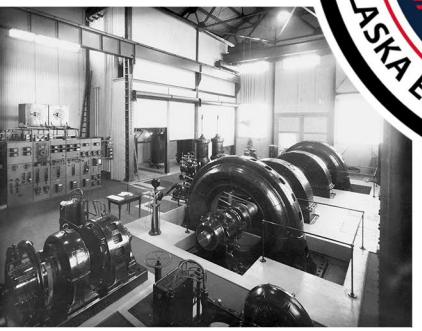


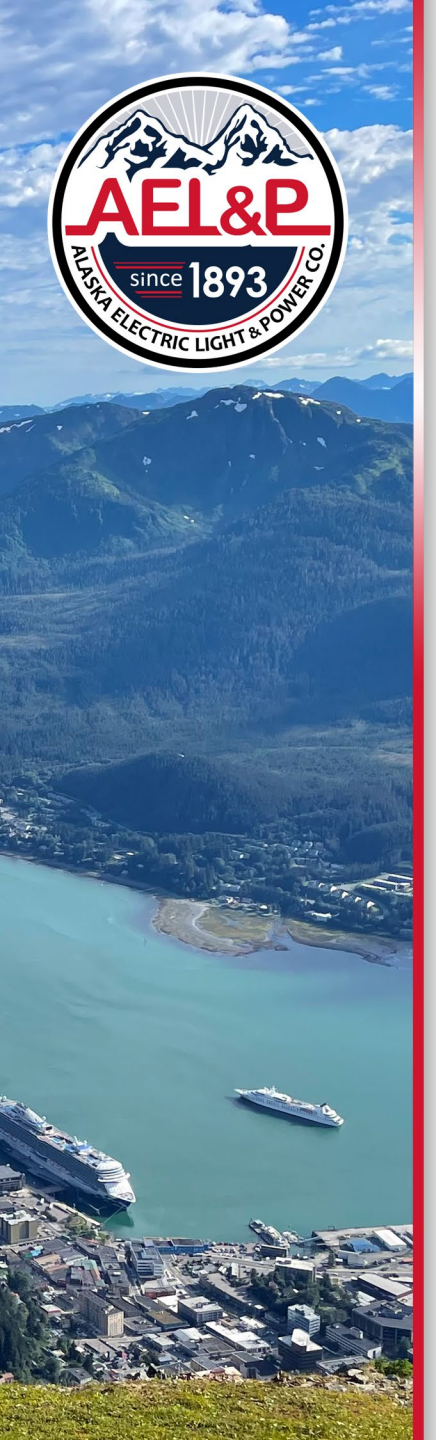
AEL&P

since 1893

ALASKA ELECTRIC LIGHT & POWER CO.

Electric Vehicle Programs

Present and Future



Outline

- Brief overview of AEL&P and EV adoption in Juneau
- Existing EV programs: Time-of Use Rates and Charger Rentals
- Proposed program: Direct to Customer Electric Vehicle Charging for Multifamily Housing

Alaska Electric Light and Power Co.

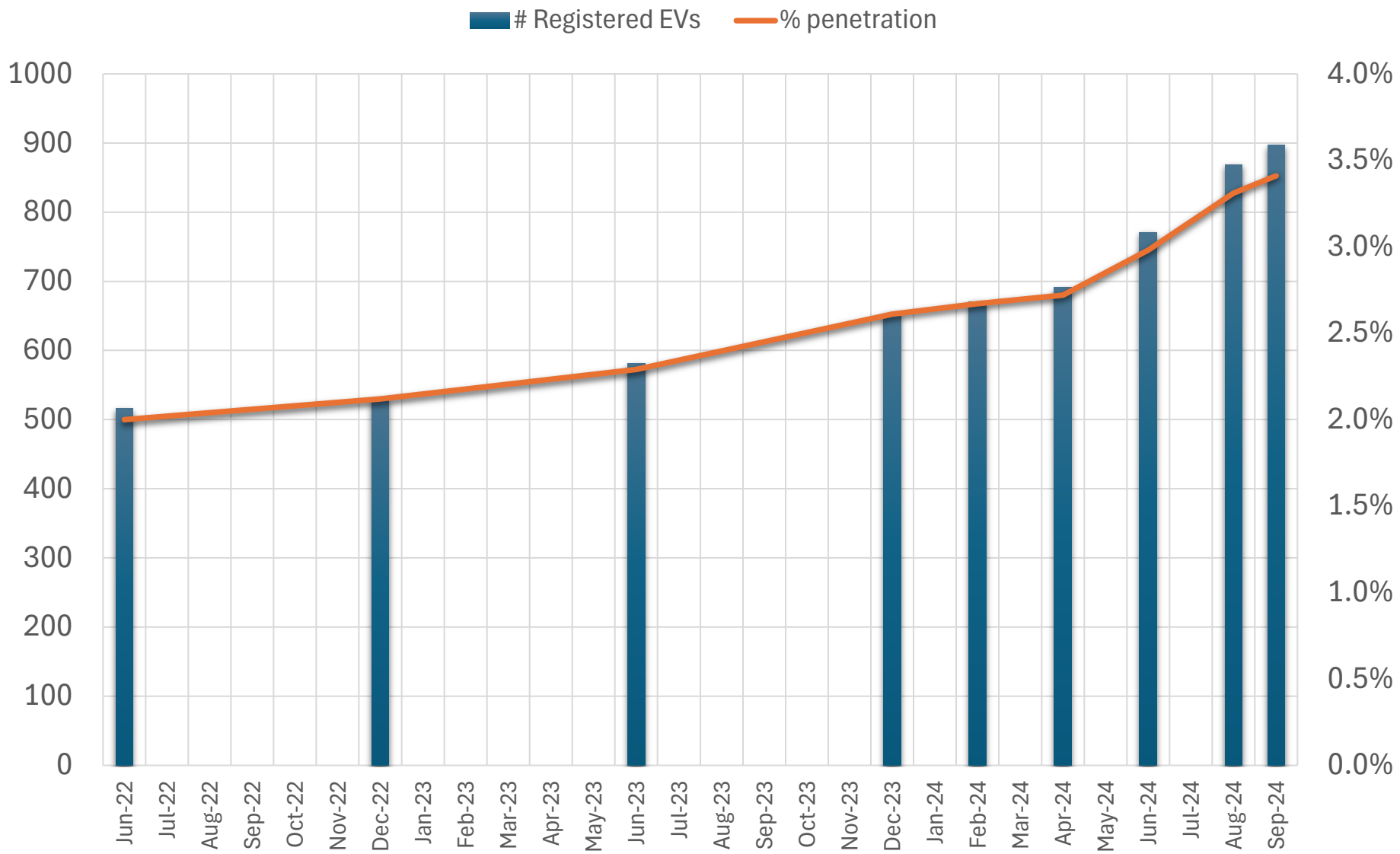
Factors Affecting EV Adoption in Juneau

1. ***Limited road system***. This reduces the impact of range anxiety and the need for public charging to accommodate road trips.

2. ***Clean, low-cost electricity***. Virtually 100% of the electricity provided is from hydroelectric projects, and the cost per kilowatt hour is lower than the national average.

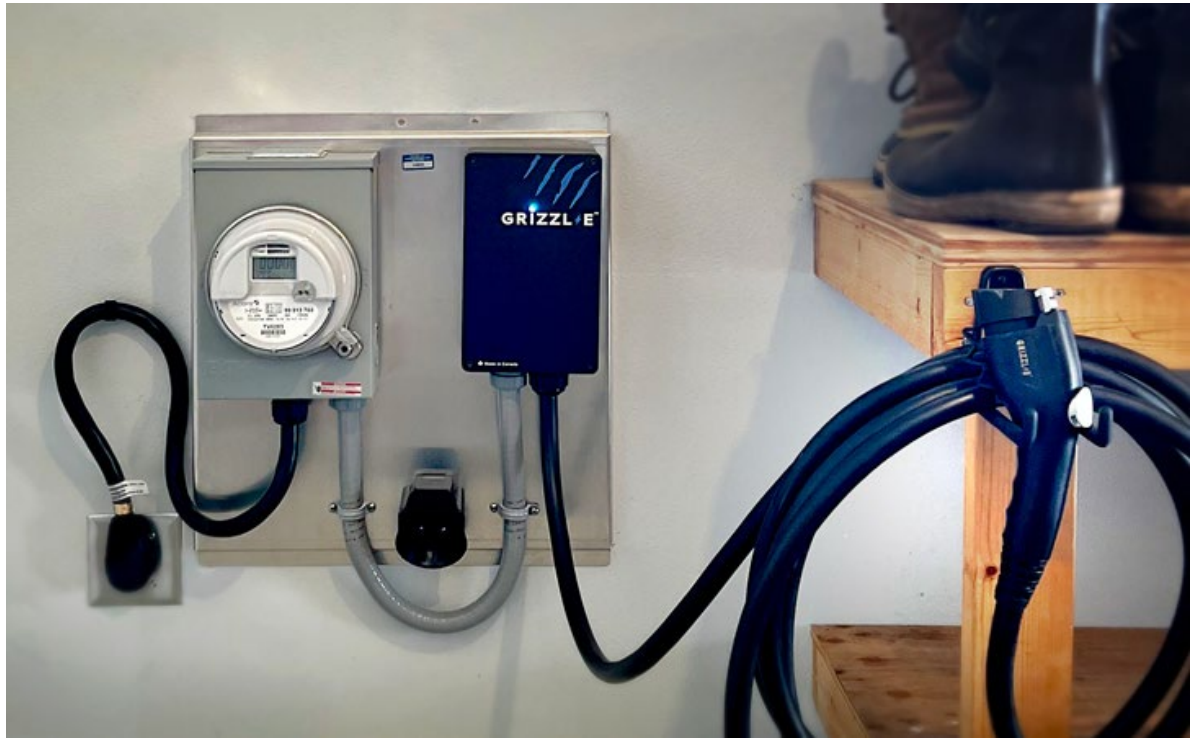
3. ***Temperate climate***. Temperatures typically average at or just below freezing in the winter, and in the mid-50s in the summer. This temperature range is ideal for maximum battery life and efficiency.

DMV Registered Electric Vehicles and Market Penetration in Juneau



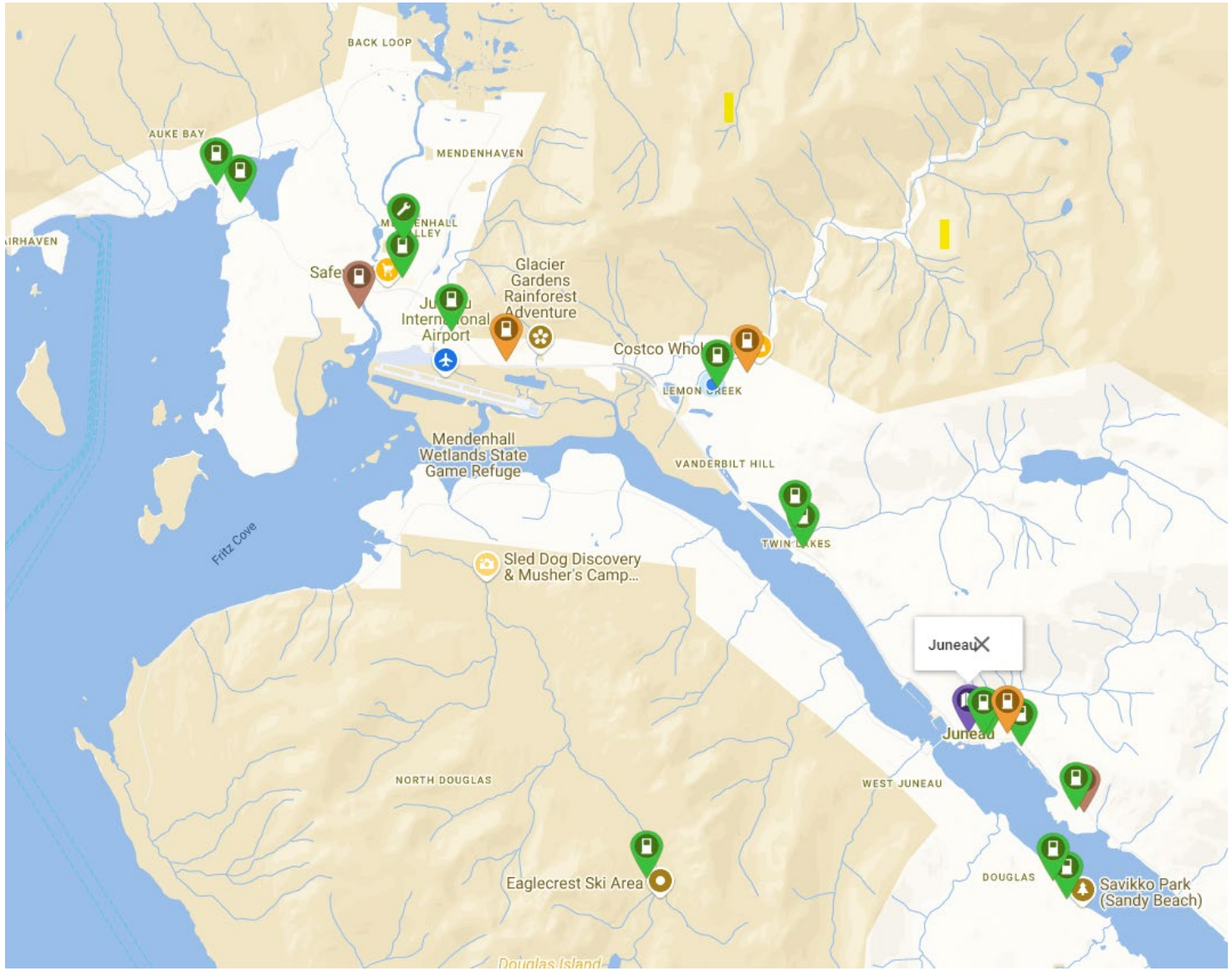
Current EV programs

- **Time-of-Use Rate for Level 2 EV charging at night**
  - **200+ customers**
  - **10pm – 5am off-peak hours**
- **Level 2 EV Charger Rental Program**
  - **Monthly flat fee**
  - **Utility maintains unit**

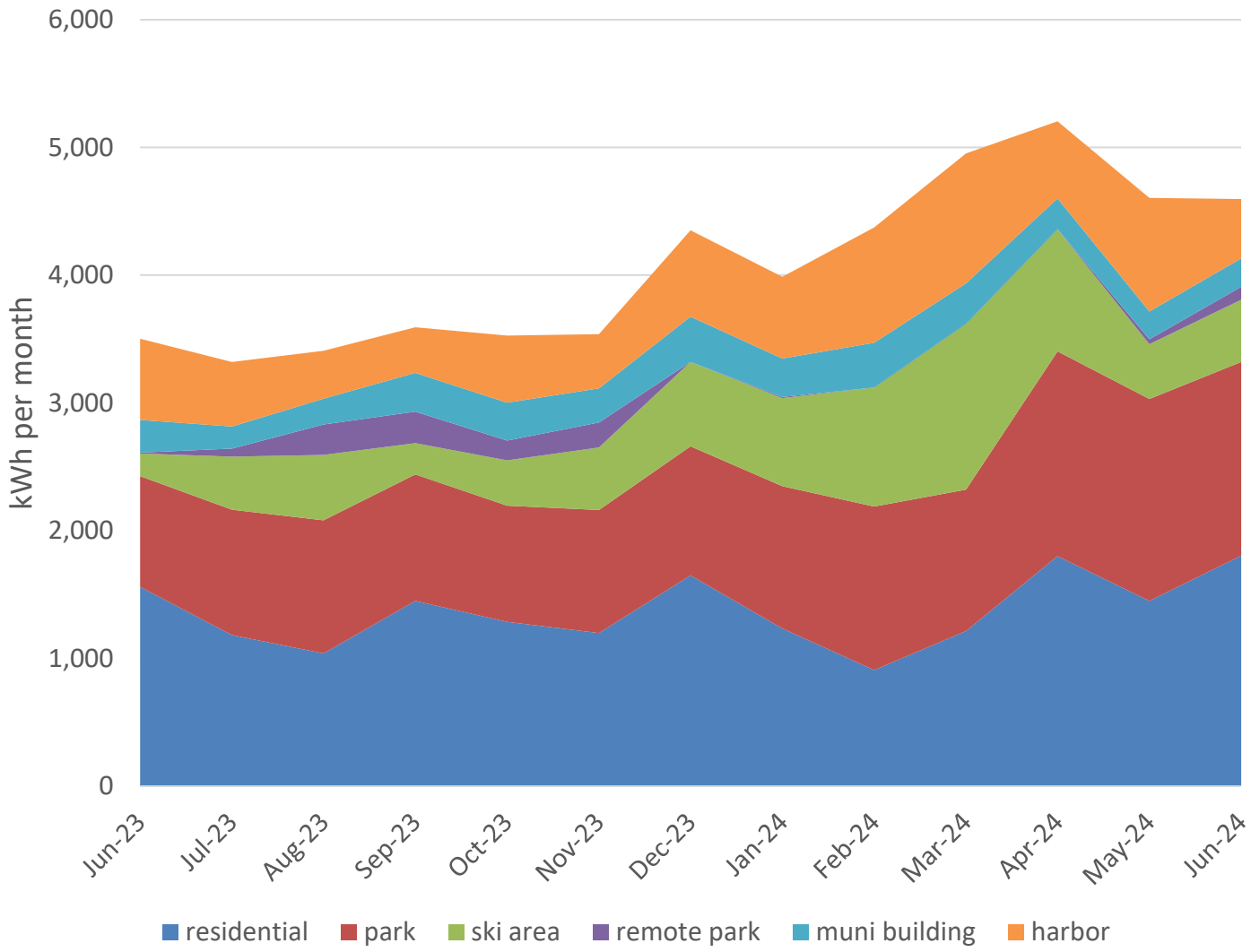


- **Benefits to customers: reduced rates for nighttime charging, availability of charger rental service**
- **Benefit to utility: load shift from peak (60-65% shift), EV charging data**

Public EV Chargers in Juneau

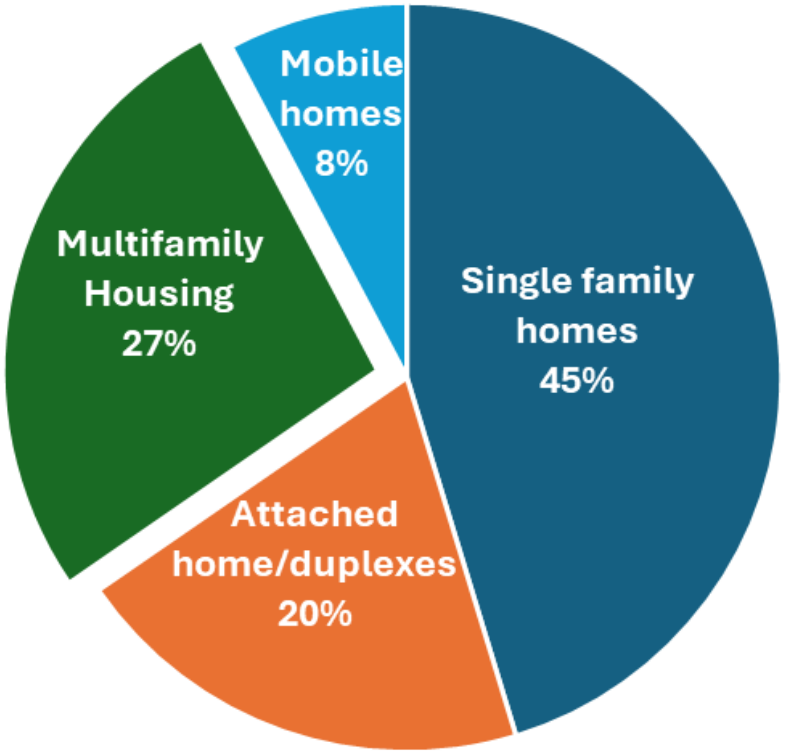


Monthly Electricity Use at Selected City-owned Public EV Charging Stations



All stations have two level two plugs available and are free to use. The legend identifies the general setting where the charger is located. Data collected by AEL&P

Multifamily Housing (MFH) in Juneau



Housing Stock by Type in Juneau, Alaska. U.S. Census Bureau. "Selected Housing Characteristics." American Community Survey, ACS 5-Year Estimates Data Profiles, Table DP04, 2022.

Barriers to EV Adoption in MFH

- Lack of access to charging at home is a disincentive to purchasing an EV
- Initial capital investment in charging infrastructure can be high
- Challenges associated with fair distribution of costs and parking logistics for EV charging among tenants/condo-owners
- Community is unserved by national EV charging providers

Proposed EV program

Direct to Customer Electric Vehicle Charging for Multifamily Housing

DE-FOA-0003214: Communities Taking Charge Accelerator

Topic Area 1: Solving for No-Home Charging:

Expanding Charging Access for Privately Owned E-Mobility

Project Teams Members

Aclara Technologies, LLC

Eric Lambert, EV Charging Product Manager

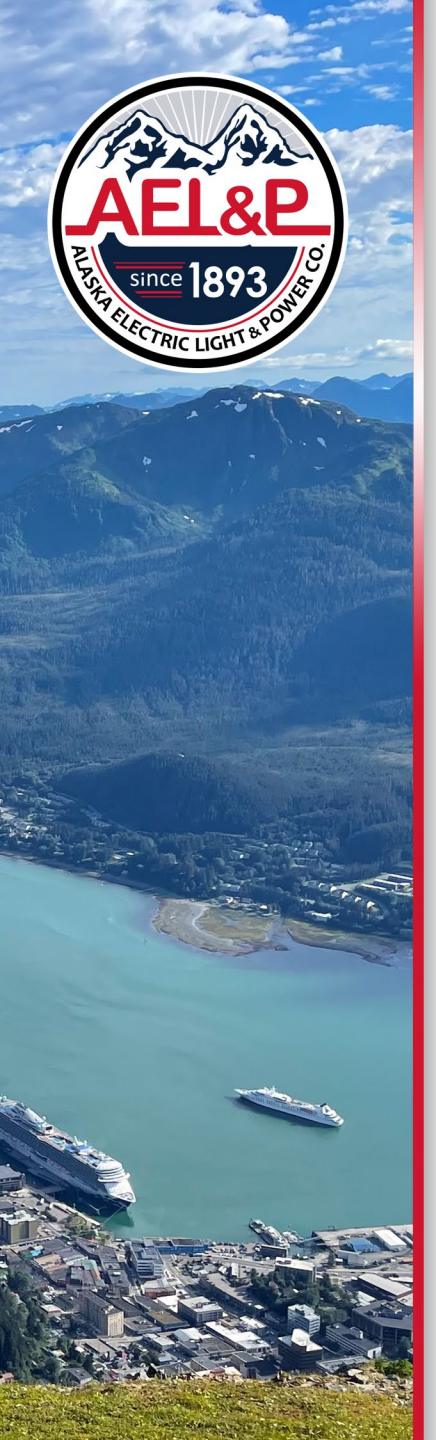
Joe Glazer, Director of MPX Programs Alan Tart, Systems Engineer

Tlingit Haida Regional Housing Authority

Lorraine DeAsis, Director, Design & Construction Management

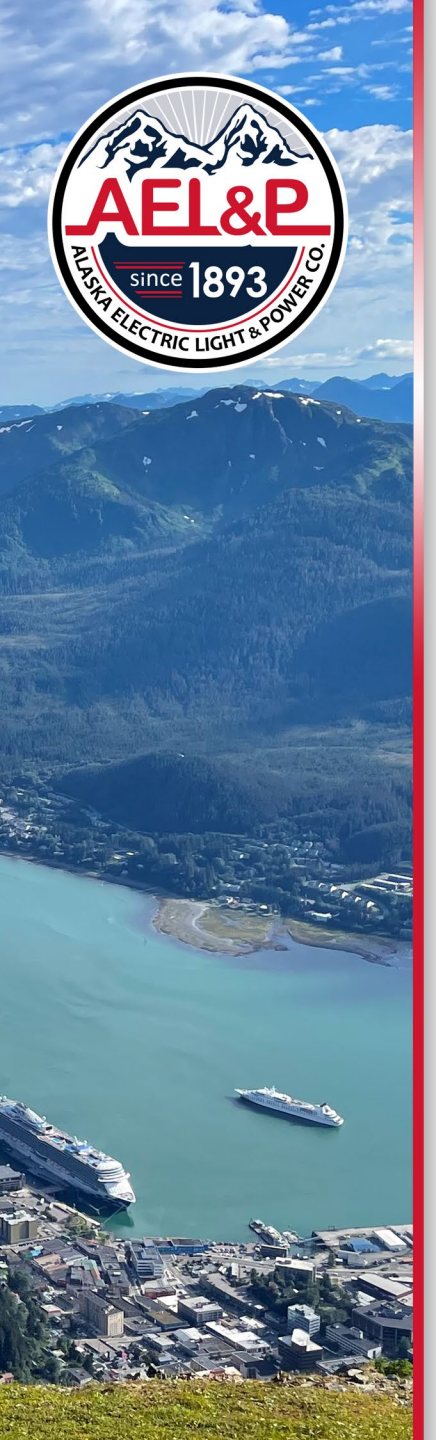
Jacqueline Pata, CEO

Joyce Niven, Vice President



Project Goals

1. develop an **innovative public charging model** that directly addresses the challenges for residents of multifamily housing without safe access to home charging,
2. develop an **affordable, equitable charging rate design** that meets the needs of multifamily housing residents, and to
3. develop a **strategy for deployment of low-cost EV charging** that minimizes the impact to the electrical grid.



Project Approach

Utility core competencies:

Build and maintain infrastructure necessary to deliver electricity

Meter the delivery of electricity to customers

Bill customers for the electricity delivered

- Partner with Aclara Technologies (our current meter manufacturer) to develop public EV charging infrastructure with point-of-sale access and connection to existing billing/metering systems
- Develop a business model and rate structure to allow the utility to build and maintain the EV charging equipment at MFH sites and to bill customers directly on their electric account
- Work with Tlingit and Haida Housing Authority and local condo associations to identify pilot sites for testing and deployment

Level 2 EVSE System Components

Product Features

- Level 2 EV Charging
- Revenue Grade Metering
- Real Time Control
- AMI Communication
- Low Cost

Aclara Value Add

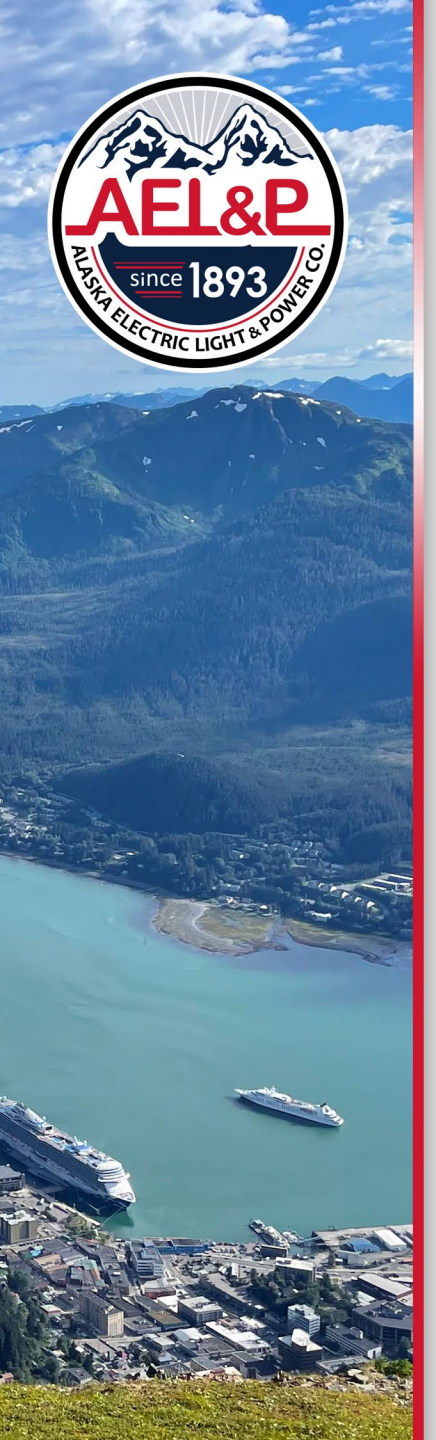
EV Charging Visibility

Resource Planning

Decarbonization

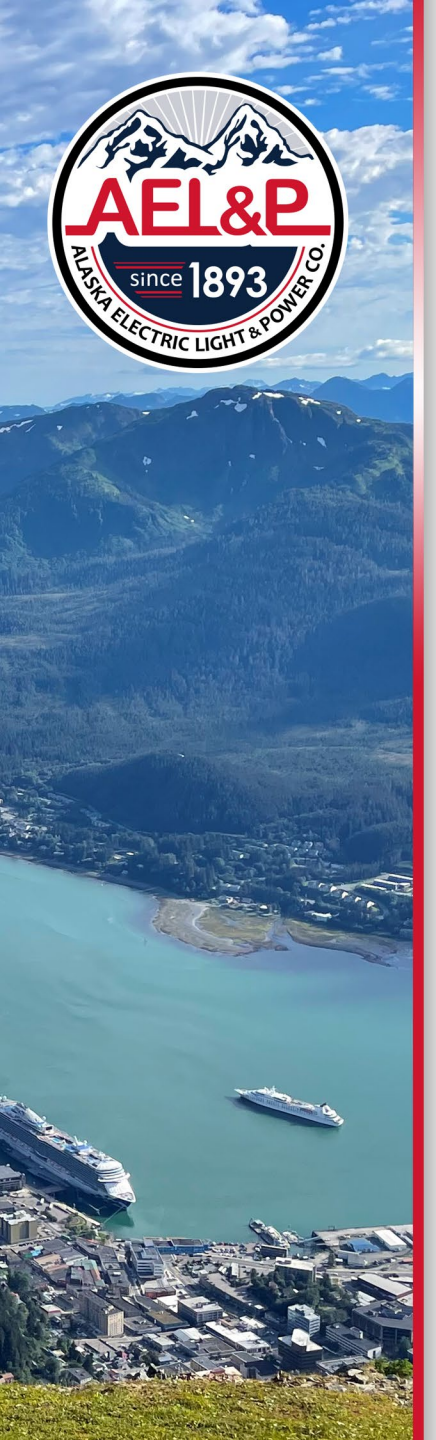
Deferred and Avoided CapEx

Secure & Reliable Communications



Project Tasks and Timeline (24 months)

- Planning, Research and Development (15 months)
  - Community outreach and stakeholder engagement
  - Product research, development, testing (Aclara)
  - Deployment site selection, preliminary design
  - Development of inception rate and submission to RCA
- Deployment and Demonstration (9 months)
  - Construction of EV test sites and field testing
  - Targeted outreach
  - Field data monitoring, troubleshooting and feedback



Utility-led EV Charging as a Model

Utility core competencies:

Build and maintain infrastructure necessary to deliver electricity

Meter the delivery of electricity to customers

Bill customers for the electricity delivered

- Appropriate in rural and low-density areas where the market does not support third-party providers
- Established customer-service and maintenance/repair functions
- Provides the utility with the ability to tailor the system to minimize (or at least anticipate) impacts on the grid

Questions or discussion?

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