

Agenda – Work Session

Juneau Commission on Sustainability

Wednesday, July 20, 2022

12pm-1pm

Zoom Webinar

<https://juneau.zoom.us/j/86000175180> or 1-253-215-8782 Meeting ID: 860 0017 5180

I. CALL TO ORDER

II. AGENDA CHANGES

III. PUBLIC PARTICIPATION

IV. ACTION/DISCUSSION ITEMS

- a. New and Continuing JCOS Members
- b. Juneau's Climate/Sustainability Picture – Gretchen Keiser (JCOS)

V. INFORMATION ITEMS

VI. COMMISSIONER COMMENTS

VII. Next meetings

Monthly Regular meeting	Aug 3, 2022 @ 12PM ZOOM
Monthly Work session/Subcommittee	Aug 17, 2022 @ 12PM ZOOM
Monthly Regular meeting	Sept 7, 2022 @ 12PM ZOOM

VIII. ADJOURNMENT

Juneau's Climate Action and Energy Programs: Status, Outlook, and Proposed Five-Year Work Plan

7/18/2022 Draft

JCOS Energy Committee

Introduction

It has been eleven years since the City and Borough of Juneau (CBJ) adopted its 20 year community climate plan, the Juneau Climate Action and Implementation Plan (JCAIP). The JCAIP identified a specific climate action goal of reducing GHG emissions by 25% by 2032 and identified hundreds of potential actions for accomplishing this goal.

One of the JCAIP's top 10 recommended actions was to develop an energy plan for the community. This was completed in 2018, when the CBJ adopted the Juneau Renewable Energy Strategy (JRES).

The JRES set a goal of shifting community energy use away from reliance on fossil fuels so that renewable sources would provide 80% of the total energy used in the community by 2045. This would contribute to meeting the JCAIP climate action goals, while reducing vulnerability to fuel price shocks and increasing community resilience. It recommended the development of action plans for four general categories:

- A CBJ energy management program,
- Buildings energy use and space heating - reducing Juneau's dependence on fossil fuels,
- Transportation – reducing Juneau's dependence on fossil fuels, and
- New renewable energy supplies for Juneau.

The JRES provided a menu of hundreds of specific policies and actions for meeting Juneau's climate and renewable energy goals, drawn from the CBJ Comp. Plan and from the JCAIP.

This white paper offers a retrospective on what's been accomplished since the JCAIP and JRES were adopted, identifies implementation measures currently underway, and proposes that a 5 year work plan be developed to move toward meeting Juneau's long-term climate and renewable energy goals. While this focuses on the CBJ's role, the CBJ is not the only player in strengthening Juneau's energy future – residents, homeowners, businesses, organizations, and government agencies all have a part to play in reducing GHG emissions and our reliance on fossil fuels.

How is Juneau doing? What Has Been Accomplished in Recent Years?

How is Juneau doing in meeting its climate and energy goals? Where do we stand on the JCAIP's goal of a 25% reduction in 2009 GHG emissions by 2032, and on the JRES target of moving 80% of the community's total energy use to renewables by 2045?

The JCAIP recommended updating the GHG and energy use inventory every 3-5 years (p. 20). While no full reviews or updates have yet been completed, two actions by the CBJ, directed by the Assembly, will contribute to answering these questions.

First, in 2020 the CBJ maintenance staff began to record and monitor energy use in CBJ facilities; Engineering and Public Works (E&PW) incorporated these data into a 2021 Sustainability Report (<https://juneau.org/wp-content/uploads/2021/11/CBJ-AnnualSustainability-2021-r3.pdf>).

Secondly, CBJ has contracted with a national firm to prepare a current energy profile/GHG emission inventory for the Juneau community and local government, with the capability to model future efforts that help inform decision making. This project is just getting underway.

Some of the actions adopted by the CBJ and community that have contributed to JCAIP and JRES goals include:

CBJ Energy Management

- In 2020 CBJ maintenance staff began to record and monitor energy use in CBJ facilities.
- Energy efficiencies & HVAC upgrades to XX existing CBJ facilities are underway.
- CBJ staff incorporated energy efficiencies into new construction and operation at the Airport's North Terminal and Bartlett Behavioral Health Facility.

Buildings: Energy Use and Space Heating

- The CBJ Assembly has provided annual funding since 2020 to Alaska Heat Smart, a local nonprofit that provides education & technical assistance to homeowners who then convert their home heating to air source heat pumps.
- Approx. 2,000 heat pumps were installed in Juneau homes & buildings.

Transportation

- The CBJ replaced eight of its vehicle fleet with EVs.
- CBJ Transit secured federal grant funding for seven electric buses and bus-charging infrastructure. Juneau's first electric bus began operation in April 2022.
- Juneau residents purchased about 500 EVs.
- A collaborative effort between non-profits, businesses and agencies coordinated the installation of X public EV chargers, providing free charging.
- CBJ has investigated the challenges and identified locations for additional public EV charging stations with CIP funding approved by the Assembly.

- CBJ has prioritized electrification of its two public docks for cruise ship shore power – through federal grant applications and use of Marine Passenger Fees.
- Norwegian Cruise Lines has stated that it expects to provide cruise ship shore power if a new dock is approved.

New Renewable Energy Supplies –

- Draft studies and grant applications have raised awareness of what/when/where new hydropower supplies will be constructed in Juneau.

Where Are We Now?

CBJ Energy Management

- Energy use in approx. 60 CBJ facilities is now tracked. CBJ Maintenance, Finance, and ?? are working to automate ongoing electrical and fuel purchasing records.

Buildings: Energy Use and Space Heating

- With CBJ operational funding support, Alaska Heat Smart (AHS) obtained \$2.4 million in two federal grants to install energy efficiencies and heat pumps in lower income homes. AHS data shows, on average, homeowners save about 50% on annual energy costs and eliminate CO2 emissions equal to one automobile annually.
- air source heat pumps are becoming the preferred heating system for new construction and renovations. High demand has led to increases in hiring by local installers.
- Spearheaded by Interfaith Power & Light volunteers and others, an investigation of potential financing options is underway to accelerate the adoption of heat pumps.
- A downtown heating district system is being planned/developed.

Transportation

- CBJ is investigating consolidation of its downtown-located fleet for more efficient utilization and identification of future EV purchasing.
- CBJ is collaborating with the State on renovation of the State Office Building parking garage to accommodate parking and EV charging in the facility.
- With Marine Passenger Fees, the CBJ is studying the feasibility of electric bus downtown circulators.
- With Marine Passenger Fees, the CBJ commits to upgrade the 20-year- old electrical infrastructure serving the Franklin Dock shore power, as a precursor to electrifying its two city docks for shore power.
- Local residents continue to purchase EVs at a rate of XX/month.
- A local entrepreneur has an electric boat operational.
- Etc...

Proposal: Develop a 5 year Juneau Sustainability and Climate Action Work Plan

A five-year Juneau Sustainability/Climate Action Work Plan will contribute to meeting community and CBJ sustainability goals by:

- Helping community members, businesses, CBJ staff, and the CBJ Assembly identify priority actions;
- Providing guidance on funding for sustainability projects in the CBJ budget and CIP processes;
- Supporting private, foundation and public funding requests;
- Identifying and supporting federal infrastructure funding opportunities;
- Contributing to public communications about Juneau climate and energy actions
- Identifying the connections between climate/energy goals and other community goals such as affordable housing, reducing landfill odors, etc.

The proposed work plan would identify sustainability policies and projects that would meet climate and energy goals, including time frames, costs, potential funding sources, and responsible entities. These would be drawn from the JCAIP and the JRES and other sources and incorporate the following topics:

Updated GHG and energy use inventory.

Use this information to help identify opportunities for meeting sustainability goals.

The JCAIP recommended updating the GHG and energy use inventory every 3-5 years (p. 20).

Updated Juneau's GHG emission and renewable energy targets.

The JCAIP recommended that the the targets should be reviewed and adjusted periodically, and that the next time the plan was updated it should include longer term emissions reduction targets:

"Targets will need to be reviewed and adjusted periodically to ensure that emission reductions are being achieved. When the Climate Action Plan is next updated, longer term emissions reduction targets should be set. This could include 10, 25, and 50 year targets, rather than the 5, 10, 15, and 20 year targets set in this document." p. 20

Sustainability indicators.

Track and communicate the effectiveness of measures identified in the work plan (JCOS has identified GHG emissions, and relative proportions of energy provided by fossil fuels and renewable sources as initial sustainability indicators).

Climate adaptation and resiliency.

Develop a 5 year community climate adaptation and resiliency work plan.

The *Juneau Climate Impacts Report*, released July 2022, outlines what we can expect and makes recommendations the community can take to enhance Juneau's resilience as climate change continues.

CBJ Energy Management and Climate Action Program

- Develop a 5 year municipal energy management and climate action work plan.
- The CBJ should lead by example on climate action and energy efficiency in Juneau. It owns or uses substantial square footage of building space and operates a substantial fleet of vehicles, which contribute significantly to GHG emissions. The report “[Model Government Zero Emissions Buildings Policy](#)” released in May 2022 provides “plug-and-play” policy language for jurisdictions considering taking a lead-by-example approach to building decarbonization to show what’s possible.
- CBJ staff and JCOS investigate current “green” building standards to update CBJ’s 2011 LEED adoption for public buildings.
- New software in 2022 will allow for “real time” management of energy use in CBJ facilities and more readily prioritize corrective actions for building maintenance funding.
- Is the Juneau school district accessing federal ARP/ESSER funding for air quality/energy efficiency upgrades? <https://www.buildinggreen.com/news-analysis/once-lifetime-opportunity-green-public-schools>
- Significant CBJ actions and CIP projects over \$1 million, should include information on changes in energy use and GHG emissions expected to occur as a result of the project, as well as projected costs of reducing or offsetting new GHG emissions.

Buildings: Energy Use and Space Heating

- Develop a 5 year action plan for reducing fossil fuel use in Juneau’s buildings.
- CBJ updates building codes to incorporate current national/international energy efficiency standards. 2021 International Energy Conservation Code (IECC) and ASHRAE Standard 90.1-2019. Consider a “stretch” code as a starting point.
- CBJ continues to support efforts to upgrade the energy efficiency and heating systems of housing to enhance the affordability for lower income households.
- CBJ assists in developing improved clean energy financing. Follows Anchorage & Mat-Su leads to establish the “C-PACE” (Commercial Property Assessed Clean Energy) financing option for commercial building owners in Juneau to install energy efficiency/climate resilience upgrades.
- If successful in October 2022 election, the City Hall design will examine the feasibility of incorporating district heating, and thereby provide “critical mass” to encourage nearby federal and state facilities to support the proposal.
- CBJ supports development of district heating system(s) using renewable energy.

Transportation

- Develop 5 year work plan for reducing fossil fuel use in transportation.
- CBJ will replace **X** % of its vehicle fleet with EVs by 2027.
- CBJ actively engages with the Alaska Energy Authority on EV charging infrastructure in Southeast and on the Haines and Alaska Highways, and pursues competitive federal grant funds for local EV charging stations.
- CBJ pursues downtown waterfront electrification, and works with tourism industry to identify and implement incentives to assist in converting ground transportation to electric

buses, vans, and vehicles, such as priority parking, electric charging, loan programs, other...

- CBJ pursues electrification of its two city docks for shore power to cruise ships and prioritizes use by “shore power ready” ships.
- Improvements in energy efficiency: equipment and operational.

New Renewable Energy Supplies

- CBJ recognizes that it has a responsibility to advocate and articulate to the Regulatory Commission of Alaska and the Alaska Legislature the Juneau community’s public interest in long-term renewable energy supplies.
- Etc....

Solid Waste and Zero-Waste Program

- Develop 5 year zero-waste program and work plan.
- Multiple reasons to reduce solid waste – extend life of the landfill, address odors, and reduce GHG emissions.