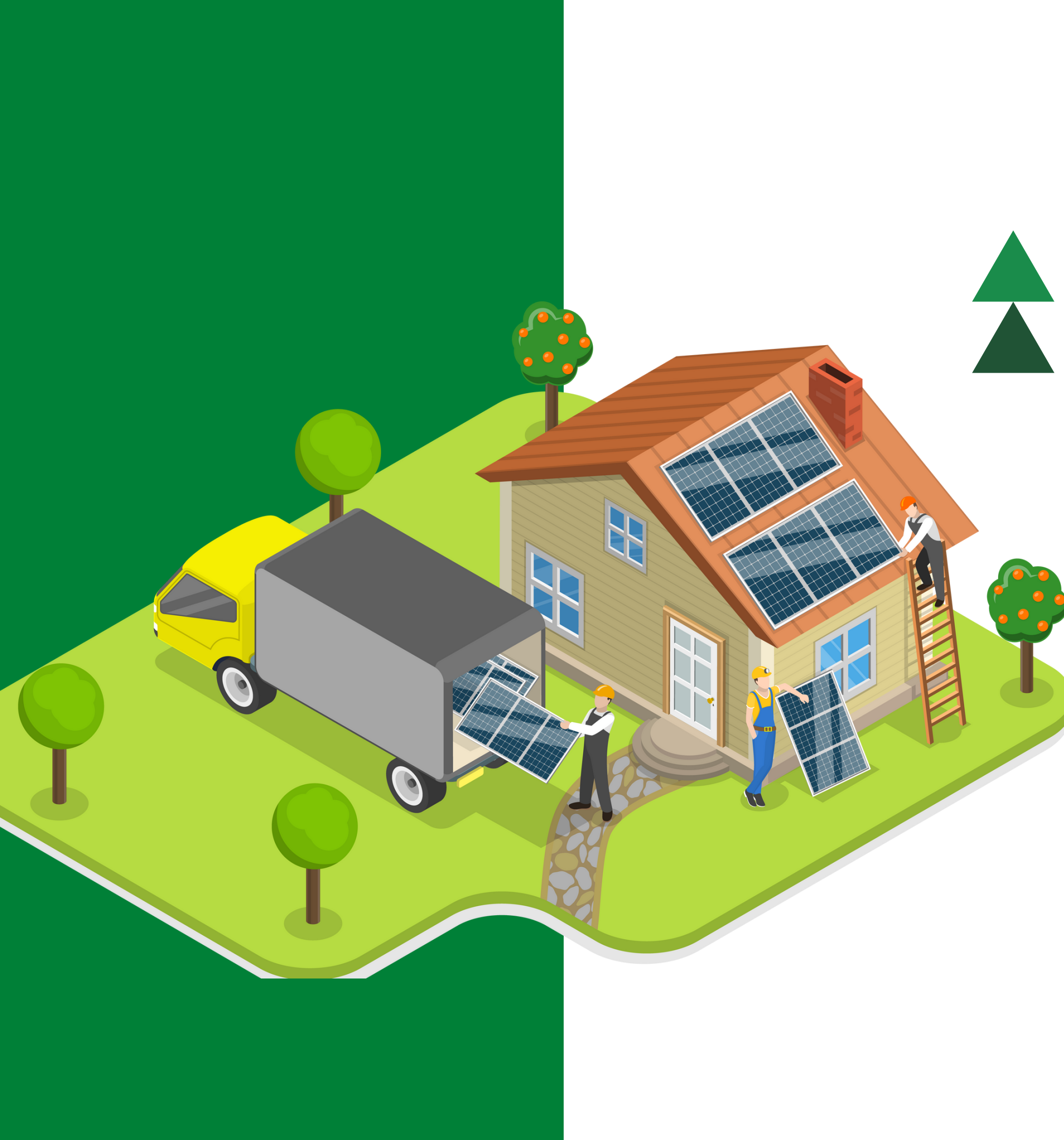
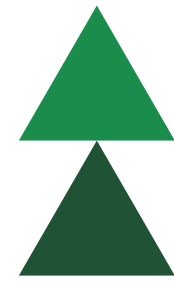


NET METERING

STRUCTURE AND IMPLICATIONS

CHUGACH OPERATIONS COMMITTEE

DECEMBER 20, 2023



WHAT IS NET METERING?

MEMBER-INSTALLED RENEWABLE GENERATION

Net metering enables a member to install a **renewable generation system, up to 25 kW**, at their location. The energy produced by the system is used to **offset monthly usage**.

Members will be **billed monthly the net difference** between the energy delivered to their home by Chugach and any excess energy generated by their system and pushed to Chugach's grid.

Excess power not consumed, within the billing period, at the member's location is sold to Chugach at **the avoided cost rate**.





WHAT ARE THE BENEFITS?

MEMBER BENEFITS:

- Member-installed renewable generation offsets how much energy the member purchases from Chugach, thus lowering their electric bill
- Members that produce less or the same amount of energy they consume realize the full retail value for each kWh produced and consumed at their location
- Reduces members' reliance on fossil fuels
- Potential to get a credit on electric bill

CHUGACH BENEFITS:

- Increases renewable energy on Chugach system
- Decreases fuel use and provides for increased diversification of energy resources

COMMUNITY BENEFITS:

- Fosters private investment in renewable energy
- Decreases community greenhouse gas emissions
- Supported by many members

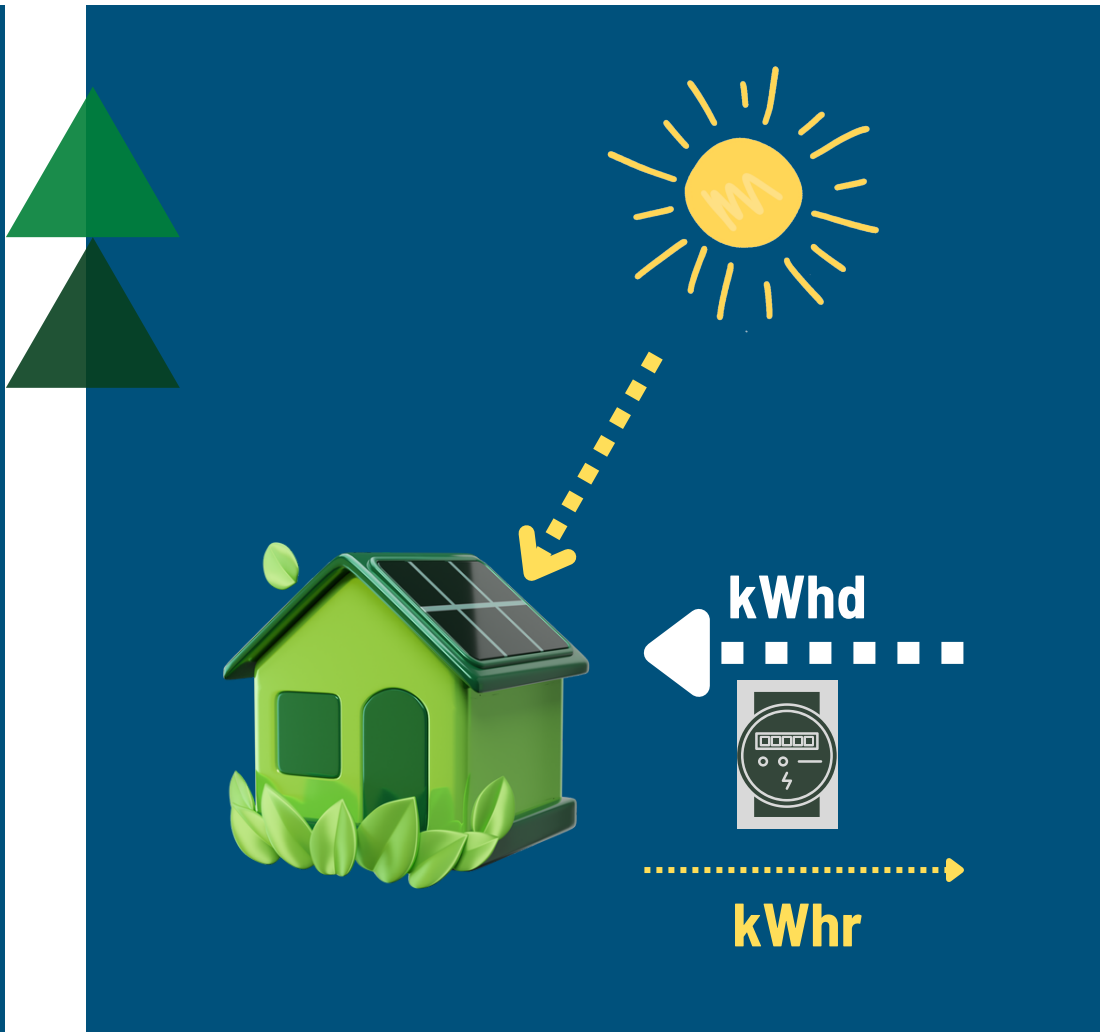




HOW IT WORKS



IF MEMBER GENERATES MORE than used in the billing period, then the utility will purchase the excess generation at its avoided energy rate and the credits (dollars) roll forward to future months



IF MEMBER GENERATES LESS energy than used in the billing period, then the member will be billed for the energy purchased at the utility's tariffed rate






MEMBER EXAMPLE:

DELIVERED TO MEMBER: 550 kWhd
RECEIVED FROM MEMBER: 450 kWhr
NETTED MONTHLY ENERGY: 100 kWh

FULL RETAIL COST: \$0.20/kWh
AVOIDED COST: \$0.06/kWh



WITHOUT NET METERING WITH NET METERING

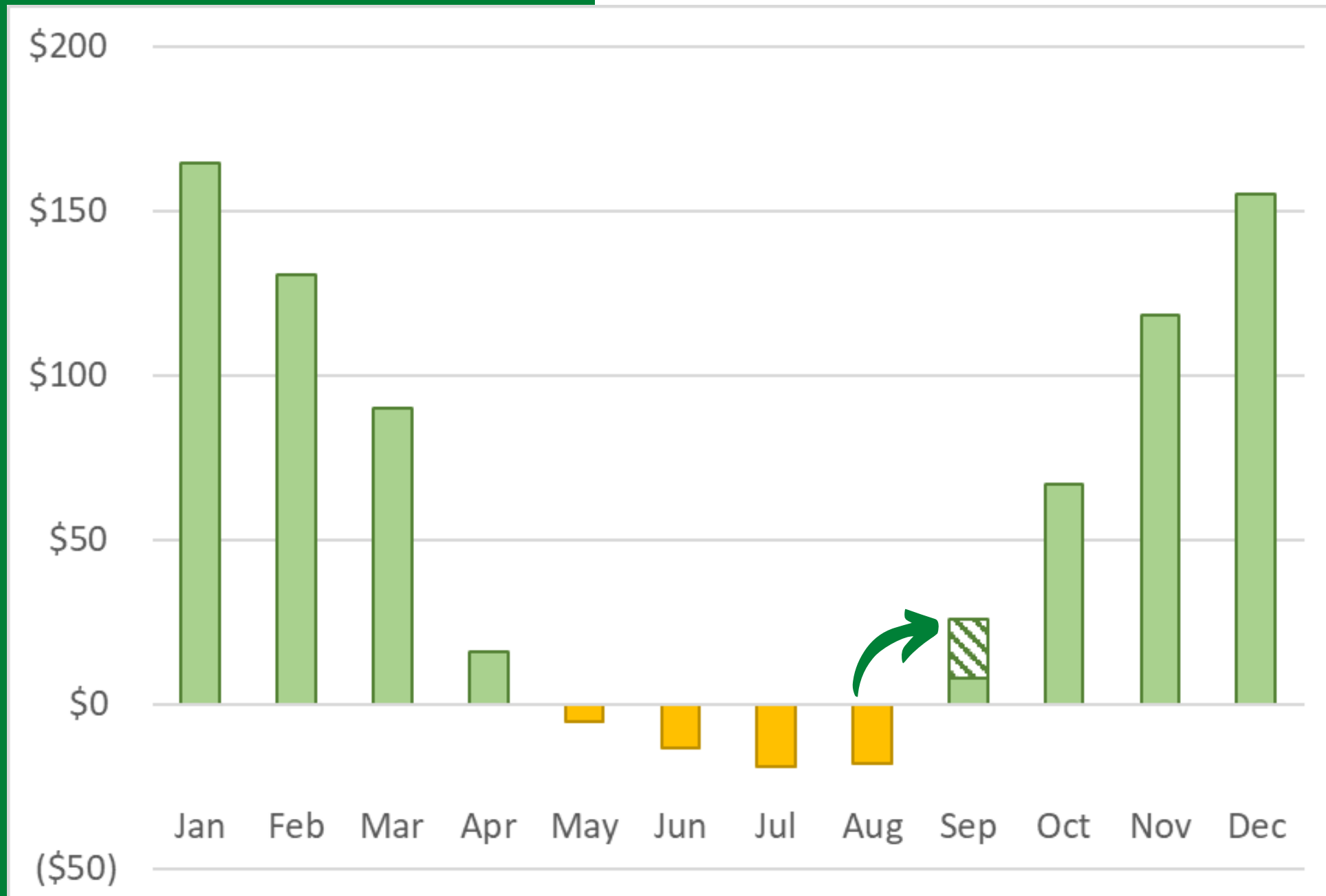
 VALUE OF "BANKED" GENERATION	AVOIDED COST	FULL RETAIL COST
 VALUE OF EXCESS GENERATION	AVOIDED COST	AVOIDED COST
 TOTAL BILL	APPROX. \$100	APPROX. \$30

NET METERING BENEFIT TO MEMBER: APPROX. \$70

Monthly Residential Billing with Net Metering



NET METERING EXAMPLE (YEAR)



■ Amount Due ■ Credit ▨ Applied credit

Hypothetical example assuming 525 kWh monthly average consumption and 5 kW solar system with 10% capacity factor



WHAT ARE THE DISADVANTAGES?

MEMBER DISADVANTAGES:

- Significant upfront costs
- System maintenance

CHUGACH DISADVANTAGES:

- Net metering members do not pay for their full use of the Chugach system; therefore, Chugach must determine how to recover the lost revenue
- Adds system complexities, making it harder for utilities to schedule power generation
- May require system upgrades

COMMUNITY DISADVANTAGES:

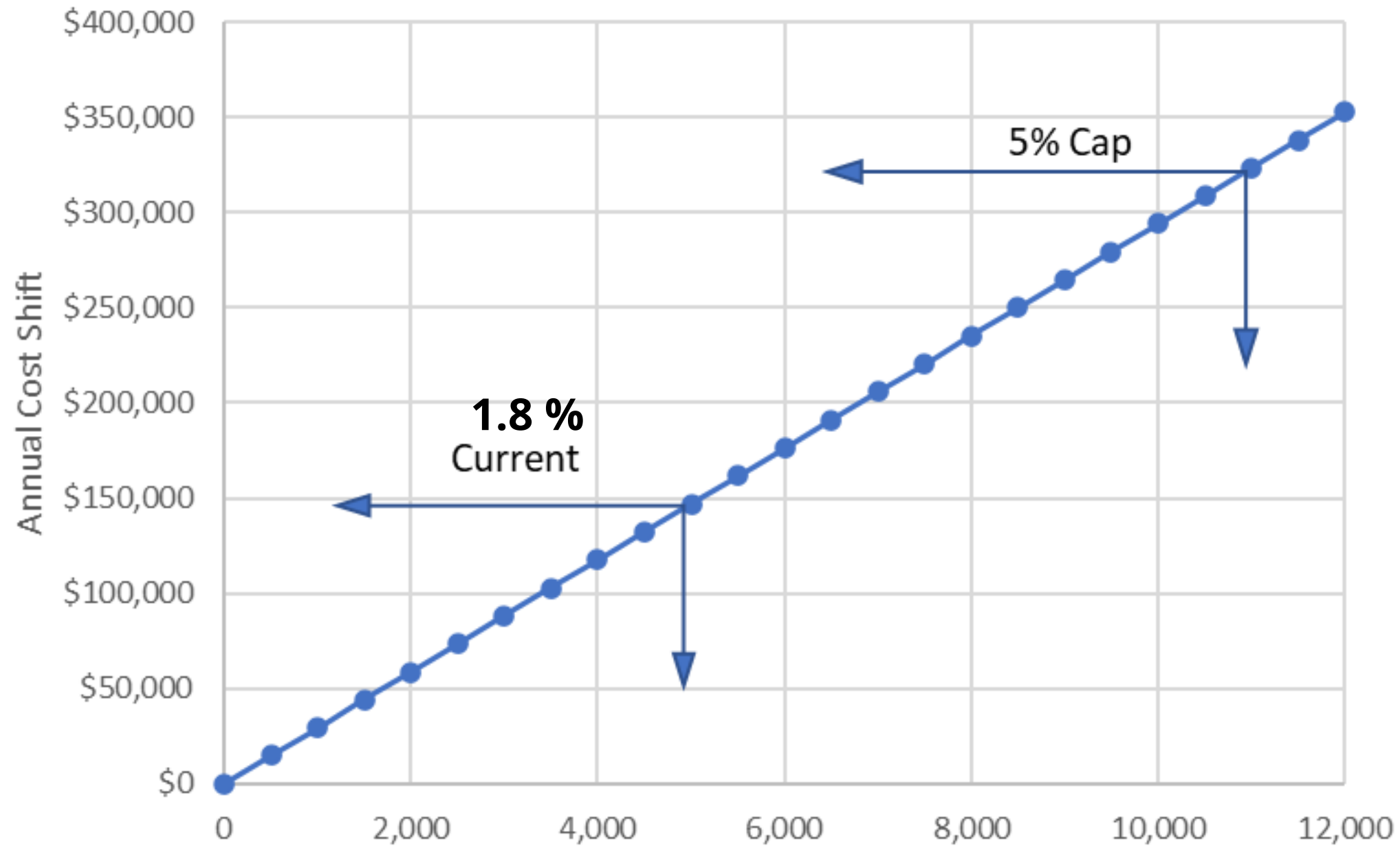
- Net metering creates a cost shift to other rate payers by allowing participants to “bank” energy and not pay for stand-by service
- This cost shift is generally from affluent to less affluent members
- Not all members have ability to place renewable generation at their location



Estimated Net Metering Cross-Subsidy



CROSS-SUBSIDAZATION LEVEL



CURRENT SUBSIDAZATION APPROX. \$145,000/YEAR

ESTIMATED RES BILL IMPACT OF \$0.04/MO

EXPECTED SUBSIDAZATION AT 5% CAP IS APPROX. \$320,000/YEAR

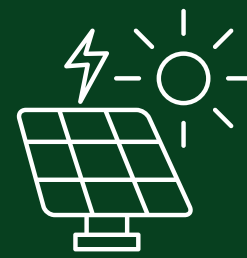
ESTIMATED RES BILL IMPACT OF \$0.10/MO



CHUGACH NET METERING STATISTICS



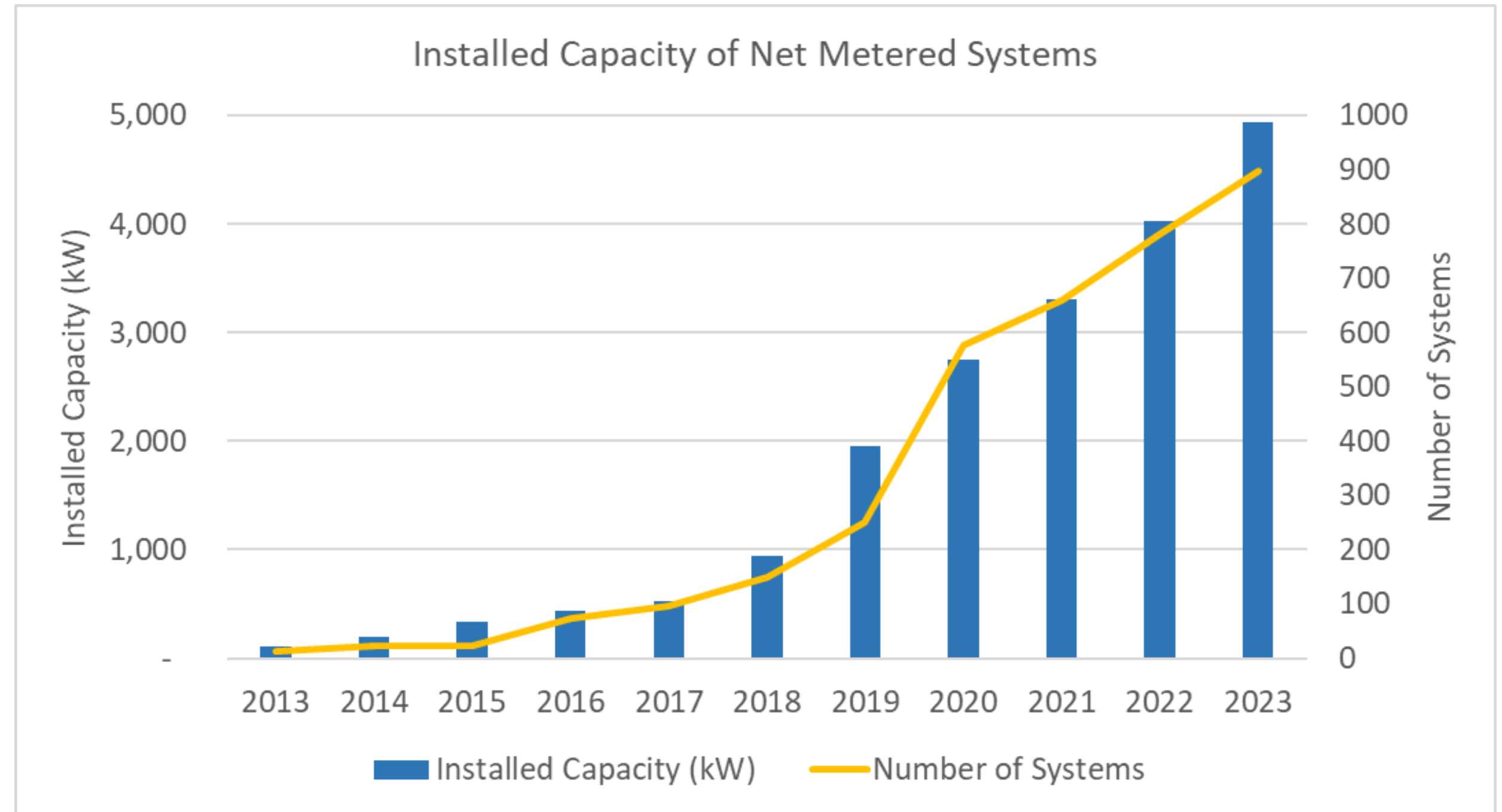
**4.9 MW installed
to date**



~ 900 Systems

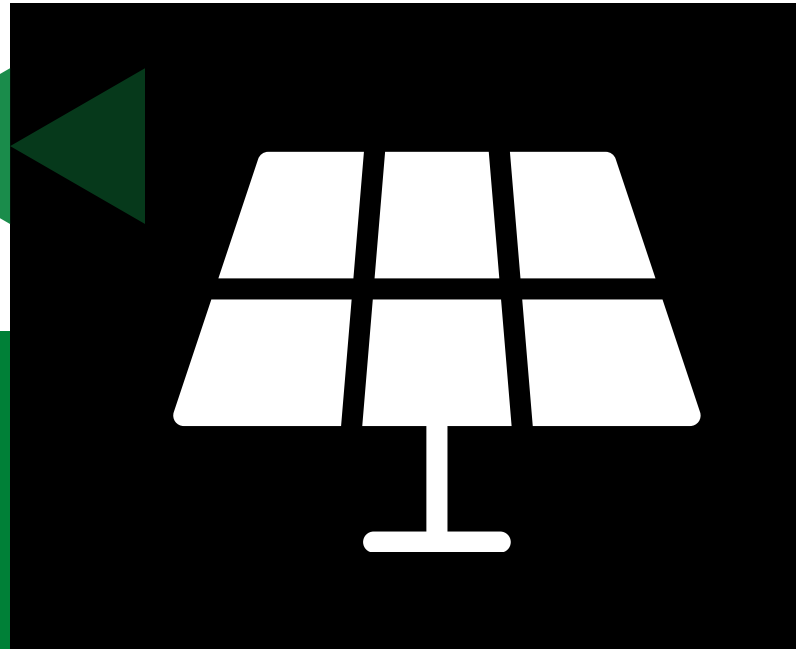


**5.9 MW more
available under
5% cap**



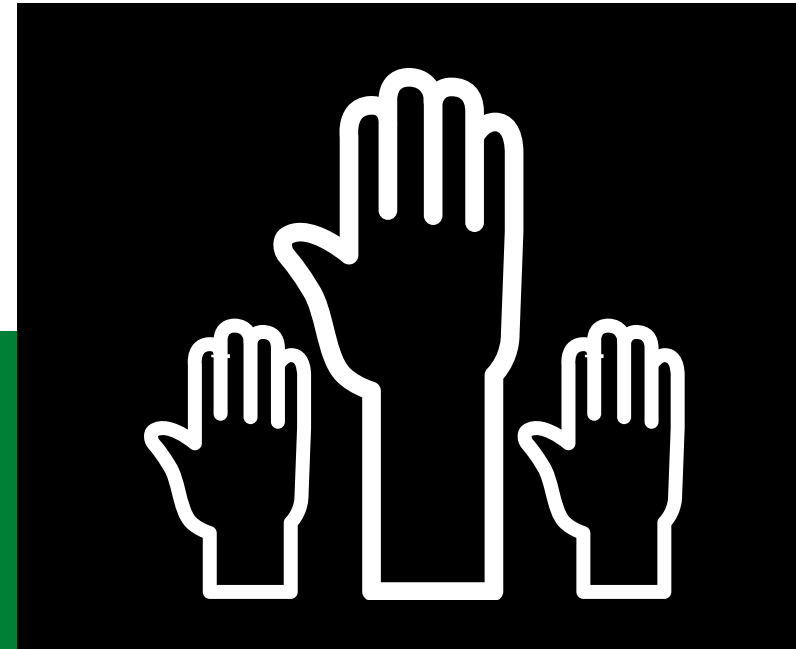


CHUGACH'S NET METERING TRENDS



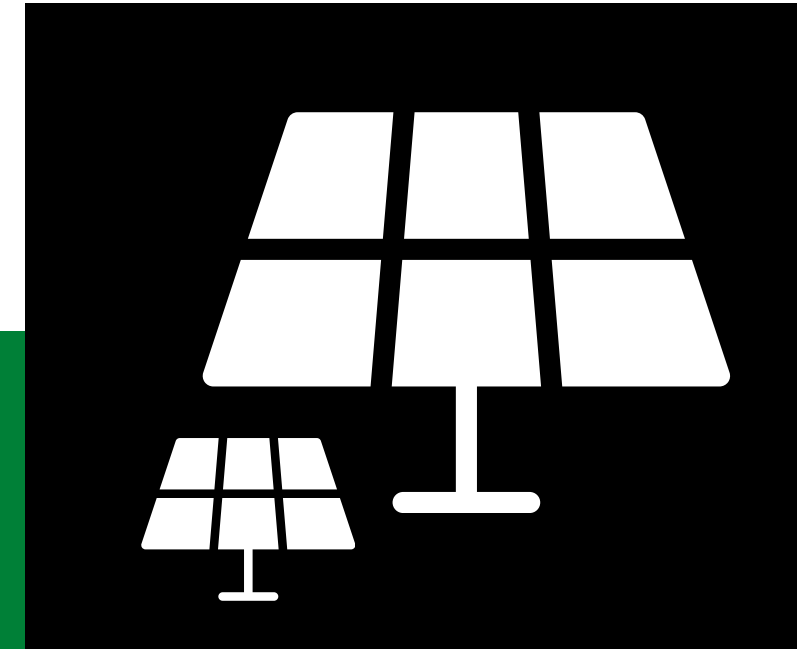
Solar is #1

Net metering can be any renewable energy, yet >99% of Chugach members choose solar installations



Steady Growth

As of mid-December 2023, 897 members used the net metering program, a 19% increase from 2022



Going Bigger

Members are trending towards installing larger system capacity



Emerging Pockets

Some neighborhoods are seeing higher penetration of solar installations than others

CURRENT



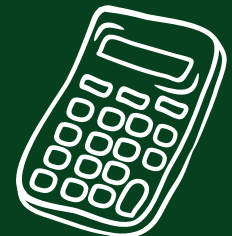
VALUE OF "BANKED" GENERATION

Full Retail Cost



VALUE OF EXCESS GENERATION

Avoided Cost



NET CALCULATED

Monthly Bill



CREDIT EXPIRATION

Credits do not expire, roll over indefinitely

NET METERING METHODS



"ANNUAL"



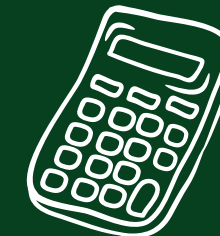
VALUE OF "BANKED" GENERATION

Full Retail Cost



VALUE OF EXCESS GENERATION

Full Retail Cost



NET CALCULATED

Monthly Bill



CREDIT EXPIRATION

Credits expire each year, annually (March)



Examples of current net-metering members' bills from April 2022 through March 2023, shown as approximately billed vs. what they would have been billed with an "annual" net metering method

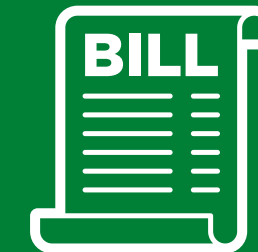
CURRENT

"ANNUAL"



Total Annual Cost:
Approx. \$1,750

MEMBER 1 - LOW EXCESS
Annual Total Usage (Netted) : 7,300 kWh

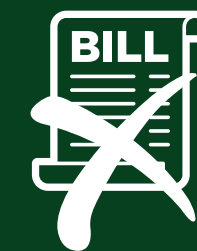


Total Annual Cost:
Approx. \$1,600



Total Annual Cost:
Approx. \$300

MEMBER 2 - HIGH EXCESS
Annual Total Usage (Netted): -1,600 kWh



Total Annual Cost:
\$0



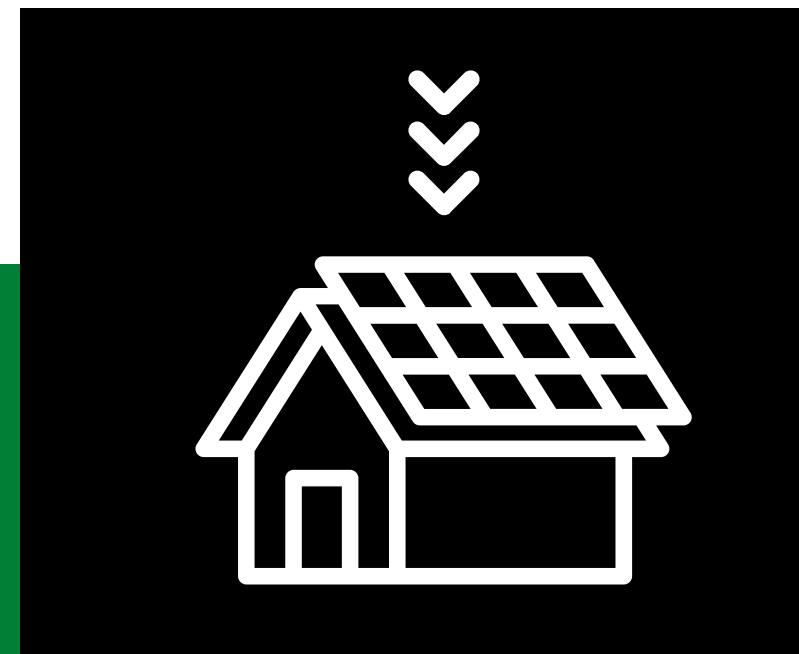
CHUGACH'S NET METERING TRENDS



Moving to Avoided Cost

More than 10 states have already, or are in the process of, moving from full retail to avoided cost, no known states are moving the opposite direction

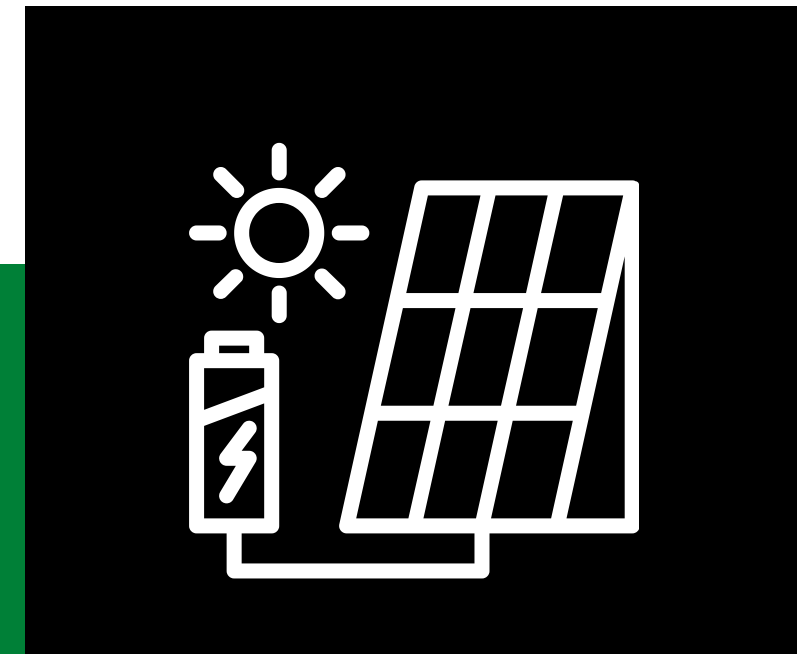
Source: Solar Power World



Net Metering Participation Down

Shifting policies away from retail rate to avoided cost, supply constraints and labor shortages causing lower buildouts of member installed generation

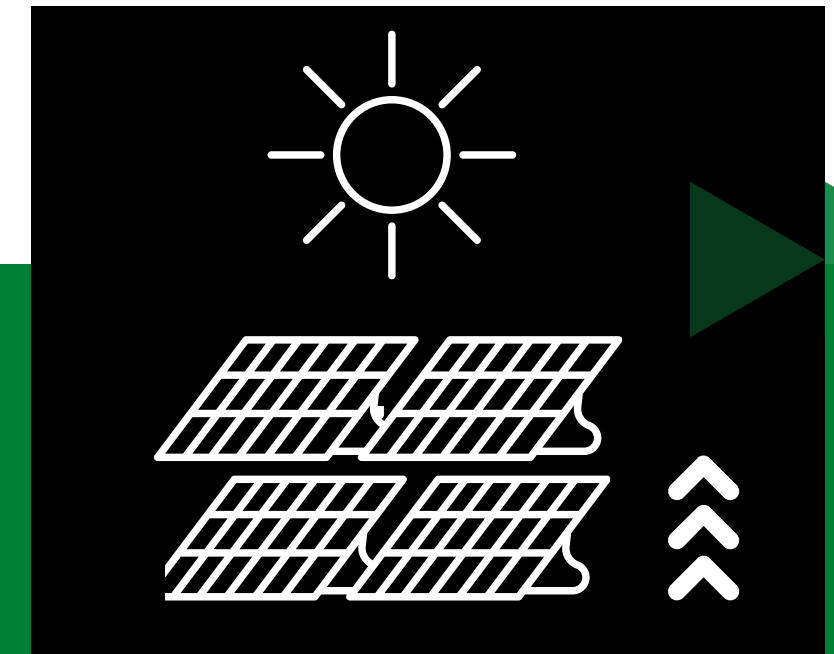
Source: PV Magazine



Moving to Energy Storage

Evolution from net-metering to behind the meter energy storage, proper system sizing, and microgrid-forming devices are becoming popular

Source: PV Magazine



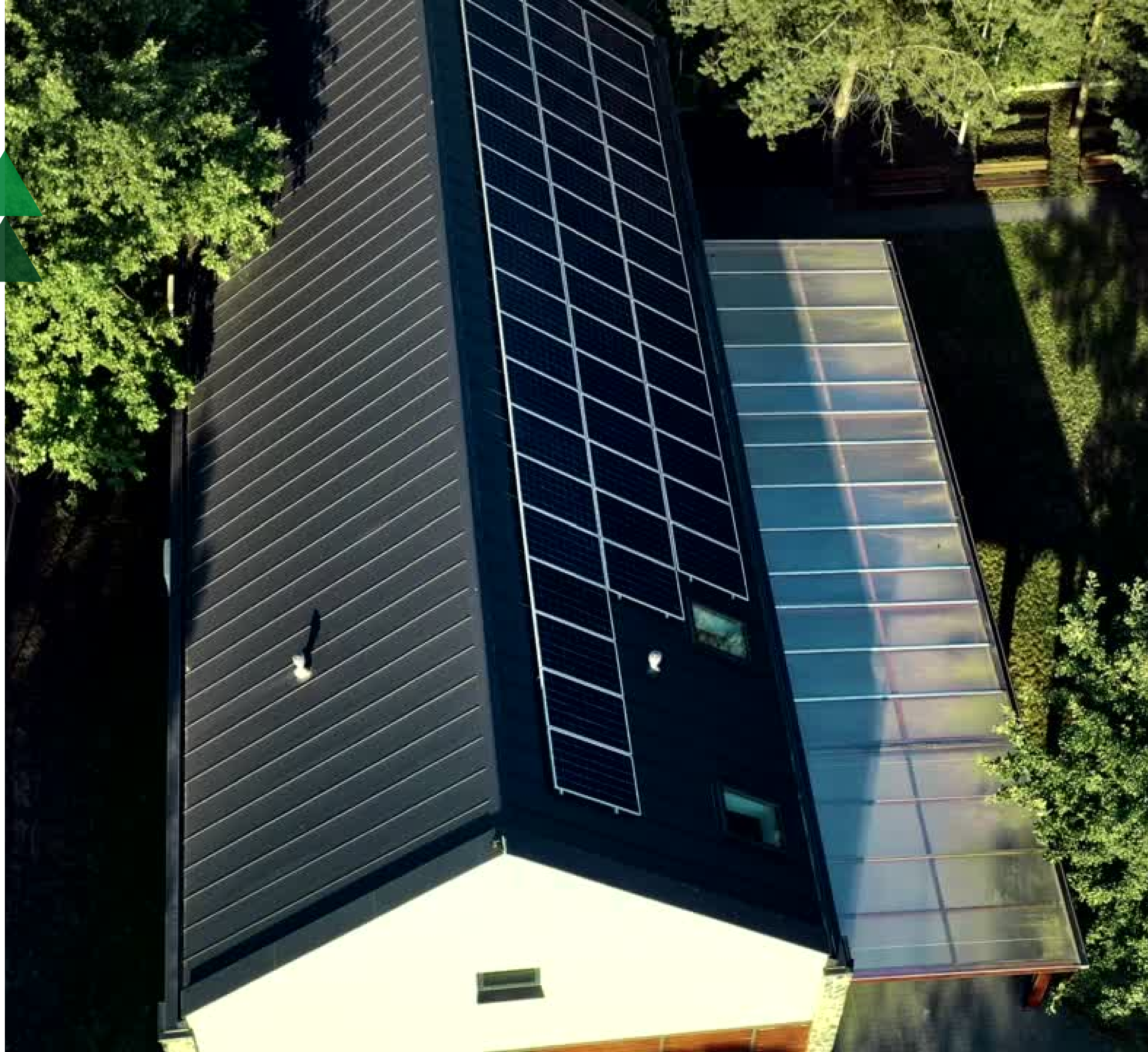
Community Solar Participation Up

While net metering is down, people are shifting toward community solar

Source: PV Magazine



**THANK
YOU**





OKAY, TELL ME MORE ABOUT...

CAN I HAVE A 26 KW SOLAR INSTALL OR MORE?

- Yes!
- This member would qualify for Chugach's stand-by buy-back rate. This member receives the avoided cost for each kWh pushed to the grid, rather than only for the excess pushed to the grid. Net Metering members receive full retail value for each kWh they generate and use within the billing period.

HOW MUCH ENERGY AM I GENERATING?

- Chugach is not able to see the total generation of a members' system.
 - Chugach has no visibility of what happens behind the meter; including how much energy from member generation is used within the home.

WHAT DOES THE 5% CAP MEAN?

- Net metering is "available until the cumulative nameplate generating capacity of all retail net metered systems equals 5.0 percent of Chugach's average retail system demand."
 - 2022 average retail system demand: 217.2 MW
 - Net metering cap at 5%: 10.9 MW





CHUGACH NET METERING PARTICIPATION FORECAST



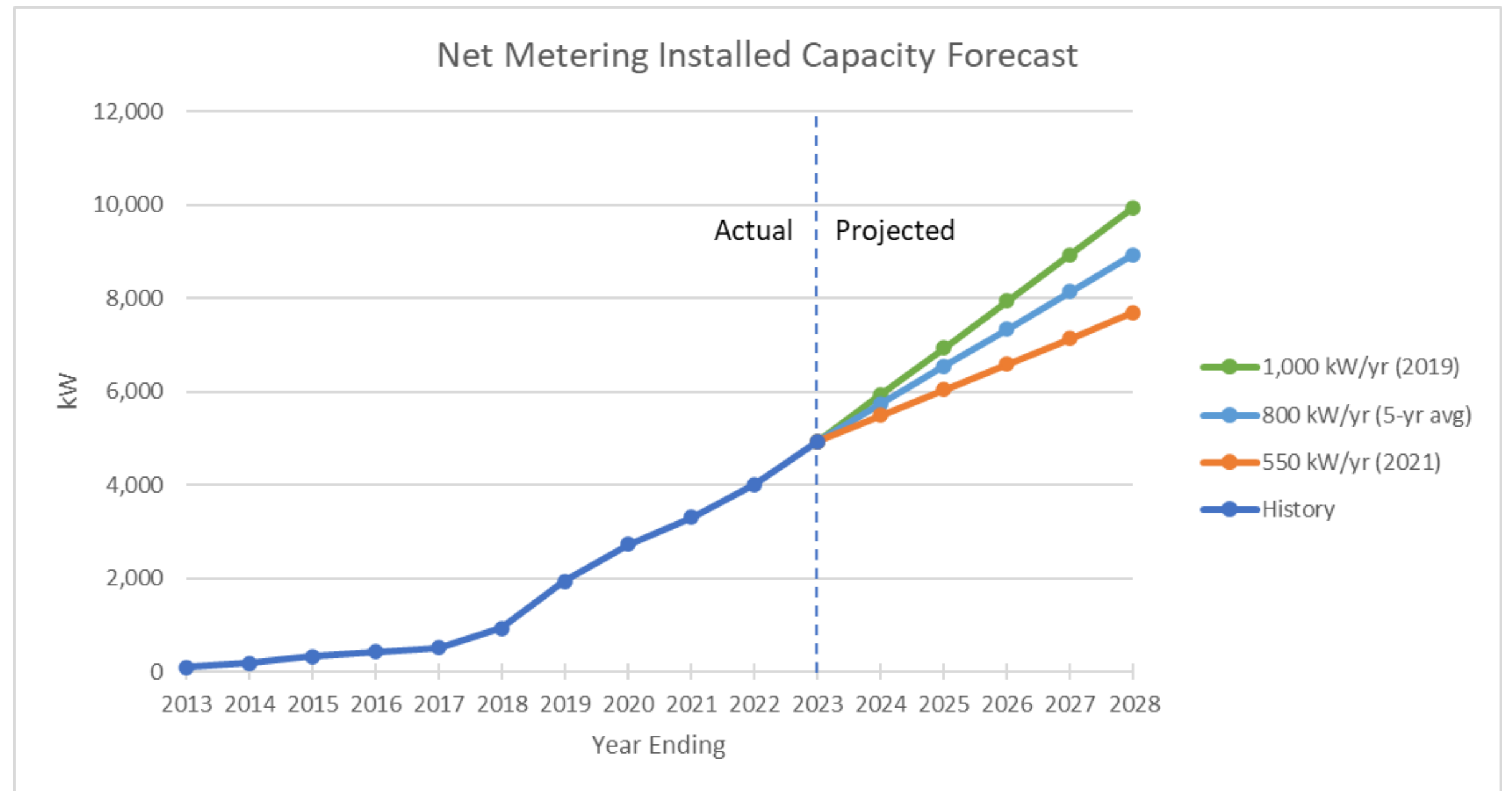
Started off slow



Then ramped up



Now growing steadily





Board of Directors
Operations Committee

Fuel Supply Strategy Update

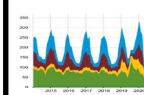
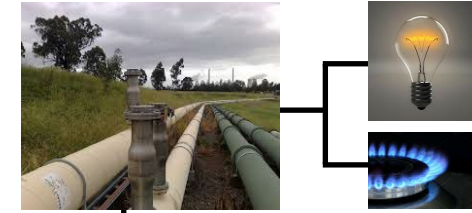
December 20, 2023



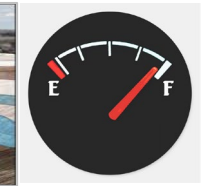
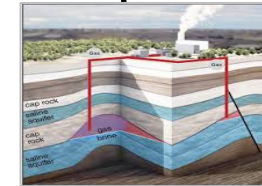
BV Phase 1 findings

Historic Cook Inlet Natural Gas System

pipeline grid



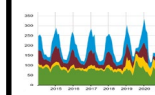
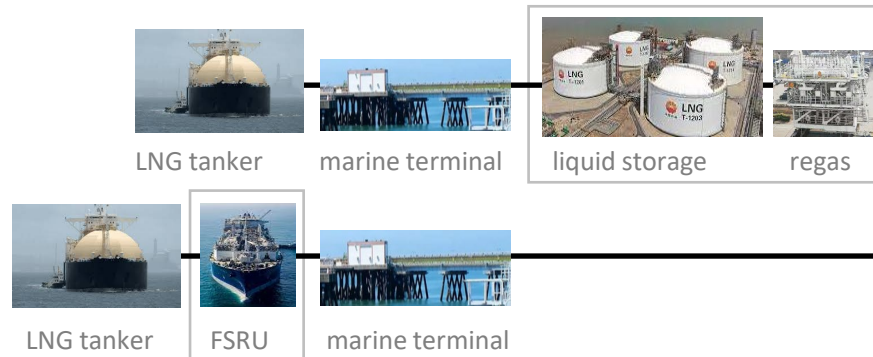
demand swings



reservoir reserves

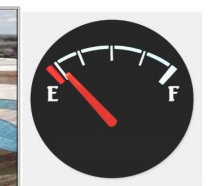
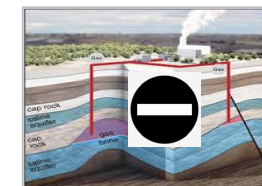
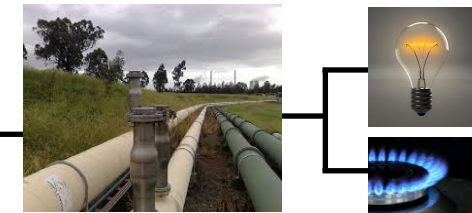
LNG Imports best alternative when reservoirs run dry

<u>Traditional LNG</u>	BRG 55bcfy	BV 15bcfy
Greenfield	\$877M	\$350-450M
Brownfield	\$768M	\$150M
OR		
<u>Standard FSRU</u>		
New	\$698M	\$345-365M
Retrofit		\$260-280M
Chartered		\$ 60 - 80M
<u>Gas Price/mscf</u>		
Cook Inlet gate	\$12-12.6	\$11.3-15



demand swings

pipeline grid



reservoir reserves

Q: Any show-stoppers to FSRU's?

BV Phase 2 findings

A: FSRU's are viable



Marine Terminal

Marathon facilities in better shape than assumed
 Assume Marathon make dock available with wheeling fee

FSRU

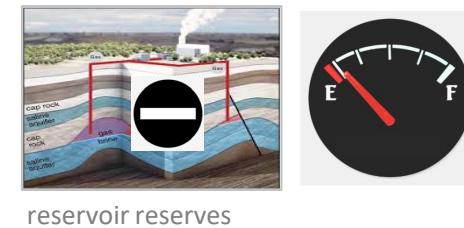
Permanently moored or transient FSRU are options
 Chartered commercial model less available
 Small volumes drive down FSRU utilization efficiency and increases operating cost

Schedule

New or retrofit FSRU could be built in 2 years
 Earliest startup late 2027
 Critical path FERC import permit and approval to begin construction

Cost and Gas Price 20 yr project

new FSRU permanently moored at Marathon dock
 Deliveries 30 bcfy Railbelt Electric Utilities
 Capital \$276M
 O&M \$65Myr
 Gas Price \$12.4/mscf



BV Phase 2 findings

However, there is a more refined LNG import solution for Cook Inlet

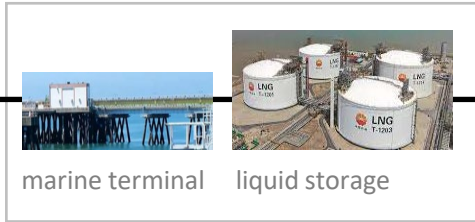
Insight 4

Upstream demand can't support commercial Tolling model – use Merchant model to minimize supply cost



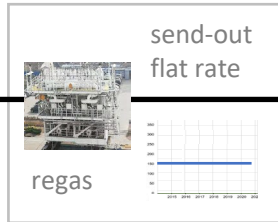
Insight 3

Marathon marine terminal, liquid storage, and support infrastructure are all in good shape for retrofit – maximize use for least capital requirements



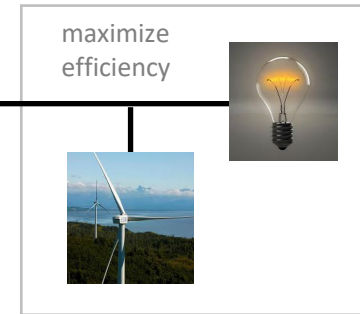
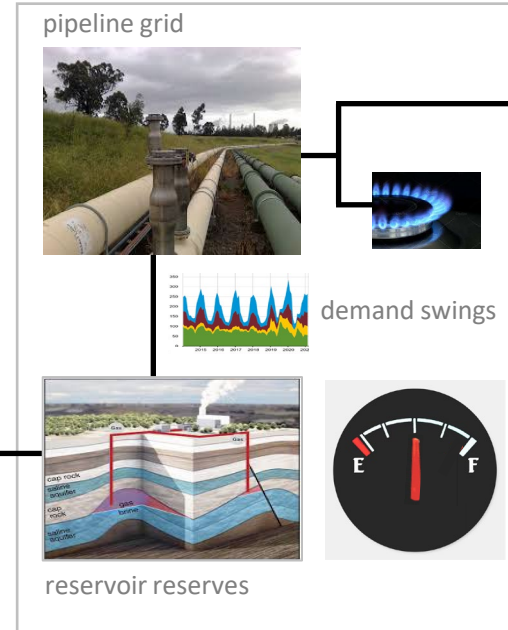
Insight 2

New regas trains don't have to swing – design for constant send out and less complex operation, then modularize and phase to minimize capital



Cost and Gas Price

Best economics for 30 bcfy deliveries
 Lowest gas price
 Economic model under final review



Insight 5

Aggregate and coordinate both electric utilities demand and communal reservoir storage withdrawals – yields economies of scale, optimized generation, and least cost

Insight 1

Cook Inlet has lots of depleted reservoirs – use LNG to directly replenish reserves in multiple reservoirs for large scale storage equivalent to 12-18 months demand so legacy grid can operate with previous range of deliverability and reliability

	bcf
CINGSA	11-26
BRU	30-50
EAST SIDE	100+

BV Phase 2 remaining work

Final review in progress – complete by YE

BV Phase 2 final report

FERC Cook Inlet permitting white paper

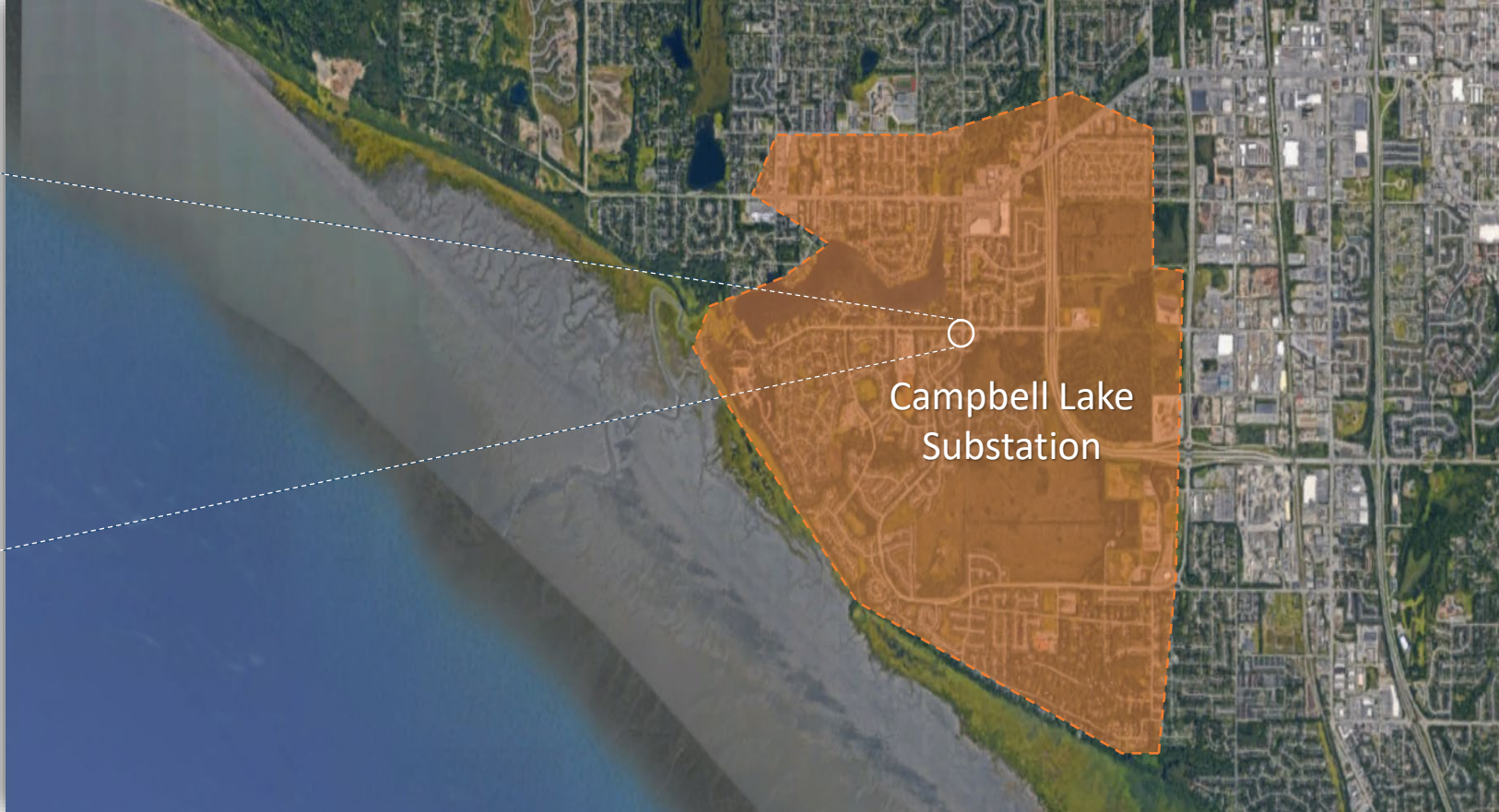
FSRU and LNG retrofit economic model

RCA update

1Q24

Integration with Railbelt Utilities Working Group

TBD



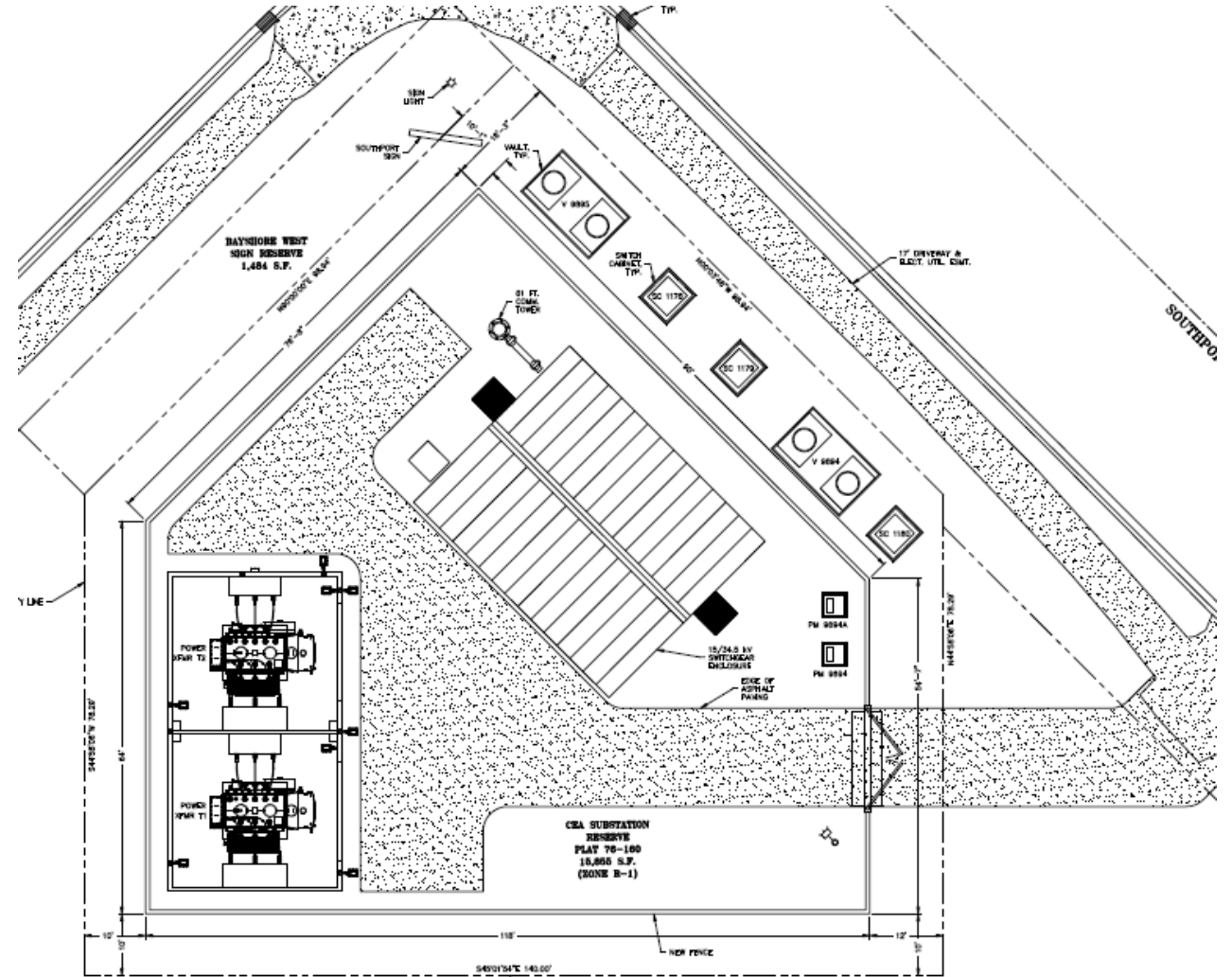
Campbell Lake Substation Rebuild

Operations Committee Meeting
December 20, 2023

Introduction

Campbell Lake Substation (CLSS)

- Located at the corner of Southport Drive and 100th Avenue in Anchorage, providing power to Southwest Anchorage
- Scope Includes:
 - New 35kV/15kV Distribution Switchgear
 - Two 14 MVA Power Transformers
 - Communication Tower
 - Distribution Vaults and Switch Cabinets
 - Decorative Fencing
 - Landscaping



Project Update

Conditional Use Permits

- *Applications accepted by the MOA on June 7, 2023*
- *Public Hearing held on September 11, 2023*
- *Approval Resolution received October 3, 2023*
 - *Currently in the appeals process through MOA*

Switchgear

- *Vendor design in progress, fabrication in March 2024*

Engineering

- *Engineering 95% submittal received in December 2023*
- *Invitation to Bid scheduled to be issued in March 2024*



Community Engagement

- *November 17, 2022 – Informal presentation at the Bayshore/Klatt Community Council (BKCC)*
- *December 2022 & January 2023 – Chugach makes multiple attempts to coordinate presentations with the BKCC without timely responses allowing for the presentations to be scheduled.*
- *BKCC confirmed their March meeting on February 10th for March 16, 2023.*
- *February 22, 2023 – Mailed out letters to property owners in the area informing them of the project and the date, time, and place of the community council meeting March presentation.*
- *March 16, 2023 – Official presentation at the BKCC*
- *April 20, 2023 – Chugach attended the BKCC meeting to answer any additional questions the BKCC may have regarding the Project.*
- *May 18, 2023– Chugach attended the BKCC meeting to answer any additional questions the BKCC may have regarding the Project.*
- *January 2024 – Chugach has requested to make a presentation to the Bayshore/Klatt Community Council*

Substation Aesthetics

CURRENT



PROPOSED



Control & Communications

CURRENT

- *Single directional antenna for SCADA communications*
- *Building-mounted*
- *Not sufficient for microwave antennas, AMI antennas, or security cameras*



Campbell Lake Substation Communications Tower (Current)



Hane Substation Communications Tower

PROPOSED

- *Galvanized Steel Monopole*
- *Proposed monopole will have two microwave antennas on top*
- *Supports AMI system with four 18" omnidirectional antennas.*

Control & Communications

CURRENT

- *Equipment is obsolete technology that was first released in 1985.*
- *Technology relies on Non-Line-of-Sight (NLOS) radio frequency propagation and can tolerate some physical path obstructions, such as foliage.*
- *NLOS wireless technology can penetrate further but only provides throughput similar to dial-up.*
- *Existing communications were historically sufficient for this substation, but criticality of the station has changed.*

PROPOSED

- *Chugach's plan for SW Anchorage requires this station to be rebuilt with 2 transformers to support long-term planning efforts and backing up adjacent stations.*
- *Increased criticality requires high-speed communications for additional services such as:*
 - *Communication-Assisted Protection Schemes*
 - *Security Cameras and Intrusion Detection*
 - *Relay Remote Engineering Access*
 - *Onsite Network Connectivity*
 - *SCADA*
 - *AMI Collector*
- *Additional services require higher throughput, which requires Line-of-Sight (LOS) radio frequency propagation.*



STRATEGIC PLANNING SESSION

NOVEMBER 13-14, 2023



Strategic Planning Services



TABLE OF CONTENTS



- **01** ANNUAL PLANNING CYCLE
- **02** STRATEGIC PLANNING LIFE CYCLE
- **03** STRATEGIC PRIORITY AREAS
- **04** STRATEGIC PLAN
ACCOUNTABILITY MATRIX

CHUGACH ANNUAL PLANNING CYCLE GUIDE



**Formal Strategic Plan update every three years*

STRATEGIC PLANNING LIFE CYCLE



6 MONTHS

Accountability Reporting



1 YEAR

Affirmation of Current Strategic Plan



3 YEARS

Formal Update
of Strategic Plan



STRATEGIC PRIORITY AREAS

- ✓ UPDATED PRIORITIES
- ✓ UPDATED OBJECTIVES
- ✓ TRANSITIONED ACTION PLAN TO ACCOUNTABILITY MATRIX
- ✓ ADDED CONNECTION TO MISSION, VISION, AND VALUES

STRATEGIC PRIORITY 1

Safety

Priority Goal

Involve all staff in enhancing our workplace safety culture to create an incident and injury-free work environment



Objectives

- Recognize contributions from all employees to our culture of safety including, behaviors, attitudes, feedback, and ideas
- Continue to provide frequent training to educate all employees about safety procedures and best practices
- Use incident reporting tools and reports to track events, identify hazards, and ensure appropriate risk control measures are defined and implemented
- Standardize safe work practices: policies, manuals, and/or other materials





STRATEGIC PRIORITY 2

Legislative & Policy Positions

Objectives

- Advocate and support legislative policy that advances renewable and clean energy technologies
- Support broader carbon reduction policies for the State of Alaska
- Advocate for legislation which allows for an individual utility option for renewable and clean energy rate recovery
- Educate stakeholders on net metering and advocate for equitable cost recovery
 - Educate stakeholders on the cooperative business model and revenues from members being the only source of funds for the cooperative

Priority Goal

Advocate for legislation and public policy in the best interest of Chugach's members and consistent with Chugach's core values

- Advocate for Chugach's need for all costs of compliance or non-compliance with any legislation policy to be recoverable through rates
- Maintain and enhance Chugach's leadership position in the Railbelt on electric utility policy and related matters

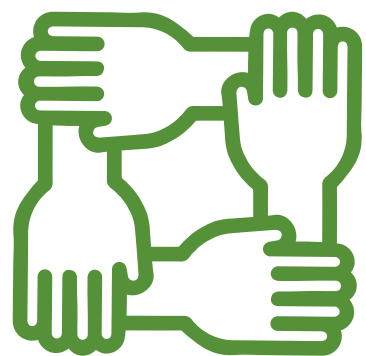


STRATEGIC PRIORITY 3

Communication, Member Engagement & Community Involvement

Objectives

- Provide information about Chugach operations, events, programs, and services to our diverse and evolving membership through a robust array of communications channels
- Seek feedback and input, from members and other stakeholders
 - Continue educating members, the community, and stakeholders about changes in the energy landscape and evolving programs
 - Enhance member and community involvement
 - Plan and execute a robust annual election, annual meeting, and member appreciation day



STRATEGIC PRIORITY 4

Business Planning & Economic Development

Priority Goal

Increase business value and continuously improve business systems and processes



Objectives

- Manage Chugach for resiliency and sustainability in response to changing business conditions, including the installation of charging infrastructure to transition to an electric fleet
- Encourage member adoption of beneficial electrification
- Advance electric vehicle infrastructure programs and policies
- Support regional economic development activities to attract and retain businesses

STRATEGIC PRIORITY 5

Employee-Centric Development

Priority Goal

Become an employer of choice by focusing on employee growth and well being



Objectives

- Invest in employee wellness programs to promote physical, mental, and emotional well-being for all employees
- Maintain a workplace that invests in employee development programs and supports diversity, equity, and inclusion; employees who feel valued are engaged, empowered, and motivated to drive the success of Chugach
- Continue to implement succession planning to ensure workforce resiliency, adequate staffing levels, and excellent employee performance





STRATEGIC PRIORITY 6

Decarbonization

Priority Goal

Implement decarbonization plan, reduce carbon emissions, support beneficial electrification of buildings, equipment, and vehicles



Objectives

- Reduce Chugach's carbon intensity by at least 35% by 2030 and at least 50% by 2040, using 2012 as the baseline year without a negative material impact on Chugach members' rates
- By March 31, 2025, sign a power purchase agreement or construction contract to increase renewable generation on the Chugach system by 100,000 MWh
- Regularly assess and adjust decarbonization strategies while balancing decarbonization with reliability and affordability
- Develop and deliver both demand and supply side solutions to reduce carbon impacts, including beneficial electrification and energy storage



STRATEGIC PRIORITY 7

Natural Gas Supply

Priority Goal

Ensure a natural gas supply to reliably bridge Chugach to a clean energy future

Objectives

- Establish a natural gas supply to bridge Chugach to a clean energy future
- Coordinate efforts to increase gas supply options with commercial entities, Railbelt utilities and state and federal government agencies
- Implement updates to the Beluga River Unit development plan to optimize value to our members by meeting transition gas production targets and implementing gas storage if technically and financially beneficial
- Implement a proactive communications strategy to educate members and other stakeholders on the need, urgency, and to achieve a solution for a transition gas supply

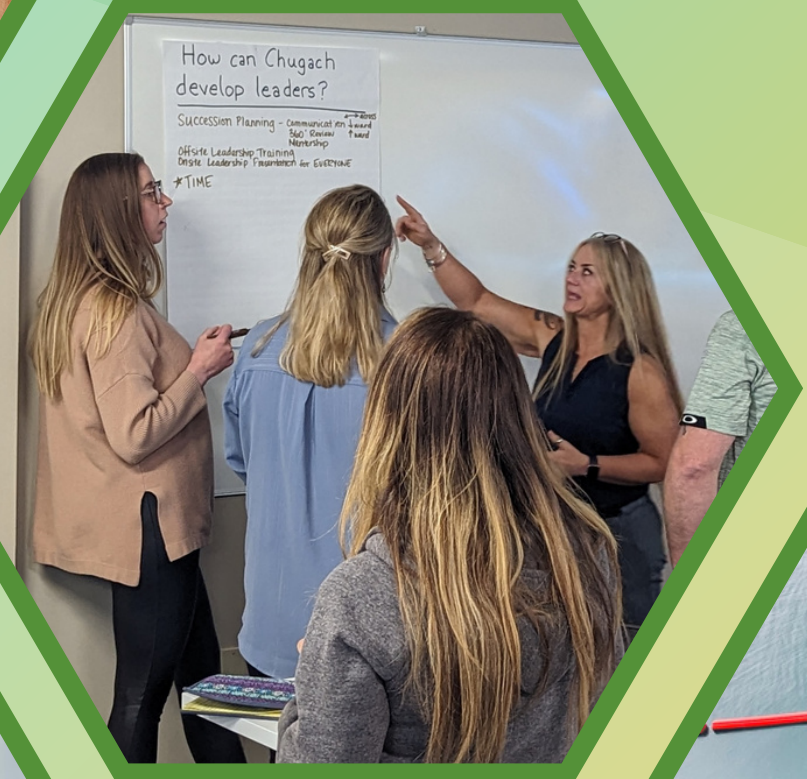




STRATEGIC PLAN ACCOUNTABILITY MATRIX

ACCOUNTABILITY MATRIX

Objective	Budget Implications	Initiatives / Deliverables	Person Responsible	Start Date	Due Date	% Complete	Status
PRIORITY 1 : SAFTEY							
Objective 1	YES	X, Y, Z	A, B, C	2024	2027	0%	Not Started
Objective 2							
Objective 3							
PRIORITY 2: LEGISLATION & POLICY POSITIONS							
Objective 1							



Chugach Electric Association, Inc.
Anchorage, Alaska

Summary of Executive Session Topics for
Operations Committee Meeting on December 20, 2023
Agenda Item VI.

- A. Discussion of confidential and sensitive information concerning the Eklutna project, public disclosure of which could have an adverse effect on the finances and legal position of the Association. (AS 10.25.175(c)(1) and (3))
- B. Discussion of confidential and sensitive information regarding Power Pooling, public disclosure of which could have an adverse effect on the finances and legal position of the Association. (AS 10.25.175(c)(1) and (3))
- C. Discussion of confidential and sensitive information regarding the natural gas supply, public disclosure of which could have an adverse effect on the finances and legal position of the Association. (AS 10.25.175(c)(1) and (3))