Assembly Climate Action Committee Meeting Agenda

July 19, 2022 at 9:00 a.m.
Mona Lisa Drexler Assembly Chambers
Juanita Helms Administration Center
907 Terminal Street, Fairbanks, AK

1. **CALL TO ORDER**
2. **ROLL CALL**
3. **CITIZENS' COMMENTS**

   Comments limited to items on the agenda only. Each person's comments limited to 3 minutes (Comment time limited to 30 minutes total)
4. **UNFINISHED BUSINESS**

   4.a. Review and discuss with RESPEC the following regarding the Climate Action and Adaptation Plan:

   4.a.i. The PESTEL/Situational Assessment Chapter final draft.

   4.a.ii. Guiding vision, goals, and high-level targets for the plan.

   4.a.iii. Funding programs for the implementation of the plan through grants and other funding source opportunities.
5. **NEW BUSINESS**

   5.a. Review and discuss with RESPEC the following regarding the Climate Action and Adaptation Plan:

   5.a.i. Draft mitigation strategies for the plan.

   5.a.ii. Preparations and materials for the next community engagement event on August 13, 2022.

   5.a.iii. The roll of committee members in assisting plan development and outreach.
6. **OTHER COMMITTEE BUSINESS/DISCUSSION ITEMS**

   6.a. Discussion and review of public input received regarding the Climate Action and Adaption Plan.

7. COMMITTEE COMMENTS

8. ADJOURNMENT

Final Draft PESTEL/Situational Assessment Chapter

Introduction

The situational assessment chapter will explore the FNSB's current situation, where the FNSB is headed, and what opportunities related to climate mitigation and adaptation are available to the FNSB to better protect the health, safety, and welfare of the community. A PESTEL risk analysis framework is used within the chapter to identify and evaluate supportive factors for climate action, climate change threats and planning constraints, and opportunities to improve sustainability and resiliency.

What is a PESTEL Analysis?

PESTEL means: Political, Economic, Social, Environmental and Legal. This analysis contextualizes the environment that the borough is operating within by listing factors that have the potential to contribute to the capabilities and climate adaptation and mitigation planning capacity of borough operations. This includes existing borough efforts and resources that support climate planning, external opportunities and constraints, and the challenges and advantages that the borough is facing due to a changing climate.

- Factors that support climate change planning
- Climate change threats and adaptation planning constraints
- Climate change planning opportunities to improve sustainability and resiliency

PESTEL Analysis by Sector

Borough Operations were broken down into three sectors relevant to climate change planning: borough operated facility and fleet management, public services, and planning and land management. This allows for a targeted evaluation of the existing operational environment, and climate change planning challenges and opportunities.

Facility and Fleet Management

How to make borough operated facilities and vehicles sustainable and resilient?

Current Situation:

The Borough owns over 90 major buildings totaling approximately 3.2 million square feet. Approximately 2.4 million square feet are operated by the Fairbanks North Star Borough School District and the remaining 780 thousand square feet are operated by the Fairbanks North Star Borough. Additionally, the Borough has over 150 other facilities such as parks, sporting fields, cabins, playgrounds, recreation areas, and the Tanana River Levee.

The FNSB has employed an energy management engineer for the past ten years, focused on making borough operations and developing future projects to lower utility costs to the FNSB. Energy efficiency efforts have resulted in a 18% decrease in energy use in the past 10 years, with a 6% annual decease in 2021 alone.

The FNSB fleet consists of 15 buses, 9 paratransit vans, 117 cars/trucks, 102 'other' vehicles, 10 ambulances, 39 firetrucks, and 49 other emergency vehicles.

Key departments:

- Public Works - Administrative: Oversees capital projects and employs energy management engineer
- Parks and Rec: Manages some of the largest facilities in the borough, including the Carlson Center, Pioneer Park, Big Dipper, and three swimming pools.
- School District: Operated 2.4 million square feet of facilities
- Transportation: Manages the vehicle equipment fleet fund and purchase and maintain FNSB fleet.

Political:

- There is state and federal interest in increasing renewable energy
- Renewable energy, electricity use, and heat use of borough buildings is being monitored and tracked (Sustainability Plan / Report Card)
- The FNSB already has a position that specializes in energy use – and is already implementing sustainable energy practices

Economic:

- Bipartisan Infrastructure Law (BIL) is a potential funding source for renewable energy development, fleet electrification, and facility upgrades
- Electricity is very expensive in the FNSB . There is a lot of potential to save money from improving energy efficiency of operations, and using alternative energy sources
- Switching to renewable energy and implementation of building weatherization can have substantial starting cost

Social:

- Innovative energy transformations made by the borough can set examples and promote broader community low/no emission energy use
- Existing electricity sources are heavily reliant on coal, contributing to poor air quality which is a public health concern
- Energy insecurity from relying heavily on fossil fuels

Technological:

- Borough is in process of converting bus and van fleet from diesel to compressed natural gas
- Energy technology opportunities
    - Cold climate housing
    - UAF energy research
    - Expanding renewable energy infrastructure
    - Expanding Natural gas distribution
    - Electric vehicles
- Borough does not currently have capacity to charge electric vehicles. Borough Office buildings and borough operated parks offer potential locations for electric vehicle charging stations.
- Strategic placement of electric vehicle charging stations can promote residential and small-business development, and the use of public transportation.

Environmental:

- With projected warmer temperatures, the borough will save money on heating facilitates
- Flooding, wildfires, and permafrost thaw threaten existing facilities, and may threaten facilities built in the future
- Cold and geographically isolated – energy challenges
- Winter climate projections, such as heavy snow and ice, is impacting parking lot and grounds maintenance requirements of borough facilities.
- Heavy snow load on older borough facilities is a concern

Legal:

- ordinance 16.16.060 – Borough must comply with standards and policies which are contained in the state energy conservation plan
- Potential enforcement of electricity standards set by the Railbelt Reliability Council

Public Services

How can operational requirements to provide services be more sustainable, resilient, and continue to meet community needs in the context of a changing climate?

Current Situation:

The borough is responsible for providing area-wide and service-area specific services to residents.

Road Maintenance and construction: FNSB's powers over road construction, maintenance, lighting, and sewer are limited to designated service areas.

Emergency Response and fire services: FNSB EMS serves the entire borough, while borough fire services are limited to service areas.

Waste Management: Provides solid waste management, disposal, and recycling to residents of the FNSB.

Public Transit: The Metropolitan Area Commuter System serves urban areas in the Fairbanks and North Pole areas.

Air Quality: The FNSB provides air quality information to the public and publishes an annual status report. The air quality department also runs air quality improvement programs, including the Wood Stove Change Out Program, the Oil to Gas Conversion Program, and the Bounty Program, for properties located in the PM2.5 Nonattainment Area.

Key Departments:

- Public Works – rural services: Provides Road maintenance within service areas
- Public Works – waste management: Solid waste management, disposal, and recycling
- Transportation: Leads the public transportation system and the air quality program
- Emergency Management: In charge of EMS and fire services

Political:

- General sustainability movement and public support of recycling program
- Borough Recycling Improvement Plan already in action
- The FNSB 2018 Sustainability Plan includes a waste reduction goal
- Current road service area (RSA) system is inefficient, expensive, and complicated for the FNSB to manage, taking funds away from actual road improvements. Changing the structure would require significant local support for RSA consolidation, which may not exist.

Economic:

- Potential use of BIL funding for natural gas conversion or electrification of public transit system
- Lack of available borough funds to meet road maintenance needs during years of extreme weather
- State budget uncertainty may affect state funding for transportation projects, and ADOT road maintenance services

Social:

- Icy roads are a public safety concern

Technological:

- New recycling center
- Waste to energy capabilities
- Potential to add landfill methane gas management technologies

Environmental:

- Borough is geographically spread-out with low-density development, making it challenging to implement an efficient and wide-reaching public transportation system
- Climate is leading to hazardous winter road conditions. Implications are challenges for winter snow and ice management, lasting road damage, and deficiency in EMS access to emergency situations.
- Temperature inversion and frequent use of wood stoves leads to poor air quality
- Projected increases in wildfires will impact air quality

Legal:

- Federal Clean Air Act – Fairbanks and North Pole are in a non-attainment area and must comply with air quality improvement requirements.
- FNSB platting and land use powers can be used to manage population growth and address sprawl, making public transit more feasible and road maintenance and EMS services more efficient.

Planning and Land Management

How can the Borough leverage its powers over planning and land management to promote sustainable and resilient land use, economic, and transportation practices?

Current Situation:

The FBSB facilitates community-driven planning to support economic, land, and transportation development, adopts and enforces land-use and infrastructure codes, and manages large areas of undeveloped borough-owned lands. These powers direct borough-wide infrastructure, natural resource, and economic development trajectories.

Planning:

Transportation Planning: FNSB plans, such as the roads plan, non-motorized plan, and trails plan, are responsible for guiding future transportation and recreation infrastructure development throughout the FNSB.

Land-use designations: The FNSB Community Planning Department prepares and updates the Comprehensive Plan, which includes land use designations intended to guide desired future development patterns. The borough uses a land suitability analysis to inform land use decisions, considering environmental properties such a soils, wetlands, riparian areas, wildlife habitats, and susceptibility to environmental hazards. The FNSB recently completed a new land suitability analysis, which considers climate related changes pertinent to land use designations, including flooding, soil subsidence, and wildfire danger.

Economic Planning: The FNSB includes an economic development commission, focused on coordinating and promoting economic growth. The borough produces and updates a Comprehensive Economic Development Strategy that encompasses goals to promote private and public economic development and recommendations of actions that will achieve community economic goals.

Built Environment Regulations:

Zoning: The FNSB adopts and enforces zoning ordinances in urbanized areas, regulating zone-specific uses and building requirements.

Floodplain Development Program: The borough manages Title 15 special flood area permitting, to ensure the new development within designated flood-prone areas is elevated to a sufficient height to minimize flood loss.

Infrastructure: The borough is responsible for the adoption and enforcement of land subdivision codes and road construction standards. Additionally, the FNSB participates in a collective stormwater management program with other agencies to manage stormwater pollution.

Tax Collection:

The FNSB's power over tax collection allows for the borough to incentivize some types of private property land use and promote more sustainable building practices. The borough recently adopted an ordinance that allows for a tax credit for new residential construction that meets a specified energy efficiency standard.

Land and Natural Resource Management:

The FNSB Land Management Department is responsible for the management and development of borough lands not associated with a facility, which accounts for about 80% borough-owned lands. This includes natural resource management, such as planning and facilitating timber harvest. The land management department also oversees land leases and land sales, including sales of residential land, creating revenue for the borough.

Key Departments:

- Community Planning: Provides code enforcement, floodplain management, platting, planning, and zoning
- Land Management: Manages the majority of borough owned land

Political:

- An existing plan, the 2021 Multi-jurisdictional Hazard Mitigation Plan, identifies climate related environmental hazards, provides mitigation strategies, and recommends policies and actions that will make FNSB more reliant to climate change.
- The Borough has identified food security as an issue, and is attempting to increase local food production, storage, and distribution (Sustainability Plan, 2018).
- The Borough economic strategy guides land-use, transportation, agriculture, natural resource management, and agricultural economic development policy and actions. Climate planning should be aligned with the economic development strategy, while the climate plan also has the potential to provide strategies to inform continued economic development.
- The CAAP should identify strategies that can be integrated into existing and future transportation plans.
- Current borough forestry management planning is focused only on timber harvest, but could be expanded to include reforestation and other carbon sequestration projects

Economic:

- Small-scale agriculture is a growing economic sector
- Development of new energy sources and energy infrastructure can bolster the economy
- Natural resource industries (mining, forestry) are important and growing

Social:

- Public interest in expanding bike and pedestrian infrastructure and improved maintenance of existing infrastructure is strong.
- Public support exists for borough climate planning that addresses adaptation and greenhouse gas reduction strategies for the broader communities' infrastructure, beyond just borough facilities.
- Projected increases in population from military expansion will lead to an increased demand for housing and put strain on the existing transportation system. The Eielson Regional Growth Plan and Salcha-Badger Road Area Plan are addressing development guidance to meet needs of this growing population.

Technological:

- Increased available data for land suitability characterization
- AURA project is working to map areas in the FNSB vulnerable to climate related risks, can provide relevant data that can be incorporated into land use planning
- Opportunities to use technology about effective land use practices to reduce wildfire risks, such as fuel management techniques and fire breaks
- Permafrost thaw and extreme weather resilient engineering technologies for road and building design
- Lack of current borough-specific framework for designating land suitability for agricultural land

Environmental:

- There is a lot of undeveloped land in the FNSB, including wetlands and forested lands with high carbon sequestration capacities.
- Climate change is leading to a longer growing season, which will benefit agriculture
- Climate change may affect the attractiveness of the region for tourism
- Climate projections indicate increased flooding frequency and potential expansion of special flood areas
- Projected increases in wildfire and increased pests will affect viability of forestry industry and forest management strategies
- Changes in the prevalence of wildfire, permafrost thaw, flooding, and erosion are affecting land suitability for development
- Climate change is altering access to outdoor recreation, including trail and river travel
- Climate change is threatening subsistence activities, including hunting and foraging

Legal:

- Borough is required to sell lands every two years
- Borough development decisions must be supported by the Comprehensive Plan
- Must recognize private property rights
- Land management authority is constrained by legal powers of borough.

CAAP Vision and Goals

To be developed.

Situational Assessment Summary

Several key attributes of the FNSB's situation shape the borough's climate change planning capacity.

The FNSB is very vulnerable to climate change. Due to its high latitude, temperatures in the FNSB are warming nearly twice as quickly as global averages. Situated among the boreal forest, climate change induced increases to the wildfire regime threaten infrastructure and human health. Discontinuous permafrost underlays ground throughout the borough, with permafrost thaw presenting an additional threat to infrastructure. And, several large rivers, including the glacially sourced Tanana River, have floodplains that overlap developed areas. Furthermore, the FNSB is geographically isolated from other major population centers and development has traditionally been sprawling, limiting the current viability of transportation and energy infrastructure systems.

Characteristics of the FNSB also facilitate climate change planning opportunities. The borough is positioned among strong educational and research resources, innovative development of energy technologies, and expansive undeveloped lands. The borough is already on a trajectory that supports aspects of climate change planning, presenting opportunities to build upon existing energy management, land use planning, and hazard mitigation efforts. Challenges that the borough faces, including especially high electricity costs, vulnerable food system supply chains and energy security, and federal Clean Air Act non-compliance, also present opportunities for the borough to introduce climate change adaptation and mitigation strategies that will simultaneously improve other sustainability and resilience characteristics of the borough.

Conclusion

By identifying strategies through the CAAP to improve operational resiliency and address climate change now, the borough will be taking the first step toward a more sustainable future. The FNSB can put itself in a position to better protect the health, safety, and wellbeing of borough residents through implementation of the strategies identified within the CAAP. The CAAP can become an important tool and road map for the FNSB to mitigate its GHG contributions to climate change, proactively adapt to climate change's unavoidable effects, and capitalize on related opportunities, given the dedicated political will to do so.

Northern Cities Climate Plans Research:

Conclusions:

- Several plans have significant emission-reduction goals (>50%), looking at time frames ~ 20-40 years out. Common to separate municipal / government emissions reduction and community-wide emission reduction targets and to have shorter term and longer term targets.
- Large-scale transition to renewable energy is crucial for plans to meet emission goals. Energy efficiency and transportation system strategies are also important.
- Common land-use recommendations include zoning that will encourage compact/mixed use development and preserving natural areas for carbon sequestration.
- Yakutsk faces challenges similar to Fairbanks (climate change, permafrost thaw, sprawl, cold climate, poor air quality). Identifies the need for permafrost engineering technologies to account for climate and gives strategies to protect permafrost. Focuses on incorporating social inclusion / vulnerable groups into sustainable development strategies.

City of Yakutsk, Russia - Recommendations of Actions for Resilience and Sustainability https://urbanresiliencehub.org/wp-content/uploads/2021/05/Recommendations-of-Actions-for-Resilience-and-Sustainability-Yakutsk.pdf

- Protect permafrost: Resilient Design and Construction Training Program; Permafrost Data Collection and Permafrost Insurance Program (PIP) ; development of Yakutsk Climate-resilient Building Guidelines, with a Resilient Design & Innovation Construction Hub observing and monitoring them.
- Enhancing social inclusion and cohesion
- Goal - Double the global rate of improvement in energy efficiency

City of Oslo, Norway Climate Strategy

https://www.klimaoslo.no/2020/06/10/oslos-new-climate-strategy/

- Paris-agreement compatible
- A 10% reduction in total energy consumption by 2030 compared with 2009.
- A 95% reduction in GHG emissions by 2030 compared with 2009.
- Management of Oslo’s natural areas to protect carbon storage in vegetation and soil

City of Stockholm, Sweden Climate Action Plan

https://international.stockholm.se/globalassets/rapporter/strategy-for-a-fossil-fuel-free-stockholm-by-2040.pdf

- Fossil-fuel free by 2040 (Paris agreement compatible) – Fossil fuel only accounts for 30% of energy when plan was written
- To achieve goal – must act outside of city jurisdiction - collaborates with energy companies and lobby for legislation to promote renewable energy

Cities of Portland and South Portland, Maine, Climate Action Plan

- Developed a memo about resilient zoning for Resilient Buildings and Land Use https://www.oneclimatefuture.org/wp-content/uploads/2021/02/Appendix-C.pdf
- All new buildings to be net-zero energy starting in 2032.
- Achieve "zero waste" (90% waste diverted from waste stream by 2050).
- Replace 80% of natural gas and heating oil use in residences with electric heating and cooling systems by 2050
- Dashboard: https://www.oneclimatefuture.org/progress/portland-progress-be/

City of Burlington, Vermont, Climate Action Plan

https://www.burlingtonvt.gov/sites/default/files/Legacy/About_Us/Climate%20Action%20Plan.pdf

- Broke down emission goals: Municipal operations (20% reduction from 2010-2025), airport operations (10% reductions), community-wide (10% reduction)
- Reduce community-wide vehicle miles traveled (VMT) by 10% per capita by 2025. (bike/ped/transit) and reduce the amount of municipal vehicle miles traveled (VMT) by 10% by 2025.
- Grey streets -> green streets, compact mixed-use development
- Develop zoning, planning, and economic development policies that support local food production.
- Energy efficiency, renewable energy, waste reduction, carbon sequestration

City of Saskatoon, Saskatchewan, Canada, Climate Plan

https://www.saskatoon.ca/community-culture-heritage/environment/climate-change#:~:text=1.,reduction%20of%2080%25%20by%202050.

- Reduce emissions 40% below 2014 levels by 2023, and 80% by 2050.
- Reduce community emissions 15% below 2014 levels by 2023, and 80% by 2050
- Timeline/strategy follows ICELI 5-milestone approach

Vision Examples

Anchorage Climate Plan (2019):

Overall Vision: *In 2050, Anchorage is a resilient, equitable, and inclusive community prepared for the impacts of a changing climate. Winter cities around the world look to Anchorage as a leader in stewardship and energy innovation. Anchorage is self-sufficient and the heart of our state's globally competitive economy.*

Flagstaff Climate Plan (2018):

Overall Vision: *Our vision for the future is that the Flagstaff community proactively preserves the natural environment, works towards carbon neutrality and enhances the quality of life for all residents while ensuring equity, self-sufficiency, and climate resiliency.*

Saskatoon Climate Plan (2019):

Community-facing Vision: *Saskatoon is a connected community where every citizen and organization takes pride in prosperous, resilient, and low-carbon solutions to realize a clean and healthy city.*

Community-facing Mission: *Our Mission is to enable a sustainable Saskatoon through an integrated and actionable climate change approach.*

City-focused Vision: *The City of Saskatoon is a climate ready and resilient organization.*

City-focused Mission: *We implement climate change adaptation actions as planned and on purpose in order to limit disruptions and negative impacts on our staff, services, and assets, allowing us to continue to deliver high quality services to the residents of Saskatoon*

City of Whitehorse Adaptation Plan (2011):

The community of Whitehorse is preparing for climate change, including variability and uncertainty, by building capacity, knowledge, resilience and partnerships. Adaptation proactively enhances the sustainable well-being of the community.

Oslo Climate Plan (2020):

In 2030 Oslo will be a city with almost no emissions of greenhouse gases. Oslo's transition to a climate-adapted, zero-emission city will help create a healthy, pleasant and well-run city with a low level of social inequality and cleaner air and water. Oslo is an arena for innovation, testing and commercialisation of new climate change solutions, with climate and business policies that mutually reinforce each other. Oslo is driving a change of pace in environmental and climate policies both nationally and internationally. Oslo is influencing the scale and speed of emission reductions in other cities and countries by sharing our solutions and experiences. By 2030 at the latest, Oslo will be a "carbon-negative city", meaning that it will contribute to reducing the amount of greenhouse gases in the atmosphere by means of biological and industrial carbon capture and storage technologies.

Stockholm Climate Plan (2017):

Tranquil nature close to the intensity of the city is the defining characteristic of Stockholm. Here smart solutions make it simple for all residents to lead eco-friendly lives. Without compromising the prospects of future generations, the city can grow and expand based on people's needs and respect for the natural limits of our planet.

Portland and South Portland, Maine Climate Plan (2020):

The communities of Portland and South Portland have set our sights on a livable future. This future is powered by clean, renewable energy. It opens doors to economic opportunity. In this future we continuously innovate, working in partnership with natural systems, replenishing resources, and creating new potential from waste. Clean air, clean water, and healthy food are a given.

In this livable future, we create buildings and neighborhoods that maximize our health and happiness and minimize our carbon footprint. We create stronger connections—on the sidewalks, in the parks, on the bus, on the ferry—linking people to people, places, and opportunity.

We invest in people and communities. In this future, we equip our communities with the resources to adapt to change and to create the quality of life we each envision. We partner, seeking the insight of people with direct experience and diverse knowledges. Together, we create a prosperous future for everyone, now and for generations to come.

FNSB CEDS (2022):

FNSB is the economic hub for Interior Alaska and the gateway to Alaska's Arctic, where dreams and opportunities thrive for everyone.

Target Examples

Saskatoon:

Reducing the City of Saskatoon's emissions by 40% below 2014 levels by 2023; and 80% by 2050.
Reducing the community's emissions by 15% below 2014 levels by 2023; and 80% by 2050.

Anchorage:

The Anchorage Climate Action Plan puts Anchorage on a path to reduce greenhouse gas emissions 80% from 2008 levels by 2050, with an interim goal of 40% by 2030.

Portland and South Portland, Maine:

Portland and South Portland will reduce community-wide greenhouse gas emissions 80% from 2017 baseline levels by 2050.
Portland and South Portland will run all municipal operations on 100% clean renewable energy by 2040.

Oslo, Norway:

Oslo's greenhouse gas emissions in 2030 will be reduced by 95 percent compared with 2009, and by 52 per cent by 2023.
Oslo's contribution to greenhouse gas emissions generated outside the municipality will be substantially lower in 2030 than in 2020.

Stockholm, Sweden:

Fossil-fuel free by 2040. Fossil-fuel free municipal organization by 2030. The City Council has set up a milestone target for emissions of no more than 2.3 tonnes of CO2e (carbon dioxide equivalents) per resident by 2020.

Burien, Washington:

The City has set targets to reduce community wide GHG emissions levels by 50% by 2030 and achieve carbon neutrality by 2050.

Paris Agreement:

The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at COP 21 in Paris, on 12 December 2015 and entered into force on 4 November 2016.

Its goal is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels.

To achieve this long-term temperature goal, countries aim to reach global peaking of greenhouse gas emissions as soon as possible to achieve a climate neutral world by mid-century.

07/19/2022 Selected Grants and Funding Opportunities Update for ACAC

Title	Deadline	Eligibility	Description	Categories	Funding Amount	Contact	Notes
NFWF America the Beautiful Challenge	7/21/2022, expected annual application window.	Non-profits, local and municipal governments, and educational institutions are eligible to apply for grants in categories (3) Grants to Buffer and Benefit Public Lands and (4) Private Forests and Farmland.	In year one of the ATBC approximately $85 million will be awarded in nationwide funding to advance the America the Beautiful Initiative and its goals to connect and restore the lands, waters, and wildlife upon which we all depend. In the first year, ATBC will seek to fund projects across the following themes: 1. Conserving and restoring rivers, coasts, wetlands and watersheds 2. Conserving and restoring forests, grasslands and other important ecosystems that serve as carbon sinks 3. Connecting and reconnecting wildlife corridors, large landscapes, watersheds and seascapes 4. Improving ecosystem and community resilience to flooding, drought and other climate-related threats 5. Expanding access to the outdoors, particularly in underserved communities	Conservation, ecosystem restoration, carbon capture, public and private lands, climate resiliency, outdoor access for underserved communities	$85M total for 2022; grants of $250K to $1.5M will be awarded for Grants to Buffer and Benefit Public Lands and grants of $200K to $500K will be awarded for Private Forests, Rangeland, and Farmland Grants	Rachel M. Dawson (she/her) Program Director | National Programs National Fish and Wildlife Foundation 202-595-2643 direct Rachel.Dawson@nfwf.org Syd Godbey (she/her) Program Manager | National Programs National Fish and Wildlife Foundation 202-595-2612 direct Sydney.Godbey@nfwf.org	Category (3) Grants to Buffer and Benefit Public Lands applies to Nationa Forests lands and lands adjacent to DoD facilities, installations, and rangelands- could be a good fit for Fairbanks. Category (4) Private Forests, Rangeland, and Farmland Grants, can be used for public outreach and engagement with private landowners to advance voluntary conservation and stewardship initiative on working lands.
USDA Community Facilities Direct Loan & Grant Program	12/31/2022, rolling deadline.	Public bodies and non-profit community-based corporations serving rural areas including cities, villages, townships, and towns including Federally recognized Tribal lands with no more than 20,000 residents according to the latest U.S. Census Data are eligible for this program. Small communities population <5,500 are prioritized, as well as low-income communities with MHI < 80% of state non-metropolitan MHI	This program provides affordable funding to develop essential community facilities in rural areas. An essential community facility is defined as a facility that provides an essential service to the local community for the orderly development of the community in a primarily rural area, and does not include private, commercial or business undertakings. Examples of community facilities include: - Health care facilities such as hospitals, medical clinics, dental clinics, nursing homes or assisted living facilities - Public facilities such as town halls, courthouses, airport hangars or street improvements - Community support services such as child care centers, community centers, fairgrounds or transitional housing - Public safety services such as fire departments, police stations, prisons, police vehicles, fire trucks, public works vehicles or equipment - Educational services such as museums, libraries or private schools - Utility services such as telemedicine or distance learning equipment - Local food systems such as community gardens, food pantries, community kitchens, food banks, food hubs or greenhouses	community facilities, public facilities, infrastructure, rural communities, small communities	Low interest loans, grants, or a combination of the two of varying amounts.	Julia Hnilicka, State Director 800 E. Palmer Wasilla Hwy Suite 201 Palmer, AK 99645-6539 Voice: (907) 761-7705 Fax: (907) 761-7783	FNSB and City of Fairbanks would not be eligible due to population >20K. City of North Pole would be eligible, and possibly other smaller communities within the borough could be eligible. Non-profits serving smaller communities within the borough may be eligible.

*****Inclusion on this list does not guarantee or indicate eligibility. Eligibility will depend on the entity or partners that apply.**

Grant summaries sourced from: https://tribalclimateguide.uoregon.edu/funding

- **General/Administration**
  - Conduct an updated GHG inventory for the FNSB
  - Become a member of ICLEI Local Governments for Sustainability to access technical assistance, grant opportunities, resources, and training for climate mitigation and adaptation
  - Develop and adopt a science-based GHG reduction target that aligns with the Paris Agreement in order for the FNSB to be eligible for the broadest range of grant opportunities related to climate action to support implementation of the CAAP
  - Develop and implement a borough-wide master plan project delivery process to break down silos, promote greater cross-department collaboration, improve operational efficiency and lower administrative costs
  - Require a fiscal impact analysis and climate change report card for all new developments within the FNSB and projects that appear in the Capital Improvement Program (CIP) to assist with public understanding of impacts and benefits and project scoring and prioritization in the CIP

- **Buildings & Energy**
  - Support the work of GVEA's Railbelt Reliability Council and advocate for renewable and cleaner energy generation options for Interior Alaska
  - FNSB could advocate for incentives for climate adaptation and mitigation and continue to support and expand energy efficiency programs
  - Develop and adopt into FNSB code basic standards for building construction and energy efficiency
  - Incentivize energy efficiency improvements and LEED certification for residential, commercial, and industrial buildings
  - Support the weatherization program for residential, commercial, and industrial buildings
  - Continue to support the woodstove change out program
  - Transition parks and recreation tools and small vehicle fleet to electric and solar-powered equipment
  - Develop and implement a process to facilitate and incentivize the installation of solar panels at FNSB facilities
  - Optimize the effectiveness of the natural gas system before expanding to prioritize decarbonization
  - Explore carbon capture and storage solutions for larger FNSB facilities using natural gas
  - Support and incentivize the transition of all streetlights to energy-saving dark-sky LEDs
  - Establish and implement a Commercial Property Assessed Clean Energy (CPACE) Program for the FNSB

- Require ADA compliance for all new construction commercial facilities within the FNSB

- **Food, Agriculture, Health & Emergency Services**
  - Work and coordinate with the FNSB Sustainability Commission to support food security goals
  - Consider the impacts of climate change on community well-being when prioritizing and allocating funds to non-profit organizations serving the health and social services needs of the borough community
  - Enforce and strengthen provisions in FNSB Code 21.16 Fireworks to minimize wildfire risk in periods of medium to high fire danger, including prohibiting all fireworks use as appropriate
  - Reevaluate and improve emergency services, communication, and management processes to better adapt and respond to climate change impacts and greater frequency of extreme weather events
  - Update FNSB Title 17 subdivision standards to ensure alternate and emergency services access to neighborhoods in the case of fire and other emergencies

- **Education & Workforce Development**
  - Develop and implement age-appropriate climate change curriculum for FNSB school district students at all levels
  - Provide educational materials and programs for children, youth, and adults related to climate change
  - Focus on expanding and supporting climate-friendly industries, green workforce and jobs such as solar and renewable energy development, small to medium scale agriculture, eco-tourism, and recreation

- **Transit & Multi-modal Transportation**
  - Transition the FNSB vehicle fleet and public transit buses to electric vehicles
  - Encourage or require contracted school bus transportation providers to move away from diesel powered buses and toward cleaner vehicles such as natural gas-powered, hybrid or electric bus fleet
  - Provide and maintain electric vehicle charging stations at borough facilities, schools, and parks
  - Plan for and build capacity to maintain and repair electric vehicles within the FNSB and interior Alaska
  - Use planning powers to ensure the transportation system adequately addresses the needs of vulnerable people
  - Promote clustered development that will support public transportation
  - Update FNSB road construction standards to support walkability and active transportation modes

- Update and improve road design standards to improve resiliency to extreme weather and permafrost melt
- Develop and implement a plan to improve coordination between the City of Fairbanks, City of North Pole, DOT&PF and the FNSB to ensure that all sidewalks, transit stops, and non-motorized transportation facilities are accessible to users of all abilities year-round, including in winter.

- **Planning, Platting, Land Use & Land Management**
  - Create a policy to prioritize residential land disposals within a certain buffer/proximity to the urbanized core area and limit the number of remote land disposals for residential uses or uses that would require significant road construction/lead to residential use in the future
  - Consider updates to FNSB Title 17 Subdivision Code and land disposal policies to limit sprawl, promote walkability, avoid development in areas that can't be protected from wildfires, and improve community resilience to climate impacts
  - Integrate language pertaining to climate change mitigation and adaptation into the Road and Trail Plan Policies to limit sprawl and improve road construction and maintenance outcomes in the face of the changing climate
  - Integrate climate-friendly policies into borough land management activities such as selling and dedicating land for agricultural purposes and carbon sequestration projects through FNSB land sales
  - Develop and implement a process to determine what constitutes ideal land for agricultural purposes within the borough, and prioritize and/or incentivize these lands for local food production
  - Dedicate borough resources to prioritize enforcing floodplain permits and code provisions
  - Improve Title 17 Road construction standards to address climate change effects
  - Improve Title 17 Road construction standards to require walking and/or bike paths along all new major collector roads
  - During Comprehensive Plan update, create and implement a policy to locate residential land uses within a certain buffer/proximity to the urbanized core area to limit sprawl and minimize vehicle miles travelled (VMT)
  - Use and develop planning tools such as PUDs, overlay zoning districts, and cluster development to limit residential sprawl
  - Revise Title 17 Road construction and design standards to allow for greater use of recycled and reclaimed materials in road construction
  - Update the borough's storm water management policies (including design storm requirements) to promote resiliency against climate change impacts including larger and more frequent precipitation events
  - Prioritize the integration and implementation of climate-friendly policies, practices, and recommendations into all other FNSB community plans, studies, strategies, and

standards including the Comprehensive Plan, Comprehensive Economic Development Strategy (CEDS), Road Plan, Trails Plan, Air Quality Comprehensive Plan, and Landscape Standards.

- Promote land management practices on borough lands that mitigate wildfire risk - such as strategic development of fuel breaks, fuel reduction, and prescribed fires. Additionally, establish pre-determined easements for fire breaks, conduct vegetation thinning that can also facilitate other uses, and develop a process to sell down and dead wood at affordable prices to community members to reduce wildfire fuel
- Explore the use of FNSB parklands for climate mitigation and adaptation projects such as planting trees for carbon sequestration, installing bioswales and rain gardens for flood control, and/or partnering with local organizations to establish community gardens to support local food security; Explore partnerships with local organizations and/or the university to establish and maintain these projects.

- **Procurement, Waste Management & Recycling**
  - Upgrade and improve FNSB recycling program and facilities
  - Upgrade landfill to collect and utilize waste methane as fuel
  - Develop and implement a process that allows the borough to obtain pro bono and in-kind good and services such as grant writing and/or donation of solar panels for use at FNSB facilities
  - Support and incentivize energy-saving improvements that could be implemented at the wastewater treatment plant

YOU'RE INVITED!

Fairbanks North Star Borough Climate Action & Adaptation Plan

Risks, Opportunities & Strategies Development
Public Summit Event
Saturday, August 13th, 10:30am-3:00pm
FNSB Assembly Chambers,
907 Terminal St, Fairbanks, AK 99701

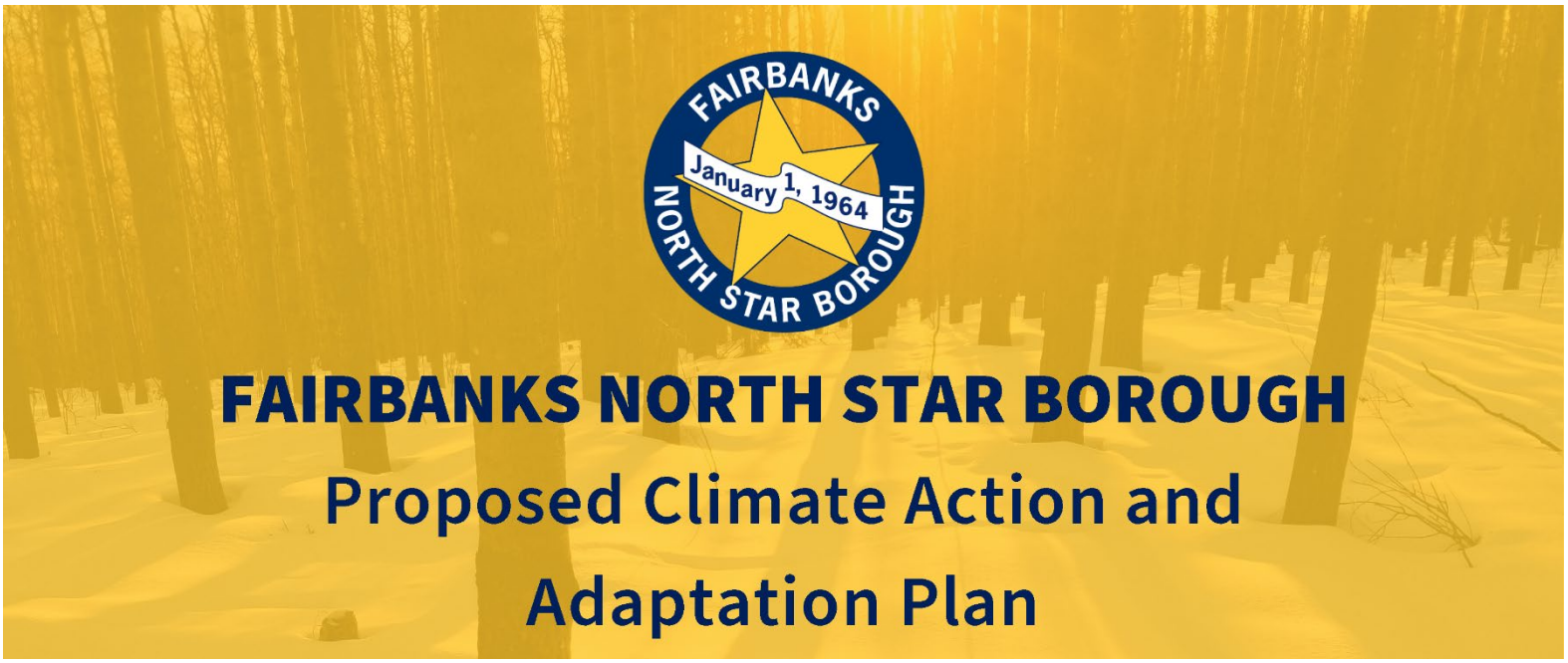
Six break-out listening and discussion sessions:

Buildings & Energy
Food, Agriculture & Health
Education & Workforce Development
Transit & Mobility
Planning, Platting, Land Use & Management
Procurement, Waste Management & Recycling

Refreshments will be provided.

The CAAP is about preparing for and mitigating climate change to protect the health, safety, and well-being of borough residents.

Please visit **www.fnsb.gov/ClimateAction**
for updates and more opportunitites to get involved.



FAIRBANKS NORTH STAR BOROUGH
Proposed Climate Action and Adaptation Plan

Saturday, August 13, 2022

Risks, Opportunities & Strategies Development
Public Summit Event

Agenda:

10:30am-11:00am: Welcome & Opening Remarks – *Assembly Chambers*

11:00am-12:00pm: Breakout Listening & Discussion Sessions – Round 1

- *Buildings & Energy – Assembly Chambers*
- *Food, Agriculture, Health & Emergency Services – Chizmar Room*

12:00pm-12:15pm: Break

12:15pm-1:15pm: Breakout Listening & Discussion Sessions – Round 2

- *Education & Workforce Development – Assembly Chambers*
- *Transit & Mobility – Chizmar Room*

1:15pm-1:30pm: Break

1:30pm-2:30pm: Breakout Listening & Discussion Sessions – Round 3

- *Planning, Platting, Land Use & Land Management – Assembly Chambers*
- *Procurement, Waste Management & Recycling – Chizmar Room*

2:30pm-3:00pm: Closing Remarks – *Assembly Chambers*

Coffee and refreshments will be provided in the Assembly Chambers Lobby throughout the event.

The FNSB Climate Action & Adaptation Plan is about preparing for and mitigating climate change to protect the *health, safety, and well-being* of borough residents. The plan will focus on borough operations, including FNSB facilities, policies, and practices, but will hopefully act as a catalyst to spur and support additional grassroots community-wide action on climate change.

From:	Gina Gregg
To:	Mindy O"Neall; Lisa Baraff; Terry Chapin; Princess Johnson; Stefan Milkowski; Melissa Sikes; Bryce Ward
Cc:	Patrick (Pat) Cotter; Debra.Shewfelt@respec.com; NatalieLyon@pdceng.com; jigarron@alaska.edu; Elise Blocker; Brittany Smart; Alexander (Alex) London; Jill Dolan
Subject:	FW: Energy Goals Letter to the Mayor from 1/12/22 Sustainability Commission Meeting
Date:	Tuesday, February 22, 2022 2:46:31 PM
Attachments:	image001.png SC - Energy Goals Letter to Mayor.pdf

This information is being forwarded to the Assembly Climate Action Committee and RESPEC at the request of the Chair, Ms. O'Neall.

Please do not use "Reply All" if responding to this email.

Thank you,

Gina Gregg | Research Assistant
Fairbanks North Star Borough | Clerk's Office
907 Terminal Street | P.O. Box 71267 Fairbanks, AK 99707
907.459.1406 | virginia.gregg@fnsb.gov

SERVE ★ LEAD ★ THRIVE
FAIRBANKS NORTH STAR BOROUGH

From: Jimmy Fox <Jimmy.Fox@bc.fnsb.gov>
Sent: Saturday, February 19, 2022 12:47 PM
To: Mindy O'Neall <Mindy.ONeall@fnsb.gov>
Subject: Fw: Energy Goals Letter to the Mayor from 1/12/22 Sustainability Commission Meeting

Mindy,

If the mayor did not have time to forward the SC's recent letter to him, your climate change committee may wish to see it, attached.

Thank you!

Jimmy Fox
Sustainability Commissioner

The Fairbanks North Star Borough Sustainability Commission was established to "provide leadership to ensure a secure and sustainable community development that maximizes public health, safety, self-reliance and welfare within the powers of the borough; and to lead a public process to identify sustainability goals for the borough

and select metrics for monitoring progress toward meeting those goals. The commission is tasked with making recommendations to the mayor and assembly regarding how to support or improve those efforts and annually report to the mayor and assembly at the end of January on the progress made for the previous year."

From: Alexis Fackeldey <alexis.fackeldey@fnsb.gov>
Sent: Friday, January 21, 2022 11:23 AM
To: Alexis Fackeldey
Subject: Energy Goals Letter to the Mayor from 1/12/22 Sustainability Commission Meeting

Good morning,

Chair Parks has requested I send the signed and finalized version of the letter on Energy Goals to the Mayor on to the commission. Please let me know if you need anything else.

Alexis Fackeldey
Administrative Assistant III
Fairbanks North Star Borough
907 Terminal Street
Fairbanks, AK 99701
P: (907) 459-1277

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FAIRBANKS NORTH STAR BOROUGH

Fairbanks North Star Borough

DEPARTMENT OF THE ASSEMBLY
Division of Boards and Commissions

clerks@fnsb.gov
Main: (907) 459-1401
Fax: (907) 459-1224

January 13, 2022

Mayor Bryce Ward
907 Terminal Street
Fairbanks, AK 99701

Dear Mayor,

The Sustainability Commission worked with the community in 2018 to develop food security, energy security, and waste reduction goals. Achieving our sustainability goals is more important than ever. Thanks to your efforts the Borough is taking steps that will reduce waste and save money. We have several questions for you that are on the minds of Borough citizens.

EVs have become a top priority for many mayors throughout the country. Electric vehicle adoption is increasing rapidly in the Borough yet charging station availability is extremely limited with only one public fast charger. A full charge can take up to one hour. Residents could conveniently charge while visiting their Borough park, pool or school. **What is your plan to investigate installation/provision of electric vehicle charging stations (free or fee) for the public at Borough public facilities?**

There is a sound business and ethical case to replace Borough internal-combustion engine (ICE) equipment and vehicles with electric equipment and vehicles. We can save money, improve air quality, and provide a superior public transit experience. **What is your plan to replace ICE equipment and vehicles in the Borough inventory?**

We applaud your recent Borough energy cost savings projects and to recognize the value of construction standards. **We're curious why implementation of ASHRAE Standard 90.1 into new Borough building design and renovations is optional and not mandatory? Who decides whether the standard will be followed?**

There is a sound business and ethical case to integrate solar panels and heat pumps into Borough facilities. **What is your plan to adopt clean energy strategies for Borough facilities?**

The Alaska Commercial Property Assessment Clean Energy (C-PACE) program was authorized in 2020 for local governments to: "finance installation or modification of permanent improvements that are intended to reduce energy consumption or demand,

energy costs, or emissions affecting local air quality, including a product, device, or interacting group of products or devices that use energy technology to generate electricity, provide thermal energy, or regulate temperature." The Municipality of Anchorage has implemented a C-PACE program. **What is your plan to implement and fund a Borough C-PACE Program?**

Earlier this year, the Greater Houston Partnership released a report (HOUSTON | Leading the Transition to a Low-Carbon World) that indicates if local decision-makers take action to lead the energy transition, the region could gain up to 560,000 jobs. If it doesn't, it could lose up to 370,000 jobs by 2050. A similar study for Calgary and Edmonton estimates the global energy transition could create an additional 170,000 jobs in clean tech and contribute more than $60 billion to the province's economy by 2050. However, sticking to a business-as-usual approach only generates 20,000 new jobs and $4 billion in economic activity. Alaska and the Borough likely face a similar fate and should be in collaboration and taking action. **What are you and other elected officials in Alaska doing to prepare? Will you take steps in support of an energy transition conference for the Borough or Alaska? If not, please explain.**

We look forward to hearing from you regarding energy improvement in the Borough.

Sincerely,

Brett Parks
Brett Parks (Jan 14, 2022 08:46 AKST)

Brett Parks, Chair
Sustainability Commission

From:	Gina Gregg
To:	Mindy O"Neall; Lisa Baraff; Terry Chapin; Princess Johnson; Stefan Milkowski; Melissa Sikes; Bryce Ward
Cc:	Patrick (Pat) Cotter; Natalie Lyon; Debra.Shewfelt@respec.com; jigarron@alaska.edu; Elise Blocker; Alexander (Alex) London; Brittany Smart; Jill Dolan; Annmarie Billingsley
Subject:	FW: Climate Plan Process Recommendations
Date:	Tuesday, March 15, 2022 4:14:31 PM

Forwarding to the Climate Action Committee and REPEC at the request of committee member, Ms. Baraff.
Clerk's Office

From: Lisa Baraff <lisa@northern.org>
Sent: Tuesday, March 15, 2022 3:36 PM
To: Gina Gregg <Virginia.Gregg@fnsb.gov>
Subject: Fwd: Climate Plan Process Recommendations

Good afternoon,

Could you please share these comments with the Climate Action Committee and RESPEC?

Thank you.

Lisa

---------- Forwarded message ---------
From: **Tristan Glowa** <tristan@fbxclimateaction.org>
Date: Mon, Mar 14, 2022 at 8:45 PM
Subject: Climate Plan Process Recommendations
To: Lisa Baraff <lisa@northern.org>, Terry Chapin <fschapiniii@alaska.edu>, Princess Lucaj <princesslucaj@gmail.com>, Mindy O'Neall <monak81@gmail.com>
Cc: Alyssa Quintyne <alyssa@akcenter.org>, Morgan Urquia <morgan.urquia@gmail.com>

Hello climate committee members,

Thanks for your work moving the climate plan process forward! Alyssa, Morgan, & I put some more thought into the public participation plan since we know you're discussing it at tomorrow's committee meeting, and though I know it's fairly late I wanted to forward some extra thoughts that hopefully can be taken into consideration.

We are grateful for the robust outline of different community groups that RESPEC and the Committee have identified for engagement. We put our heads together and identified several more that we suggest that would be worth including in the outreach process:

- Touch base with school district departments beyond just the School Board & Superintendent: transportation (school buses and shuttles), nutritional,

arts/languages/music/sports, special ed, janitorial departments. The same approach might be appropriate for other Borough services as well.
- Connect with housing & transport groups and departments: Fairbanks Neighborhood Housing, Interior Regional Housing Authority, FAST Planning
- Labor unions should be more proactively involved in the process: Fairbanks CLC overall, but also specifically the IBEW, APEA, ASEA, FEA, LiUNA!, & Carpenters
- Reach out to more Interior Black-led organizations: for instance, the SouthSide Community Market, Northern Social-Environmental Research, and other Black Businesses (alaskablackbusinessdirectory.com/directory)
- Include other more general community organizations: Fairbanks Downtown Association, North Star Community Foundation, Fairbanks Arts Association
- Include other direct service provider orgs who might have a stake: Bread Line, Access Alaska, Fairbanks Resource Agency, Fairbanks Senior Center
- Reaching out to the Asian Markets and UAF International Studies department could be good connectors into the Korean, Japanese, and Desi communities here in the Interior

We also had some questions and suggestions around potential changes / additions to meeting strategy that we hope are considered in terms of the approach:

- Consider the drawbacks of the traditional plan development process – a genuinely representative cross section of community members may be not interested in or able to participate in a planning session held on a weekday evening in a government building for instance. How can the process account for this more fully and have space for more equitable approaches and genuine relationship building mixed in?
- Hold intentional listening sessions with important stakeholders rather than just relying on their attendance at planning meetings – for instance, consider holding a listening session with representatives from school district departments, or affected labor unions
- How can the committee ensure that participation in the plan feels like a reciprocal benefit – for instance, so that participation does not just "inform" but make community members feel confident that their needs are reflected and acted upon? What other forms of compensation or benefit can community members see for their participation?

Thank you for your work and consideration!

Tristan

--

Tristan Glowa (he/him)
Organizing Director, Fairbanks Climate Action Coalition

www.fairbanksclimateaction.org

P.O. Box 83467 Fairbanks, AK 99708

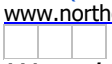
Donate - Thank You!

We recognize that we work throughout the unceded territories of the Indigenous Peoples of Alaska; that our office is located on the traditional territories of the Lower Tanana Dene Athabaskan Peoples. We acknowledge the ancestral & present land stewardship and place-based knowledge of the Peoples of these territories.

--

Lisa Baraff
(she/her/hers)
Program Director and
Climate Change & Energy Program Manager

Northern Alaska Environmental Center
830 College Road
Fairbanks Alaska 99701-1535
Main (907) 452-5021
Direct (907) 452-5095
www.northern.org



We acknowledge that we work throughout the unceded territories of the Indigenous Peoples of Alaska; that our office is located on the traditional territories of the Lower Tanana Dené Athabascan Peoples. We honor the ancestral and ongoing land and water stewardship and place-based knowledge of the peoples of these territories.

From: Helen Howard
To: Gina Gregg
Subject: North Star Borough Climate Action Committee
Date: Monday, April 18, 2022 5:36:54 PM

I am a member of the Interfaith Working Group of the Fairbanks Climate Action Coalition. You will have received a letter from us signed by Charlotte Basham, co-facilitator, Interfaith Working Group, and I wish to send my signature concurring with the letter that suggests holding a public meeting, and offering any assistance I can give.
Sincerely
Helen Howard
3015 Riverview Drive, Fairbanks 99709

From: Ritchie Musick
To: Gina Gregg
Subject: Agree to letter
Date: Monday, April 18, 2022 12:45:42 PM
Attachments: letter to Borough Climate Committee.docx

I agree to the attached letter
Ritchie Musick
Call to Action Alaska

Sent from my iPhone

From: Charley Basham
To: Gina Gregg
Subject: Message for the Borough Climate Action Committee
Date: Monday, April 18, 2022 8:46:30 AM
Attachments: letter to Borough Climate Committee.docx

Gina,
Terry Chapin suggested that I send this letter directly to you so that it can be presented to the Committee when it meets this week. There are at least 12 co-signers who will send their signatures separately. Thank you.
Charlotte Basham

April 15, 2022

To the Members of the North Star Borough Climate Action Committee:

I am writing on behalf of the Interfaith Working Group of the Fairbanks Climate Action Coalition representing 12 faith communities in Fairbanks who are deeply concerned about the effects of climate change on Fairbanks and the surrounding communities. While our religious traditions differ in many respects, we come together in the belief that humans are entrusted with the care of creation, As the Rt. Rev. Mark Lattime, Bishop of the Episcopal Diocese of Alaska said,"I am grateful that religious leaders all over the globe, of every denomination, have identified the growing environmental crisis as a primary concern for people of faith. Increasing numbers of Church communities are challenging their members to make the healing of the environment a ministry priority through prayer, but more importantly through action."

There are compelling religious, scientific, and Alaska Native cultural reasons for Alaskans to stand in solidarity and take action NOW on regulation of carbon air pollution:

Religious
Our holy texts make it clear that care for God's creation is a moral and spiritual imperative. We take seriously our responsibility to ensure that our children, as well as the most vulnerable among us, have a future. Taking meaningful action on climate change is essential.

Scientific
There is overwhelming scientific evidence of human-caused environmental degradation. The scientific community is increasingly alarmed about irreversible damage that human actions are causing to the environment. Reducing carbon air pollution is important if we are to limit the rate of climate change. Alaska is warming twice as fast as the earth as a whole. This is permanently changing habitats on the land and in the sea, threatening earth's capacity to meet society's needs.

Alaska Native
Human beings are out of harmony with Mother Earth, creating havoc and destruction that threatens the viability of all living things including all existing and future generations.

We encourage you to establish a process for hearing from community members who represent each of these perspectives. We suggest holding a public hearing at JP Jones Community Center and advertising it widely. Given the fact that COVID is still with us, we also suggest making the hearing available by Zoom as well as in person.

The Interfaith Working Group of the Fairbanks Climate Action Coalition is prepared to help you in reaching out to faith communities (90+) in the greater Fairbanks area. We believe that congregations working together to care for the earth can be a powerful force for creating a more just and sustainable environment.

Sincerely,

Charlotte Basham, co-facilitator, Interfaith Working Group and clerk of Chena Ridge Friends Meeting (Quakers)

From: noreply@civicplus.com
To: Mindy O"Neall; Lisa Baraff; Terry Chapin; Princess Johnson; Stefan Milkowski; Melissa Sikes; Bryce Ward; Natalie.Lyon@respec.com; Gina Gregg; Patrick.Cotter@respec.com
Subject: Online Form Submittal: Contact the Assembly Climate Action Committee
Date: Wednesday, May 4, 2022 8:41:25 PM

Contact the Assembly Climate Action Committee

Note: Written communications with public officials generally are considered a public record and subject to disclosure (viewing and/or copying of the communication) pursuant to a public records request.

Subject	borough's public opinion survey about climate change
Your First Name	Laurie
Your Last Name	Walton
Your Email Address	lauriejwalton@gmail.com
Comments	I'm greatly concerned about the effects of climate change here in Fairbanks. I would like the borough to encourage energy efficiency in Municipal and private business buildings. Encourage businesses and homeowners to install renewable energy with a property tax cut. Reduce our reliance on coal generated electricity Help encourage local food production to make us more resilient and reduce the carbon footprint of our food Improve bike trails to encourage the use of bikes rather than cars. Require new buildings to meet energy standards and include solar or other renewable energy sources installed. work with UAF to create innovative ways to reduce our carbon consumption generate renewable energy. You need to act like our lives and future depend on addressing this problem, because they do. We must have a livable planet for future generations.

Thank you for your comments!

From: noreply@civicplus.com
To: Mindy O"Neall; Lisa Baraff; Terry Chapin; Princess Johnson; Stefan Milkowski; Melissa Sikes; Bryce Ward; Natalie.Lyon@respec.com; Gina Gregg; Patrick.Cotter@respec.com
Subject: Online Form Submittal: Contact the Assembly Climate Action Committee
Date: Thursday, May 5, 2022 10:22:48 AM

Contact the Assembly Climate Action Committee

Note: Written communications with public officials generally are considered a public record and subject to disclosure (viewing and/or copying of the communication) pursuant to a public records request.

Subject	Climate Solutions
Your First Name	Christin
Your Last Name	Swearingen
Your Email Address	mushroomchristin@gmail.com
Comments	Hi! I am most concerned about climate change and the devastating effects of species extinction. One concrete thing I think the Borough can do is encourage conservation easements on private property by waiving property taxes on conservation easements entirely, and waiving property taxes for land held fee simple by the Interior Alaska Land Trust. No other land trust in the state pays property taxes, and they are a huge burden on IALT, which is a small grassroots 501(c)(3) responsible for protecting 2,800 acres of land in and around Fairbanks. Without the burden of property taxes, IALT will have more leverage to help private landowners create conservation easements.

Thank you for your comments!

From: noreply@civicplus.com
To: Mindy O"Neall; Lisa Baraff; Terry Chapin; Princess Johnson; Stefan Milkowski; Melissa Sikes; Bryce Ward; Natalie.Lyon@respec.com; Gina Gregg; Patrick.Cotter@respec.com
Subject: Online Form Submittal: Contact the Assembly Climate Action Committee
Date: Thursday, May 5, 2022 11:18:52 AM

Contact the Assembly Climate Action Committee

Note: Written communications with public officials generally are considered a public record and subject to disclosure (viewing and/or copying of the communication) pursuant to a public records request.

Subject	Borough Climate Action
Your First Name	Helen
Your Last Name	Howard
Your Email Address	hmh@acsalaska.net
Comments	I'm concerned that the climate is warming, causing unintended loss of life and lifestyle. The Borough can do a small part for worldwide amelioration. The following suggestions have been made and I heartily concur that at least some of these actions should be made: Improving energy efficiency of borough buildings Supporting tax assistance to low-income residents who want to improve energy efficiency of their homes Supporting public transportation between poor neighborhoods to key public venues, grocery stores and business centers Low- income housing near access to food shopping Regulations that improve air quality Conservation of wetlands to support berry picking, recreation, and carbon storage Support food security; by supporting agricultural efforts and the activities of many local faith communities as they continue to feed and clothe vulnerable people in the Fairbanks community (for example, food pantries, community gardens, senor food boxes, etc.).

Thank you for your comments!

From: noreply@civicplus.com
To: Mindy O"Neall; Lisa Baraff; Terry Chapin; Princess Johnson; Stefan Milkowski; Melissa Sikes; Bryce Ward; Natalie.Lyon@respec.com; Gina Gregg; Patrick.Cotter@respec.com
Subject: Online Form Submittal: Contact the Assembly Climate Action Committee
Date: Thursday, May 5, 2022 12:44:16 PM

Contact the Assembly Climate Action Committee

Note: Written communications with public officials generally are considered a public record and subject to disclosure (viewing and/or copying of the communication) pursuant to a public records request.

Subject	Climate action
Your First Name	Kristi
Your Last Name	Downing
Your Email Address	1170downing@gmail.com
Comments	Actions that the FNSB can take to reduce its impact on climate change might include: Improving the energy efficiency of borough buildings Supporting tax assistance to low-income residents who want to improve energy efficiency of their homes Supporting public transportation between poor neighborhoods to key public venues, grocery stores, and business centers Low-income housing near access to food shopping Regulations that improve air quality Conservation of wetlands to support berry picking, recreation, and carbon storage Support food security; by supporting agricultural efforts and the activities of many local faith communities as they continue to feed and clothe vulnerable people in the Fairbanks community (for example, food pantries, community gardens, senior food boxes, etc.).

Thank you for your comments!

From: noreply@civicplus.com
To: Mindy O"Neall; Lisa Baraff; Terry Chapin; Princess Johnson; Stefan Milkowski; Melissa Sikes; Bryce Ward; Natalie.Lyon@respec.com; Gina Gregg; Patrick.Cotter@respec.com
Subject: Online Form Submittal: Contact the Assembly Climate Action Committee
Date: Monday, May 30, 2022 6:12:49 PM

Contact the Assembly Climate Action Committee

Note: Written communications with public officials generally are considered a public record and subject to disclosure (viewing and/or copying of the communication) pursuant to a public records request.

Subject	response to May 14th public meeting at JP Jones Center
Your First Name	Martha
Your Last Name	Raynolds
Your Email Address	martharaynolds@gmail.com
Comments	Please find below a letter I wrote to RESPEC regarding their work so far: Dear RESPEC, I attended the first public meeting for the Fairbanks Climate Action Plan on May 14th at the JP Jones Center. I was very disappointed by the presentation. The first thing that the plan needs is a vision for the future – an inspiring vision as to where Fairbanks could be in 10, 20 and 30 years. The Anchorage Climate Action Plan is based on the goal of reducing greenhouse gas emissions by 80% from 2008 to 2050. We need a similar overarching goal for the Fairbanks Climate Action Plan. AFTER that, we need a realistic road map for how to get there. The first thing that RESPEC should be asking people is where would you like to see Fairbanks in 30 years? What would be your ideal vision of that future with respect to climate –both in the emissions that Fairbanks contributes to global warming and the way that Fairbanks responds to climate change. The survey that you have out there is all about the details, not the vision. There is no need to narrow the scope of the project to only steps that are within the powers of a second-class Borough!! What we need is to inspire people. To show them ways that Fairbanks can be innovative in meeting ambitious goals. We do not need another list of small steps that the Borough Assembly and Administration can take. The presentation I saw was remarkably uninspiring.

Please take this opportunity to think outside the box, paint the big picture and get Fairbanks residents envisioning a positive future for our community, and then base the plan on this vision. After the visioning is the time to describe steps that can take us in that direction. Many steps that are outside the powers of a second-class Borough can be encouraged through Assembly resolutions and cooperation with other levels of government and the public.

The 2019 Anchorage Climate Action Plan has two main action recommendations that were immediately implemented related to 1) an inventory and annual update of greenhouse gases, and 2) tracking local effects of climate change and adaptation measures. This, along with the 80% reduction goal, is a great start to the plan, and gives people confidence that the plan has a realistic approach to meeting its goals. The rest of the plan has lots of details about sectors of the Municipality's economy.
I'm sure the plan you develop for Fairbanks will have all this nitty-gritty data that are necessary for a solid plan. But if you don't get the first part right, with the inspiration vision, no one will bother to read the details.

I hope your firm is flexible enough to take this input and run with it. We won't get another chance for this kind of document, so we're relying on you to make this most of this opportunity, for the best possible future for our community.

Sincerely,
Martha Raynolds

Thank you for your comments!

From:	Gary Newman
To:	Mindy O"Neall; Lisa Baraff; Terry Chapin; Princess Johnson; Stefan Milkowski; Melissa Sikes; Bryce Ward
Subject:	FNSB CAAP correction
Date:	Monday, July 11, 2022 10:25:50 AM
Attachments:	HCR56-history.pdf

Hello Assembly Climate Action Committee,

Reading through the CAAP final draft, I offer a factual correction on Page 33.

The reference to HCR 56 not passing is totally incorrect as well as the impetus behind it.

1. It did pass.

2. Rep. Niilo Koponen was the sponsor, not Gov. Cowper. The initial impetus was Gov. Tom Kean (R) of New Jersey's actions on climate change. I had proposed creating a Blue Ribbon Commission for Alaska. Leg Legal/Leg Affairs instead developed what became HCR 56 and was sponsored by Rep. Niilo Koponen of Fairbanks.

There never was a final administration response, but a draft circulated that Alaska, as a fossil resource state, should include coal as an export commodity.

Attached is a paper outlining the history of HCR 56 that I prepared as background for a subsequent effort to get our governments' (plural) attention and action to the issue of global climate change. Probably more than you needed to know to fix the page 33 error, but it might make a useful appendix.

I do appreciate that the 2010 draft assessment report many of us worked on for the FNSB was reviewed and slated to be included in the final CAAP draft. I do also appreciate your committee's efforts on this important subject.

Hard to believe we have been working on this issue for more than 30 years.

Best,

Gary

--
Gary Newman
gary@chena.org
907-488-2001

Historical Briefing Paper

House Concurrent Resolution 56

16th Alaska Legislature

Relating to Global Climate Change

March 30, 2006

Prepared by Gary Newman

1083 Esro Road
Fairbanks, AK 99712
gary@chena.org
907-488-2001

Introduction

In 1989, while Director of Energy and Housing for Tanana Chiefs Conference, I developed a proposal to establish a Governor's Blue Ribbon Commission on Global Climate Change. The intent was to develop policies that could reduce our state's contribution toward global climate change.

The model used was that of the Commission on the Future of the Permanent Fund. It followed action by Thomas Kean, then republican Governor of the State of New Jersey, who acted via executive order. Folks may recognize his name, as he was co-chair of the 9-11 Commission more recently.

The commission proposal was panned, as folks felt that "yet another commission" was considered by the public to be a waste of money. As a result, a less ambitious alternative was developed as embodied in House Concurrent Resolution 56 in the 16th Alaska Legislature and sponsored by Rep. Niilo Koponen of Fairbanks. It subsequently passed the House and the Office of the Governor took some action as far as a draft report.

In the current 24th Legislature, we are now offered House Concurrent Resolution 30, which seeks to develop policies to mitigate the impacts of climate change.

As societal and governmental entities, despite many informed testimony and evidence, we have obviously failed to take effective action, so are now having to pay the consequences and will cost much more than had we implemented policies when we were informed of the potential of our behavior. Still, some action toward mitigation of our contribution toward climate change can hopefully be helpful toward mitigating the effects of future accelerated climate change.

I present the history of HCR 56 to assist in the deliberation over passage of House Concurrent Resolution 30.

Table of Contents

Governor's Blue Ribbon Commission On The Role Of The State Of Alaska In Combatting Global Warming

I. FINDINGS:

Global warming, also known as the greenhouse effect, is modifying the climate of the earth, through the generation of carbon dioxide and other trace gases (methane, troposperic ozone, clorofluocarbons, and nitrous oxide).

These gases are, in large part, the result of human activities, including the widespread use of fossil fuels, population growth, deforestation, agricultural practices, and use of clorofluorocarbons.

Current scientific understanding predicts that continued alteration of the global atmosphere ll cause widespread temperature extremes and sea level rise which will, in turn, have serious implications for the Earth's ecosystems, agricultural production, water supply, human health, wetlands, and climate.

Shifts in the climate will cause catastrophic disruption of economic, political, social, and ecological systems on earth of all nations.

Further scientific evidence suggests that such changes will be felt sooner and more extremely in the arctic, which includes Alaska.

It is incumbent upon policy-makers to understand the links between our actions in the past and now and the likely resultant damage to our planet. It is further incumbent upon policy-makers to take measures to reduce those actions which are causing global warming.

The State of Alaska needs to develop policies to assist in reducing the increase of greenhouse gases in the atmosphere.

II. PURPOSE:

The Governor's Blue Ribbon Commission On The Role Of The State Of Alaska In Combatting Global Warming will develop a base of information on global warming.

Upon that base of information and with public input to be solicited statewide, the Commission will draft suggested options and policies to be presented to the Governor as to ways in which the State of Alaska can reduce the state's contribution to greenhouse gases in the atmosphere.

Furthermore, the Commssion will assess national and international programs involved in global change and recommend optimal ways for the state to actively participate in those programs.

III. ORGANIZATIONAL GUIDELINES:

The Commission will be composed of 11 members with geographical representation, selected by the Governor, and be concerned, involved and/or knowledgeable about the various elements of global warming, such as scientific, energy conservation, utility, agricultural, environmental and economic. Two members will be appointed from state government and two members from the legislature (one from the House and one from the Senate). The Chair will be selected from other than those serving in State Government or the Legislature.

The Office of the Governor will provide sufficient staff for the Commission and meetings will be held as frequently as necessary to accomplish the tasks of the Commission. No compensation, other than that for travel and per diem expenses, will be made to Commission members.

Within six months after convening, the Commission shall present a draft report for public review. Public input will be solicited statewide. A final draft, incorporating public testimony as appropriate, will be then be prepared and presented to the Governor within two months after completion of the public hearings on the draft.

The final report will suggest specific policies and make specific suggestions as to how best the State of Alaska can reduce the increase in greenhouse gases. Short and long term economic analyses of the policies and options will be a part of the report.

GLOBAL WARMING IMPACTS UPON ALASKA

Certain human activities on earth are creating an imbalance on our planet known as "*Global Warming*" or the "*Greenhouse Effect*". This is a phenomenon where we are adding certain gases into the atmosphere and actually warming the earth and creating an imbalance in the earth's biological systems.

While the scientific community does not fully understand all of the details, from what we know now, **it is imperative that we take action now**, since **if we wait** until the predicted dire consequences occur, **it will be too late.** This is a complex and global issue that calls for action at all levels of society. It is said that it takes a lot of drops to fill a bucket. We must all do what we can.

The Governor's Blue Ribbon Commission is intended to start the process for Alaska to do its part in reducing our contribution to global warming. With our cold climate, we contribute more carbon dioxide per capita. In addition, the temperature increase in the arctic will be greater and felt sooner than in temperate climates. More precipitation is also anticipated.

Manmade contributions to global warming come from the following sources:

° 1. Carbon dioxide	Fossil fuel burning, deforestation	49%
° 2. Methane	Agriculture, fertilizers	18%
° 3. Chlorofluorocarbons	Foam insulations, refrigerants, aerosols	14%
° 4. Nitrous oxides	Combustion bi-products, manufacturing	6%
° 5. Other greenhouse gases	Combustion, manufacturing	13%

Impacts from rapid (3-9 degrees in 50 years) increase in temperature

- Raising of water levels through melting of polar ice
- Melting of permafrost
- High fluctuations in weather patterns
- Loss of plant and animal habitats due to inability to adapt to rapid change.

Impacts on communities

- River and sea level increase leading to increased flooding and loss of coastal land and low lands adjacent to rivers.
- Foundations of structures, roads, airports, water and sewer and other improvements threatened.
- Loss of subsistence livelihood through loss of habitat.

Examples of what can be done now to reduce the impact

- Apply least cost planning to new capital projects.
- Increased energy efficiency of heated structures including heating systems and appliances.
- Increased efficiency of diesel electrical generation. Co- generation of fuels, waste heat recovery, fuel substitutions, alternative and renewable fuel source development.
- Promoting methods of increasing efficiency in all modes of transportation.
- Sustainable yield harvesting of timber. Increased tree planting where feasible (trees absorb carbon dioxide).
- Re-cycling of waste products, such as aluminum cans, bottles, newspaper, etc.
- Working with congressional members toward national recognition and action on the problem.
- Education of our children on the problems and solutions (they will pay for our inaction).

Immediate benefits of doing something now

- Reducing impact of global warming.
- Increased health safety and comfort in operating heated structures and electrical appliances.
- Decreased cost in operating heated structures and electrical appliances.
- Reduced cost and increased life in operation of moving vehicles.
- More affordable housing.
- Productive local jobs.
- Increased standard of living, less time and money spent on energy.
- Assured source of wood (in forested areas).
- Increased capacity of landfills.
- Sustained ecosystem for fish and game.

TANANA CHIEFS CONFERENCE, INC.
Executive Board of Directors
Resolution No. 89-18

A RESOLUTION IN SUPPORT OF ESTABLISHING
A STATE COMMISSION ON GLOBAL WARMING

WHEREAS, there is evidence that activities of man are rapidly increasing the amount of greenhouse gases in the upper atmosphere, through burning of fossil fuels, use of CFC's, etc., and;

WHEREAS, the evidence is that increase of these gases will lead to rapid warming of our climate, and;

WHEREAS, rapid warming of our climate will lead to major environmental damage to ecosystems and improvements upon the land, and;

WHEREAS, we in Alaska, have ample opportunities to reduce our use of fossil fuels and better our standards of living through increased efficiency and available energy conservation technology, and;

WHEREAS, investigating what we can do now will reduce the future high cost of mitigating the likely damages that will result, and;

WHEREAS, the State of Alaska should take a lead role in this issue for the protection of the health, safety and welfare of its citizens,

THEREFORE, BE IT RESOLVED, that the Tanana Chiefs Conference request the State of Alaska to establish a commission to investigate what can and should be done to address the issue of global warming.

C E R T I F I C A T I O N

I hereby certify that this resolution was duly passed by the Tanana Chiefs Conference, Inc. Executive Board of Directors on December 14, 1989 at Nenana, Alaska and a quorum was duly established.

Daisy Northway by M.D.
Daisy Northway
Secretary/Treasurer

Fairbanks North Star Borough

25th Silver Anniversary

FAIRBANKS NORTH STAR BOROUGH PLANNING COMMISSION

RESOLUTION

IN SUPPORT OF ACTIONS TO MITIGATE THE EFFECT OF GLOBAL WARMING

WHEREAS, mankind's activities are contributing to major environmental change on our planet, and;

WHEREAS, this environmental change is likely to have major impact upon our planet and incalculable costs associated with the rapid change, and;

WHEREAS, the cost of implementing solutions now will be far less costly than in waiting to see irrefutable evidence to everyone's satisfaction before taking action.

WHEREAS, action must be taken by all countries, governments, and people to effectively mitigate the damage;

THEREFORE, BE IT RESOLVED, that the Fairbanks North Star Borough Planning Commission supports local, state, and federal action in support of ways to reduce our contributions to global warming and to mitigate its effects.

Charles J. Goff Jr.

Charles Goff, Chairman
Fairbanks North Star Borough Planning Commission

COOPERATIVE EXTENSION SERVICE
UNIVERSITY OF ALASKA, USDA & SEA GRANT COOPERATING

University of Alaska Fairbanks, Fairbanks, Alaska 99775-5200

November 28, 1989

Governor Steve Cowper
P.O. Box A
Juneau, Ak 99811-0101

Dear Governor Cowper:

I am writing to support the idea of forming a Blue Ribbon Commission on the role of the State of Alaska in combating Global Warming. Mr. Gary Newman has passed his original outline of the idea along to me for comment and support. I fully support it.

I share Mr. Newman's concern and urgency about address the issue of Global Warming. In September of this year the Arctic Science Conference in Fairbanks covered extensively the issue of Global Warming as it is now understood and it's relevance to the arctic regions. It is very clear and evidence strongly suggests that the Arctic will be among the first areas to be affected. The agents of change will be the greatest in rapidity of occurrence and also in magnitude in the arctic regions. Since it is incumbent upon policy-makers to understand this pressing issue, and to anticipate it's changes, it is incumbent upon us to take measures to reduce these actions and address them in a Blue Ribbon Commission such as Mr. Newman is suggesting.

As further evidence of my interest in this matter, I have originated a New Program Plan within the Cooperative Extension Service at the University of Alaska called "Global Warming and the Greenhouse Effect" in which I plan undertake some of the following educational initiatives. First, through assembling the knowledge base from the research and scholarly activities at the University of Alaska, a transfer of that knowledge in an understandable form to the public can be accomplished for stimulating individual action and building awareness. Since the Cooperative Extension Service is philosophically poised to take this knowledge and research from the University and

distribute it to the public in a useful form, a unique opportunity exists to do this. It is very clear from initial discussions of the Effect that change will likely be accelerated at high latitudes. So, the need to take action will be much greater. Extension faculty, especially myself, will participate in the delivery of programs to schools for educational purposes, the development of new policies, and provide educational leadership when it is requested by these clientele groups as well as to state and national policy makers.

I urge you to consider at your earliest convenience the establishment of the Blue Ribbon Commission. I also would very much consider making this a part of my work as a interested professional in Alaska. I am presently in the middle of an application for the Kellogg National Fellowship to expand my role in extension work to the area of Global Warming and how I might educate people to deal with this threat. I perceive Global Warming to be <u>the</u> single most critical emerging issue of the 90's. Alaska would do well to put it's people on notice early and credibly respond to concerns with such a Blue Ribbon Commission.

Thank you for the time and hearing me out on this issue.

Sincerely,

Richard Seifert

Richard D. Seifert
Associate Professor
CES

amn

cc: Gary Newman
Mike Musick
Harvey Bowers
Irv Skelton
Niilo Koponen

STATE OF ALASKA

THE LEGISLATURE

1990

Source

CSHCR 56(Res) am

Legislative Resolve No.

111

Relating to global climate change.

BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF ALASKA:

WHEREAS there is evidence that the activities of humans are rapidly increasing the amount of greenhouse gases in the upper atmosphere through the burning of fossil fuels and are destroying the ozone layer through the use of CFC's and other chemicals; and

WHEREAS the evidence is that the increase of these gases and the destruction of the ozone layer will lead to warming of our climate; and

WHEREAS rapid warming of our climate will lead to major environmental damage to ecosystems and improvements upon the land; and

WHEREAS the people of Alaska have ample opportunities to reduce their use of fossil fuels and ozone-destroying chemicals and to better their standard of living through increased efficiency and available energy conservation technology; and

WHEREAS investigating what can be done now will reduce the future high cost of mitigating the likely damages that will result; and

WHEREAS the State of Alaska should take a lead role in this issue for the protection of the health, safety, and welfare of its citizens; and

WHEREAS the National Governors Association and the National Conference of State Legislatures are investigating potential actions that states may take to reduce global warming and are preparing recommendations for a national policy with regard to global climate change; and

WHEREAS the governor of the State of New Jersey has issued an executive order charging state entities in New Jersey to pursue policies and conduct activities so as to reduce the threat of global climate change;

BE IT RESOLVED by the Alaska State Legislature that the governor is respectfully requested to investigate possible state policies and procedures that can be implemented, if necessary, to determine how the state can most effectively help to combat global climate change.

Alaska State Legislature
Representative Niilo Koponen

Pouch V
Juneau, Alaska 99811
(907) 465-4992

House District 21

119 N. Cushman, Suite 207
Fairbanks, Alaska 99701
(907) 456-8172

October 11, 1990

Governor Steve Cowper
PO Box A
Juneau, AK 99811

Dear Governor Cowper:

With the world once again facing a crisis over energy and the cry for more oil intensifying, it seems prudent to remind ourselves of the consequences of unrestrained burning of fossil fuels. While public attention may be temporarily distracted by the possibility of war, the threat of global climate change has not diminished. Indeed, both calamities issue in part from a single failure: our inability to control our appetite for fossil fuels.

HCR 56 of last session requested that you identify policies and practices which could most effectively combat global climate change. Now seems a prudent time for a progress report. With a new adminstration only weeks away, such a report could help push responsible energy use higher on the agenda. I think many Alaskans would view such an outcome as an admirable legacy.

Sincerely,

Representative Niilo Koponen
NK/DO

STEVE COWPER
GOVERNOR

STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

October 29, 1990

Mr. Gary C. Newman
1083 Esro Road
Fairbanks, Alaska 99712

Dear Gary,

Many thanks for your inquiry regarding the State policy in response to climate change. A member of my staff, Dr. Henry Cole, has been working with the Science and Engineering Advisory Commission to prepare a draft plan for an Alaskan response to global climate change. It identifies six sectors of Alaskan concern, and a series of contact persons have been assigned in various State agencies to assist in the initial scoping phase of the project.

I will instruct Henry, who has been working most closely on this project, to send you the draft proposal. I encourage you to work with Henry and the Commission to provide your viewpoint and information.

I personally hope that this effort is sustained into the next Administration and encourage your involvement as well as the Tanana Chiefs Conference.

Many thanks for your interest.

Most sincerely,

Steve Cowper

DRAFT

AN ALASKAN STRATEGY IN RESPONSE TO GLOBAL CLIMATE CHANGE

I. INTRODUCTION

The Governor has taken a national lead, within the National Governors' Association and internationally at the Northern Regions Conference, to endorse the protection of the environment. Increasingly, a major element of world environmental concern has focused upon the probability and impact of global climate change. Alaska State House Concurrent Resolution #56 requests the Governor's Office to investigate possible State policies to respond to the impacts of warming. Other inquiries and statements of concern from Alaskan citizens have also been received by the Governor's Office.

The State's dependence on oil and recent events in the Middle East make it important to address these issues and relate them to a more effective and efficient State energy policy. This paper is a proposal to explore options, cost benefits and actions for an Alaskan global climate change response upon which a clear policy should be based.

Our basic context for creating an Alaskan response lies in the principles expressed in the Brundtland Report, *Our Common Future*, prepared by the World Commission on the Environment and Development. In the preface it is stated that we must devise strategies in all countries that "lead to the achievement of common and mutually supportive objectives that take account of the interrelationships between people, resources, environment and development." Each community on earth must contribute to the solution of these global problems with solutions adapted to its unique circumstances.

DRAFT

Basic Scientific Questions

The "greenhouse effect" is a warming of the atmosphere due to the trapping, by carbon dioxide and other gases, of long wave energy emitted by the earth. This effect makes earth habitable. The possibility of *increased* temperature, however, due to an increase in greenhouse gases is under considerable scrutiny by the world scientific community to determine both whether or how rapidly the effect may occur and what the precise mechanisms are. The ability to predict climate change due to an enhancement of the greenhouse effect, caused mostly by the burning of fossil fuels, requires answers to the following questions:

- What will be the global energy demand through the next century?
- How will this demand be met by fossil and non-fossil energy sources and what may be the changes in concentration of greenhouse gases?
- What are the interactive biological, chemical and geophysical mechanisms for production and loss of greenhouse gases?
- What is the magnitude of impact of the greenhouse effect on the earth, oceans or climate for given levels of CO_2 and other greenhouse gases?

It is not our purpose to consider the details of the supporting research or degree of credibility of the scientific debate at this time. There exist considerable uncertainties as to the extent, future trend and role of many important physical mechanisms affecting global climate change. What is intended to emerge from this exercise is an exploration of the sensitivity to climate change of the Alaskan environment, economy and social structure; an examination of the cost and benefit for various actions; and the development of a coherent Alaskan policy for a response to climate change.

Many of the effects of programs to be proposed in this debate may possess significant economic and environmental benefit over the long term *regardless* of whether any climatic change ever occurs. Likewise, we also note that this exercise may lead to an improved State energy and environmental policy.

DRAFT

II. ALASKAN ISSUES

Six major issues are related to the possibility of global climate change in Alaska. These are presented below as a framework for discussion, along with a list of action items, which, if undertaken, will further define and clarify possible policy options. The action items recommended are not complete but suggestive; the intent is not to design the complete scheme but merely indicate the direction in which we should start. The final specific Alaskan policy can be fully developed only after a careful study and knowledge of the options is achieved.

1. The long term production and marketing of Alaskan fossil fuels. International market behavior for oil or sanctions on fossil fuel may be influenced by the evidence for and perceived risk of greenhouse warming due to increased CO_2 emissions. Sanctions upon chemical emissions into the atmosphere are not new. The 1972 discovery of an ozone destroying mechanism linked to freon (CFCs) resulted in 1985 in the Montreal Protocol at which 24 nations set limits on CFC production. The recently passed Federal Clean Air Act is another example of increased national emission controls. We must understand and anticipate economic impacts from international crises or potential federal policies such as emissions or fossil fuels tax and be prepared to rank/order our potential actions. Since Alaska is a fossil fuel producing state, we must formulate strategies to maximize and optimize State income in the long term. Other fossil fuels, such as natural gas and coal, should be similarly assessed for their role as export fuels.

Action items:

- Evaluate worldwide scenarios for population growth and energy demand and how it relates to greenhouse gas release.

- Follow the research on the relationship between CO_2 release and atmospheric composition and warming.

- Monitor the international political climate to anticipate impacts, sanctions and policies which could influence fossil fuel consumption and production.

- Evaluate scenarios for growth of alternative and/or non-fossil fuels capability, including increased replacement of current fuels with methane, coal or other fuels.

Agencies: OMB, DNR, UA, Industry.

2. Long term economical mix of energy production for in-state use. As North Slope oil production declines, becomes expensive, or is otherwise modified by outside forces, we must be prepared to diversify energy production for in-state use to keep our long term energy supply cost economical and stable in the face of outside shocks. Diversification strategies would possibly encourage the use of coal or natural gas or non-fossil energy sources such as hydro-electric or geothermal. At the same time, technologies must be developed for more efficient power production and less carbon dioxide or greenhouse gas emission. This could mean encouraging development of regional energy production, which could also offset power subsidies in rural areas. Alaska, with its wide diversity of fuels, has more potential flexibility in its energy strategy than states with no fuels.

Action items:

- Assess the magnitude, status and potential of the fossil and non-fossil energy production in-state by region and end use.

- Determine the scenarios for growth or decline of various energy sources by region and possible economic, social or environmental impact.

- Determine the immediate potential for non-fossil and alternative energy development.

Agencies: UA, DNR, DCRA, DCED, Industry, AEA, APUC, citizen groups.

3. The efficiency and effectiveness of energy end use services (on the demand side). Forty percent of electrical energy in the U.S. is used in buildings. Energy efficiency improvements forced by the 1973 oil embargo have resulted in savings of energy equivalent to 13 million barrels of oil per day or $150 billion each year. In view of these national economies, and that of several State programs in the early 1980s that focused on increasing thermal efficiencies, we propose a review of the potential benefit or cost of demand side strategies related to energy efficiency. These programs can create benefit and savings in energy use in public and private buildings, transportation and manufacturing, and end use demand efficiency through new technologies and retrofit.

Action items:

- Catalog the allocation of energy use in Alaska by population, function, political group, region or other required categories within the State.

- Evaluate the potential benefit, costs, and associated effects (such as those to health or air quality) which could occur through improvements in demand side energy use and efficiency, technology, design and retrofit in cold climates. These can be applied to the areas of residential or State-owned buildings, construction, transportation or manufacturing.

- Formulate the administrative or management structure through which State agencies and utilities, AEA, local governments and native corporations could coordinate to achieve improvements in effective and beneficial energy end use.

- Determine contributions which citizen groups, schools, industry and small businesses may make in identifying and taking action on additional items of concern and potential improvement in energy utilization.

Agencies: DCRA, AEA, APUC, DOT, Industry, Native Corporations, citizens groups.

4. The impact of climate change on Alaska. The specific impacts of climate modifications in Alaska, whether related to snow melt, precipitation, temperature or other parameters, are unclear. Since 60% of Alaska's land

area contains discontinuous permafrost, much construction, many airfields and roads will be damaged if melting occurs in permafrost which is close to the freezing point. Under these conditions, pipeline construction, TAPS and surface operations on the North Slope, as well as drilling and well completion, may require costly new technology. Changes in basic climatic variables would also have an impact on the hydrology, biology and wildlife in Alaska: glacier melt and sea level, ocean water temperature and salinity changes affecting ocean ecology, and displacement of ecosystems. Equally importantly, social effects will occur: impact upon rural communities, changes in subsistence usage, agricultural land use, or hydro-electric generation capacity, to name a few.

Action items:

- Monitor, on a continuous basis and throughout the State, the basic changes in climatological parameters, including, for example, changes in temperature, hydrology, snow and sea-ice cover.
- Monitor shifts in mass balance of glaciers supplying water for hydro-electric generation.
- Monitor the changes on permafrost extent and soil stability to estimate how this may affect engineering and construction practices in Alaska.
- Prepare for possible changes needed in drilling practices, well construction and waste disposal on the North Slope.
- Determine the changes in atmospheric weather patterns and oceanic temperature and circulation which would affect fish and wildlife habitat, the health of wildlife, fisheries and commercial use.
- Work cooperatively with native corporations and rural communities to formulate and carry out programs for the assessment of impacts on social and subsistence needs caused by climate variability.

Agencies: UA, ADFG, DNR, DEC, Native Corporations, Industry, Federal

5. Alaska as a high latitude site for climate change monitoring, analysis, modeling and prediction. Many general circulation models used in

greenhouse studies indicate that the high latitudes will register climate changes earlier and to a greater degree than lower latitudes. Furthermore, certain feedback phenomena may be easily studied in Alaska, such as methane emissions from tundra, the release of methane gas hydrates from the North Slope and the role of arctic cloud cover. Alaska is equipped by location and existing scientific talent to make a significant scientific contribution in the monitoring, analysis and modeling of global change effects and causes.

Action items:

- Monitor the effects and concentration of greenhouse gases; model the causes and effects of global climate change, including the atmospheric chemical reactions; and develop predictive capability.
- Identify interaction feedback loops between the atmosphere, landforms and vegetation, such as tundra, snow and ice cover and albedo and other atmospheric, earth and oceanic exchanges.
- Establish baseline studies for flora and fauna, agricultural potential and forestry. Cooperate in programs using Long Term Ecological Research (LTER) and International Biosphere Geosphere Program (IBGP) sites.

Agencies: UA, Federal

6. Alaska as a participant with other Arctic and non-Arctic countries engaged in scientific research and the development of effective long term public policy. The International Arctic Science Committee (IASC), the recent Finnish Initiative on the Environment and the U.N. Environmental Program are important global scientific efforts in which Alaska may play a significant role. Requisite geophysical knowledge must be acquired globally and response of nations must be multilateral and by consensus. The State needs to build more extensive links with other Arctic countries through conferences, information exchange and political forums. The planned Northern Forum, the follow-on of the Governor's Northern Regions Conference of September, 1990, would provide an important regionally-sensitive contact point.

Action items:

- Coordinate State efforts in response, modeling and research with various agencies involved in complementary Arctic efforts in global climate change. These include the IASC and the Finnish Initiative. In addition, coordinate with Federal agencies working in these areas, such as NOAA, NSF, DOE, and groups such as the Arctic Research Consortium of the United States and the United States Arctic Research Commission.

Agencies: UA, Federal

III. POLICY DEVELOPMENT

The State will ultimately have to articulate a policy to respond to the impacts of global climate change. The objective of this current proposal is to initiate an analysis of action alternatives and impact sensitivities in the six topic areas listed. These alternatives are, of course, highly dependent on rapidly changing outside influences, such as the price of oil, public awareness, sanctions, or new technologies. Nevertheless, by defining the questions, establishing a basic data base for energy and related issues, raising the level of governmental and public awareness, and determining the range of possibilities for action, this work will be of use in the development of public policy goals.

Below are a few possible policy directions for consideration:

- Maintain an optimum fossil fuel export strategy for the State and protect against shocks in the oil market.
- Enable Alaska to satisfy in-state energy needs and efficient use in the best possible fashion.
- Reduce Alaska's contribution to the production of any greenhouse gases.
- Prepare an appropriate scientific monitoring and research program for the State.

- Establish Alaska as a leader in arctic science and technology and in the field of climate change research and social impact.

The Commission will be initiating this policy development in early 1991 by meeting with representatives of appropriate agencies and groups to begin the task of creating the specific implementation plans.

Memorandum

To: Henry Cole

From: Gary Newman

Date: November 15, 1990

Re: Governor's Draft Response to HCR 56

I have reviewed the draft response and have the following comments/concerns.

The first concern I have is over diversification of fuel to include coal. Coal produces at least twice as much CO_2 as any other form of fossil fuel. If we are to reduce greenhouse gas emissions, coal is the least preferred form of fossil fuel to encourage. This is mentioned on pages 3 and 4. You likely recognize this, but it isn't explicitly stated. Considering the number of folks who will read your report, with different backgrounds and less thorough understanding of the issues, somewhere in the report should include the impact of what we must do to reduce greenhouse gas contributions. Mentioning coal as a possible option muddies the waters considerably.

The second concern is the contrast between the State of Alaska looking to maximize state income from export of fossil fuel . I think the question is more properly put to maximizing income with a quantification of the risks to the biosphere from such exportation. Perhaps this is what you mean by "the long term" (page 3). If this is so, it needs to be stated explicitly, for example: "... we must formulate strategies to incorporate the climatic/environmental impact of fossil fuel development and exportation on the biosphere (including Alaska) into our consideration for insuring adequate state financial return for our products." The externalities need to be factored in to the equation.

I would also suggest you add "Local Governments" as an agency where appropriate.

Lastly, I have submitted to you the Executive Order issued by Thomas Kean, former Republican Governor of New Jersey, on his policy directive on reducing his state's contributions to global climate change. As I think this would make a good next step for our state, you might want to include it in the appendix. I don't know what else you intend to include with the report, but I could likely offer you additional relevant background information, if you weren't on such a short time line with the report.

In general, the draft report details where we might go toward developing specific policies, but I think it falls short of addressing HCR 56, which states: "...the Governor is respectfully requested to investigate possible state policies and procedures that can be implemented..." Perhaps I'm expecting too much from the process. If so, please excuse my impatience for action.

I do appreciate and thank you for your efforts on this and hope that the efforts won't stop with the next Administration. Certainly the need to address the issues won't go away.

June 6, 1989

The President
The White House
Washington, DC 20500

Dear Mr. President:

Events in Alaska since the March 24 oil spill from the tanker EXXON VALDEZ have focused national and international attention on our State--attention which covers a spectrum of environmental concerns.

You announced during your campaign your intention to hold an international conference on the environment, and most recently indicated your plans to sponsor this fall an international workshop on global climate change. I can think of no other location in the United States better suited to either of these gatherings than Alaska.

The interest in the environmental effects of a major spill, the key role Alaska plays in the nation's energy supply, and the fact that Alaska is America's only arctic region are elements we believe can be used to focus general environmental concern over the spill and to direct this attention toward issues such as monitoring global climate change in high latitude regions and arctic waters.

Should you consider convening the workshop or the conference in Alaska, I would be pleased to have my staff and key members of the University of Alaska assist you.

Sincerely,

S/S Steve Cowper

Steve Cowper
Governor

bcc: Rebecha Miller
Henry Cole
Luis Proenza
Don Collinsworth
Denny Kelso
Lennie Gorsuch
Denby Lloyd
John W. Katz
Mary Ellen Tiffany
Regional Offices

SC/DSL/JB/lh
president/DEN11

NGA STAFF DRAFT
REPORT ON GLOBAL CLIMATE CHANGE:
SUMMARY OF FINDINGS

The atmosphere acts like a greenhouse around the earth. Certain gases, most of which naturally occur in the atmosphere in minute quantities, trap the sun's heat and warm the planet. Without this natural occurance, the planet would be some 60 degrees Fahrenheit colder than it is now, the seas would be permanently frozen, and life as we know it could not exist. We literally owe the habitability of our planet to the phenomenom commonly called the greenhouse effect.

In recent years, proof that human activities are changing the composition of the atmosphere have caused increasing concern. The world energy system, industrial and land use practices, agriculture, and population growth are adding certain greenhouse gases to the atmosphere faster than they can be removed by natural processes. As concentrations of greenhouse gases increase, the heat-trapping properties of the atmosphere also increase, like a a more efficient blanket around the globe. Almost all scientists believe that this increase in greenhouse gases results in a theoretical increase in average global temperature. However, there is debate about the extent and timing of actual impacts. The EPA and others have predicted that a doubling of atmospheric carbon dioxide (CO_2) or its equivalent in some combination of greenhouse gases — expected by the middle of the next century — could raise the earth's average temperature by 3 to 9 degrees Fahrenheit.

Although the implications of such a temperature increase are not well understood, they could include an increase in the frequency and severity of climate extremes such as droughts and storms; changes in rainfall patterns; rising sea level with consequent shore line and beach erosion, flooding of estuaries, and loss of wetlands; desertification; and migration of agricultural and forest zones, among others. This issue represents one of the most serious threat to the global environment.

At the same time, global climate change may be the most complex environmental and economic problem man has ever faced, for several reasons. First, there are substantial scientific uncertainties regarding the rate, magnitude, and regional effects of future climate change, and these uncertainties are likely to persist for some time. These scientific uncertainties and the difficulty in accurately predicting climate change are compounded by the existing natural variability of meteorological and biological systems. Second, the social and economic costs of the measures which may be required to reduce the threat are not yet well understood, and comprehensive assessment of the available options has only recently begun. And finally, climate change is an issue which can only be effectively addressed with the cooperation of all nations. Unilateral measures by the United States are likely to be quickly overtaken by events elsewhere if other nations do not cooperate in a coordinated response, and could reduce American bargaining power in future international negotiations.

To address this issue, NGA Chairman Governor Terry Branstad created the Task Force on Global Climate Change. The task force was charged with developing recommendations for the nation for the decade of the 1990s, and illuminating the role that states can play in addressing the problem of global climate change. To accomplish this mission, the task force met with senior scientists and policymakers from several nations, and engaged in constructive dialogue with business and environmental leaders, whose support is crucial in any response to this problem.

After careful deliberation, the Task Force makes the following findings:

First, atmospheric concentrations of greenhouse gases are increasing due to human activities. In the last 100 years, atmospheric concentrations of CO_2 have increased by about 25 percent. Concentrations of methane have increased about 240 percent, and there have been significant increases in concentrations of other greenhouse gases, including chlorofluorocarbons (CFCs) and nitrous oxide.

Second, there is a broad scientific consensus that increasing the concentration of carbon dioxide and other greenhouse gases will increase the atmosphere's heat trapping and warm the climate to some degree. There is debate, however, about the magnitude and timing of the warming and the implications of that warming for the earth's climate system, environment, and economies.

Third, controlling emissions is central to reducing the anthropogenic greenhouse effect. For CO_2, change in energy policy is the primary strategy for stabilizing or reducing emissions. Other measures, such as slowing the loss of tropical forests, are also critical.

Fourth, states have an important role to play in addressing this problem, as the result of their authority over utilities, land use, transportation, taxation, and other important factors.

Fifth, any effective solution or response to global climate change must necessarily include the federal government. The international community must also be an active participant in any effort to solve global climate change, if such effort is to have any hope of success.

The central question facing policymakers -- and the primary issue facing the task force -- is whether we know enough about global climate change to warrant taking action now to reduce it. Although considerable uncertainties must be acknowledged, reputable scientists and government agencies in several countries have predicted that significant global climate change could be evident within the next decade or two.

The social and economic costs of the measures which may be necessary to reduce greenhouse emissions are under evaluation. We know they may be significant, and that the cost of over-reaction could be great. The next generation deserves to inherit the healthiest possible economy as well as the healthiest possible environment.

Yet, the costs of our response to the threat of global climate change must be weighed against the severity of the problem if man's activities do change the climate in the ways predicted, and the risks associated with delay in our response. Because CO_2 and other greenhouse gases remain in the atmosphere for centuries or longer, emissions are cumulative in their effect upon the climate. Though the magnitude and timing are uncertain, today's emissions are virtually certain to "commit" the planet to some degree of warming. The cost of delay could be very high compared to scenarios in which we begin now to address emissions of greenhouse gases.

Considering the evidence and the risks of both over and under-reaction, the task force finds that those steps which provide a reasonable return on investment and improve efficiency and those measures which provide other social and economic benefits — no regrets measures even if new scientific evidence were to reduce the urgency of addressing global climate change — should be taken now.

In view of these findings, the task force embraces several goals for America and the states in response to global climate concerns. These include:

- Supporting an aggressive program of research to reduce key uncertainties regarding global climate change and the necessity and economic consequences of various response options. The nation's goals should be continually reassessed in light of this research;
- Eliminating the production and release of CFCs as expeditiously as possible;
- Implementing cost effective energy conservation and efficiency measures with the goal of stabilizing national emissions of CO_2 at 1990 levels by the year 2000;
- Implementing cost-effective strategies for stabilizing or reducing other greenhouse gases to the maximum extent;
- Supporting an aggressive program to research and develop energy efficiency technologies, renewable energy sources, technologies for the cleaner use of fossil fuels, and advanced nuclear technologies;
- Planting trees, especially in urban areas, and engaging in other measures to offset or reduce CO_2 emissions; and
- Adjusting policies and conducting planning and research to facilitate adaptation to climate change, with particular attention to sea level rise, water policy, and agricultural practices.

These goals must be combined with an international strategy to stabilize the global release of anthropogenic greenhouse gases. In particular, it is important that U.S. reductions in CO_2 emissions not simply lead to a shift in emissions to the north or south of our borders.

The Task Force urges the development of an environmental ethic which promotes man's stewardship of the earth. This embraces a commitment to pass on to future generations a planet as rich, diverse, and productive as that which we inherited. To sustain this environmental ethic, the Governors support the development of environmental education programs and other efforts to give us all greater insight into the ways in which we knowingly or unknowingly manipulate the complex environmental system in which we live.

Kean initiative on greenhouse to limit CFCs

TRENTON (AP) — Gov. Thomas H. Kean ordered state government yesterday to take steps against the pollution that causes global warming and to begin preparations for the predicted changes in sea level and climate.

Kean's executive order calls on the New Jersey bureaucracy to do its part to release fewer chlorofluorocarbons, or CFCs, into the atmosphere. The chemicals are blamed as a major factor in the breakdown of the earth's protective ozone layer.

Other measures include energy conservation, consideration of regulations on citizens' and industry's use of CFCs and a campaign to plant more trees, which produce oxygen.

Kean also urged a campaign to educate citizens to understand the global warming phenomenon and to begin preparations to cope with the slight rise in the sea level that is expected to accompany the higher temperatures.

The Republican governor and Brenda Davis, his chief of policy and planning, called it the broadest initiative yet launched by a state against global warming.

"Global warming and ozone depletion may lack the drama of an earthquake or flood, but they pose a far greater threat to our safety than all the storms and quakes in history," Kean said.

Scientists have been warning for years that a buildup of carbon dioxide — most of it from auto emissions — and a breakdown of the ozone layer are beginning to produce an effect similar to a greenhouse. That scenario envisions a warming of three to 10 degrees by the year 2050.

10/24/89
Home News.

EXECUTIVE ORDER NO. 219

WHEREAS, a scientific consensus exists that emissions of certain gases, including carbon dioxide, methane, nitrous oxide, chlorofluorocarbons (hereinafter "CFCs"), and halons are causing significant changes in the composition of the Earth's atmosphere; and

WHEREAS, a scientific consensus also exists that these emissions are likely to cause significant changes in the Earth's climate, including overall warming, increased drought, an increase in the intensity of hurricanes and other major storms, as well as increased incidence of harmful ultraviolet radiation; and

WHEREAS, these climatic changes are predicted to result in increases in sea levels, geographic shifts in the habitats of many plants and animals, and the extinction of potentially large numbers of species; and

WHEREAS, reductions in emissions of these gases can diminish the overall magnitude and rate of climatic change, as well as reduce the depletion of stratospheric ozone; and

WHEREAS, energy conservation can achieve significant reductions in emissions of carbon dioxide, a necessary byproduct of the combustion of fossil fuels and a major contributor to global climate change; and

WHEREAS, protection of the social, economic and environmental interests of the citizens of New Jersey requires the State to implement policies and regulatory practices that will serve the dual purpose of reducing such emissions and of facilitating adaptation to those changes that are predicted to occur; and

WHEREAS, the public's understanding of the causes of global climate change and ozone depletion and possible responses thereto is essential to ensuring that appropriate steps are taken; and

NOW, THEREFORE, I, THOMAS H. KEAN, Governor of the State of New Jersey, by virtue of the authority vested in me by the Constitution and by the Statutes of this State, do hereby ORDER and DIRECT:

1. State entities shall foster energy conservation to the maximum extent practical, in order to reduce emissions of carbon dioxide and other gases that contribute to global climate change.

a. All State entities with responsibility for constructing, purchasing, leasing, operating or maintaining capital facilities and equipment shall employ state-of-the-art equipment for efficient heating, ventilation, air conditioning and lighting, and in other major energy using applications, where such equipment or techniques will result in lower costs over the lifetime of the equipment.

b. All State entities exercising regulatory authority over actions that directly or indirectly relate to the production or consumption of energy, shall review their policies and regulatory practices to ensure that they provide maximum incentives designed to conserve energy and increase reliance upon sources of energy that contribute fewer emissions of those gases responsible for global climate change.

2. All State entities that use or purchase CFCs and halons or that use, purchase, or maintain equipment that contains CFCs or halons, shall investigate the use of all practicable and safe alternatives to those compounds and ensure that emissions and losses of those compounds, including those occurring during maintenance, are reduced to the maximum extent practicable.

3. The Department of Environmental Protection shall investigate the feasibility of regulatory controls to reduce the use and release of CFCs and halons in New Jersey and make recommendations for any necessary regulatory or legislative action.

4. All State entities with responsibility for the maintenance of State property shall promote the absorption of carbon dioxide by maximizing the planting of trees and ensuring at least one-for-one replacement (either on-site or elsewhere) for trees lost as a result of construction or other activity which requires or results in loss of trees.

5. All State entities with responsibility for policies or regulations affecting the location, construction or maintenance of public or private facilities (including residential developments) shall:

a. Ascertain the degree to which those facilities will be affected by predicted changes in sea level; and

b. Develop policies, in consultation with the general public and other governmental entities, to respond to such predicted changes in sea level.

6. All State entities with responsibility for the purchase or protection of land for the purposes of open space protection or related objectives shall, as appropriate, undertake such acquisition or protection activities in a manner that furthers the creation of corridors of linked public and private open spaces known as "greenways," which aid the adaptation of natural systems by providing corridors for migration as climatic conditions change.

7. All State entities shall review their programs designed to facilitate public awareness of environmental issues and revise such programs to ensure, to the maximum extent practicable, the effective communication of information that will enhance the public's understanding of the basic processes involved in global climate change, the causes of such change, and possible approaches to reducing and adapting to such change.

8. This Order shall take effect immediately.

Tom Kean

/s/ Thomas H. Kean
GOVERNOR