



JUNEAU COMMISSION ON SUSTAINABILITY - WORK SESSION AGENDA

September 21, 2022 at 12:00 PM

Zoom Webinar

<https://juneau.zoom.us/j/81501894078> or 1-253-215-8782 Meeting ID: 815 0189 4078

A. CALL TO ORDER

B. AGENDA CHANGES

C. PUBLIC PARTICIPATION

D. ACTION/DISCUSSION ITEMS

- [1.](#) Climate –Sustainability Work Plan Draft – Steven Behnke (JCOS)
2. JCOS 101 Continued – Steven Behnke (JCOS)

E. COMMISSIONER COMMENTS

F. NEXT MEETING DATES

3. Monthly Regular Meeting Wednesday, October 5, 2022 @ 12PM ZOOM
4. Monthly Work Session/Subcommittee Wednesday, October 19, 2022 @ 12PM ZOOM
5. Monthly Regular Meeting Wednesday November 2, 2022 @ 12PM ZOOM

G. ADJOURNMENT

ADA accommodations available upon request: Please contact the Clerk's office 36 hours prior to any meeting so arrangements can be made for closed captioning or sign language interpreter services depending on the meeting format. The Clerk's office telephone number is 586-5278, TDD 586-5351, e-mail: city.clerk@juneau.org.

Juneau's Climate Action and Sustainability:

What's Been Accomplished and

Recommendations for a 5-10 Year Work Plan

9/15/2022 Draft
Juneau Commission on Sustainability

Executive Summary

Introduction

It's been 11 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 goal of reducing GHG emissions by 25% by 2032 and identified hundreds of potential actions to accomplish this goal.

A JCAIP Top 10 recommended action was to develop an energy plan for the community, which was completed in 2018 when the CBJ adopted the *Juneau Renewable Energy Strategy* (JRES). The JRES sets a goal of shifting community energy use away from fossil fuels so that renewable sources provide 80% of the total energy used in Juneau by 2045. This energy shift helps meet the JCAIP climate action goals, reduces vulnerability to fuel price shocks as in 2022, and strengthens the community's economic sustainability and resilience.

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 Comprehensive Plan and from the JCAIP). Recommended actions and the development of action plans can be placed in four general categories:

- An internal CBJ energy management program - to track and reduce energy use and costs, contribute to climate and renewable energy goals, and lead by example.
- Buildings' energy use and space heating – install energy efficiencies and electrify heating to reduce Juneau's dependence on fossil fuels,
- Transportation – electrify to reduce Juneau's dependence on fossil fuels, and
- New renewable energy supplies for Juneau.

This white paper offers a retrospective on what's been accomplished since the JCAIP and JRES were adopted, identifies actions currently underway and makes recommendations for

additional actions. While this paper focuses on the CBJ's role in reaching climate goals, JCOS recognizes that

1. The city 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.
2. The community's climate actions do not happen in a vacuum, but are part of the overall efforts undertaken to sustain and enhance the livability and economic well being of Juneau.
3. There are additional measures of a community's sustainability, including poverty, housing, and environment. Although these issues are important, the focus of this paper is limited to near-term actions (5 to 10 years) that tackle the community's underlying use of energy and that address the impacts of the changing climate. The intent is to position CBJ and community members to take advantage of funding opportunities in recent federal legislation.

I. Are We on the Way to Meeting Our Goals? What's Been Accomplished in Recent Years?

A. Measuring Progress

Ideally, Juneau would publish (and update) dashboard graphics that show where we started, our goals, and the path (or paths) that will lead us to those goals in a timely manner. Although simple in concept, the unfortunate truth is that we can neither measure progress nor identify roadblocks to progress unless we have good data on energy usage and greenhouse gas emissions, and we do not have adequate and current data.

While Juneau's 2010 energy profile and GHG inventory has not been updated, two actions contribute to getting the data we need:

- In 2020, the CBJ maintenance staff began to compile 2015-to-present records and monitor energy use in CBJ facilities. Now, energy use in approximately 60 CBJ facilities is tracked, and CBJ Maintenance and Finance are working to automate ongoing electrical bills and fuel purchasing records.
- In 2022, CBJ contracted with a national firm to prepare a current energy profile/GHG emission inventory for the Juneau community as a whole and for local government, with the capability to model future efforts that help inform decision making. Preliminary results of this update are expected in fall, 2022.

RECOMMENDATIONS:

Strengthen modeling efforts by finding a way to track the amount of fossil fuel used for transportation, heating and other uses. Knowing the amount of GHG associated with activities will help focus policy on areas that produce the best results.

B. CBJ and Community Actions in Recent Years and What's Underway Now

1. CBJ Energy Management

- Several CBJ facilities have had or are slated for near-term energy efficiency & HVAC upgrades, including Treadwell Arena, Savikko Park, Downtown Library, Glacier Fire Station, Eagle Valley Center, Lynn Canal Fire Station, Dzantik' Heeni and Riverbend schools, Centennial Hall, and Augustus Brown Pool.

- New construction and operation at the Juneau Airport's North Terminal and Bartlett Behavioral Health Facility incorporate numerous energy efficiencies.
- CBJ Engineering and Public Works (E&PW) incorporated energy use data from CBJ facilities into a 2021 Sustainability Report (<https://juneau.org/wp-content/uploads/2021/11/CBJ-AnnualSustainability-2021-r3.pdf>).
- Beginning in 2021, the CBJ incorporated sustainability as a criterion for projects in its Capital Improvement Plan.
- CBJ replaced eight of its vehicle fleet with EVs (what %?), and is investigating consolidation of its downtown-located vehicles for more efficient utilization and potential future EV purchasing.
- CBJ Transit secured federal funding for seven electric buses (39% of fleet), bus-charging equipment, and bus barn upgrades. Juneau's first electric bus began operation in April 2021 and is providing practical experience and trouble-shooting useful in ordering the next six electric buses.

RECOMMENDATIONS:

Continue to lead by example. Publicize accomplishments and impacts to help the public understand that reducing GHG emissions can also save money.

2. Buildings: Energy Use and Space Heating in Businesses and Private Homes

- Since 2020, the CBJ Assembly has funded Alaska Heat Smart (AHS), a local nonprofit that provides education & technical assistance to homeowners who then convert their home heating to air source heat pumps. AHS conducted about 450 home heating assessments, with approx. 80 more in progress. AHS data shows, on average, homeowners save about 67% on annual energy costs (\$5/gal fuel in 2022) and eliminate

CO2 emissions equal to one automobile annually. In 2022, AHS secured \$2.4 million in two federal grants to install energy efficiencies and heat pumps in lower income Juneau homes over the next three years.

- The number of heat pumps has increased rapidly in Juneau. Owners have installed heat pumps in approximately 1500 Juneau homes, roughly 11% of Juneau's housing units.
- Air source heat pumps are a preferred heating system for new construction, renovations, and real estate sales. High demand has led to increases in hiring by local installers.
- To date, the Juneau Carbon Offset Fund has installed heat pumps in 30 lower-income homes.
- Spearheaded by Interfaith Power & Light volunteers and others, an investigation of potential financing options is underway to accelerate the adoption of heat pumps and other energy efficiencies. An application for a federal USDA line of credit project may be feasible.
- A district heating system for Aa'kw Village district and downtown is being designed.

RECOMMENDATIONS:

Consider CBJ assembly action to:

1. Expand financing options for businesses that take action to increase their energy efficiency.
2. Provide encouragement (to homeowners and landlords) to install heat pumps by offering programs such as financing heat pumps via utility bills.
3. Encourage (or require) lower GHG emissions through revisions to the building code (such as requiring heat pumps in new construction).

3. Transportation - reduce reliance on fossil fuels

- To date, Juneau residents purchased about 500 EVs - roughly 2.5% of the community's 20,000 cars.
- Beginning in 2017, through a collaborative effort among nonprofits, businesses and agencies, 31 public EV chargers have been installed and provide free charging.
<https://www.plugshare.com/directory/us/alaska/juneau>
- CBJ investigated the challenges, locations, and installed 10 public EV charging stations in 2022 with CIP funding approved by the Assembly, additional funds and

in-kind logistical, standard drawings, and coordination support from Juneau EV Assn. and AK EV Assn., and coordination with AEL&P. New Tier 2 charger sites: 8th St/Basin Rd (2 chargers), Twin Lakes (2), Harris Harbor (2), Eagle Valley Center (2), and Eaglecrest (relocated & added 2 to expand site to 4 chargers).

- With FY2023 \$5M State grant, CBJ is collaborating with the State on renovation of the State Office Building parking garage to accommodate more parking and EV charging.
- Using 2022 Marine Passenger Fees (MPFs), the CBJ is analyzing the feasibility of electric bus circulators for downtown.
- In 2022, CBJ prioritized electrification of its two public docks for cruise ship shore power – through revenue bonds, MPFs, and potential federal grants.
- With 2022 MPFs, the CBJ commits to upgrade the 20-year-old electrical infrastructure serving the Franklin Dock shore power, as a precursor to electrifying the two city docks for shore power.
- Norwegian Cruise Lines has stated that it expects to provide cruise ship shore power if a new dock is approved. That development is now under Huna Totem Corp. ownership.
- A local entrepreneur has an electric boat operational.

RECOMMENDATIONS:

Continue to install EV infrastructure and replace CBJ vehicles with electric vehicles. Consider taking action to require installation of EV chargers in new single and multi-family dwellings and at new commercial properties.

4. New Renewable Energy Supplies

- Studies and grant applications have raised community awareness that replacing fossil fuels with electricity will challenge AELP’s capacity to provide the amount of electricity required to meet the community's climate/energy goals.

RECOMMENDATIONS:

Establish a dialog with AEL&P, Regulatory Commission of Alaska, and the legislature with the intent of having the utility prepare and share a plan for meeting the energy needs of the community.

5. Community Sustainability

- Beginning in 2019, the CBJ Assembly identified annual sustainability goals and has taken actions to implement the Juneau Renewable Energy Strategy.
- In 2020, CBJ pursued USDA funding (unsuccessful) to expand Juneau’s composting capability in partnership with a private business, local schools, and Alaska Dept. of Environmental Conservation.
- In 2021, the CBJ Wastewater Utility staff began an analysis of the sources of high organic loads; fats, oils and grease (FOG); and infiltration and stormwater into the community’s two larger wastewater treatment facilities (the Juneau and Mendenhall plants). Efforts are underway to address these sources which cause increased costs and equipment maintenance, and higher energy use.
- In 2022, the Assembly funded a zero waste planning project to reduce & divert solid wastes and extend the life of Juneau’s landfill. The CBJ also has a congressionally designated grant for \$2.5 million for a composting facility included in the pending FY2023 federal budget legislation.
- An Environmental Projects Specialist was hired in September 2022 to work on CIP-funded zero waste, utility, EV, and energy/GHG inventory projects.
- A collaborative report by UAS, UAS, and CBJ, *Juneau’s Changing Climate & Community Response*, is published in 2022 and identifies probable effects Juneau residents will be facing in coming decades.

II. A Proposed 5 to 10 Year Juneau Sustainability and Climate Action Plan

The CBJ’s recent and ongoing actions identified above give Juneau strong momentum in achieving its climate, renewable energy, and sustainability goals. Federal legislation in 2021 (Infrastructure Investment & Jobs Act - IIJA) and 2022 (Inflation Reduction Act - IRA) present once-in-a-generation opportunities to propel the Juneau community forward on its path to a sustainable and resilient future. The CBJ is in the process of identifying a grant strategy for projects that CBJ would seek funding under the 2021 IIJA.

In light of ongoing community action and pending grant opportunities, JCOS offers the following recommendations for action during the next 5 to 10 years. The Commission has sought to identify gaps in community-wide efforts to achieve equitable energy efficiency, climate resilience, and sustainability. It is JCOS’s intention that the action plan contributes to overall community 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 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.

A. Facilitate energy efficiency and electrification in Juneau buildings:

- Adopt a CBJ policy of building decarbonization, and lead by example .[\[2\]](#)
- Update building codes to incorporate current energy efficiency standards: 2021 International Energy Conservation Code (IECC) and ASHRAE Standard 90.1-2019. Consider a “stretch” code as a starting point.
- Continue to support efforts to upgrade the energy efficiency and heating systems of housing to enhance the affordability for lower income households.
- Establish financing options, such as “C-PACE” (Commercial Property Assessed Clean Energy), for commercial and multi-family building owners to install energy efficiency, heat pump systems, and climate resilience upgrades.
- Investigate district heating for the proposed City Hall and Civic Center and thereby provide momentum to encourage nearby federal and state facilities to support the project.
- Investigate federal ARP/ESSER funding for air quality/energy efficiency upgrades in Juneau schools
<https://www.buildinggreen.com/news-analysis/once-lifetime-opportunity-green-public-schools>

B. Develop a community strategy to electrify transportation through a collaborative process. Identify the CBJ’s role as a catalyst to overcome barriers and accelerate EV adoption, including particular areas where CBJ could facilitate the transition to EVs include:

- Adopt a CBJ policy of support for electrification of transportation.
- Collaborate to create a program for maintenance and repairs to public EV chargers.
- Finance EV charging infrastructure renovations for multi-family rental and condominium housing through LIDs, C-PACE, property tax deferments, etc.
- Amend CBJ codes to incentivize EV chargers in parking lots of new developments and to require EV chargers as a feature of new single and multi family housing construction.

- Provide waterfront electrification for EV charging infrastructure and work with the tourism industry to identify and implement incentives to assist in converting their fleets to electric buses, vans and vehicles.
- Lead by example by continuing to convert the City's fleet to EVs.
- Actively engage with the Alaska Energy Authority on State planning and funding for EV charging infrastructure in Southeast Alaska and on the Haines and Alaska Highways.

C. Track the Community's Progress: Energy Profile and GHG Emissions Inventory:

- Continue to track and annually report CBJ facility energy performance.
- Use the 2022 inventory as a benchmark to establish measurable sustainability indicators, and then track and communicate the indicators to the public.
- Readjust the JCAIP and JRES goals and create interim targets for renewable energy and GHG emissions.
- Use the 2022 modeling tool to identify actions where CBJ and others in the community can make notable progress toward GHG emission reduction and renewable energy goals.
- Update the 2022 community energy profile and GHG emission inventory no later than 2027.
- Include information on projected changes in energy use and GHG emissions anticipated from significant CBJ actions and projects over \$1 million, as well as projected costs of reducing or offsetting new GHG emissions.
- [Move strongly toward replacing generic national projections with local data in order to improve the accuracy of the GHG emissions model.](#)

D. New Renewable Energy Supplies & CBJ's Role

- Articulate to the Regulatory Commission of Alaska and the Alaska Legislature the Juneau community's interest in long-term renewable energy supplies.
 - Seek independent, expert analysis of community power needs and rate agreements favorable to the community, as warranted.

E. Community Sustainability

- Based on the outcomes of the current zero waste planning project, implement actions within a 5-10 year timeframe to reduce waste, divert waste, enhance local resource recovery businesses, and begin planning for a new landfill .

- Identify vulnerabilities in CBJ’s infrastructure to climate change, and seek federal funding opportunities (e.g. stormwater management, landslide abatement, etc.).
- Collaborate on workforce training for local construction/utility trades to meet demands for energy efficiency and climate resilience upgrades by residents, businesses, and agencies.

[1] JCOS previously identified GHG emissions, and the relative proportions of energy provided by fossil fuels and renewable sources, as initial sustainability indicators).

[2]The report “[Model Government Zero Emissions Buildings Policy](#)”, released 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.