



www.akclimatechange.us

**Forestry, Agriculture, and Waste Management Technical Work Group
Summary List of Draft Priority Policy Options for Analysis**

Revised Option #	Draft Policy Option Name	Straw Proposal Volunteers
FAW-1	Forest Management Strategies for Carbon Sequestration	Ron Wolfe, Rick Rogers, Chris Maisch
FAW-2	Expanded Use of Biomass Feedstocks for Energy Production	Charles Knight, Ron Wolfe , Rick Rogers
FAW-3	Advanced Waste Reduction and Recycling	Donna Mears, Kathie Wasserman, Doug Buteyn , Charles Knight
	Expanded Use of New, Used, & Recycled Wood Products for Building Materials	<i>Designated a medium priority option by unanimous TWG consent on 10/01/2008</i>
	In-State Liquid Biofuels Production	<i>Consolidated with FAW-2 by unanimous TWG consent on 10/01/2008</i>

FAW-1 Forest Management for Carbon Sequestration

Policy Description

Alaska forests can play a unique role in both preventing and reducing GHG emissions while providing for a wide range of social and environmental benefits. These benefits include clean air and water, wildlife habitat, recreation, subsistence activities, forest products and a host of other uses and values. Carbon is stored in the above ground biomass and in the organic and mineral soil components of the soil. Permafrost soils add an additional dimension and complication to the role soils play in the boreal, sub-arctic and arctic ecosystems and the potential impacts of increased wildland fire in these regions has wide ranging implications. Additionally the state has two distinct forest ecosystems, the boreal and coastal forests and the types of forest management activities that may apply to each from a carbon management perspective may also differ.

Coastal Forest Options:

- Pre-commercial thinning of young growth stands of timber to increase volume and thus carbon sequestration rates

Boreal Forest Options:

- Fuel reduction projects that utilize both prescribed fire and mechanical treatments to reduce fuel loads which will reduce burn intensity and overall GHG emissions in a wildland fire event.
- Complete Community Wildfire Protection Plans (CWPP) to identify fuel types and community risks to aid in prioritization of fuel treatment work.
- Utilize woody material from mechanical fuels management projects in a biomass energy facility. (FAW 2 has this covered?)
- Actively salvage trees that die from insect or disease events and utilize in manufacturing or bio-energy facility. (FAW 2 ?)

Rapidly reforest sites impacted by fire or insect and disease outbreaks to ensure full stocking and a quick return to forest cover.

Policy Design

Goals:

Coastal Forest Pre-commercial thinning:

- By 2010 thin 1,500 acres across all ownerships (both public and private)
- By 2015 thin 6,000 – 7,000 acres
- By 2020 thin 5,000 acres

Boreal Forest Mechanical Fuels Treatment Projects:

- By 2010 treat 1,000 acres across all ownerships
- By 2020 treat 2,000 acres
- By 2020 treat 2,500 acres

(Note if we include fire use and prescribed fire treatments, these numbers could be increased significantly)

Community Wildfire Protection Plans:

- By 2010 complete 15 plans
- By 2015 complete 25 additional plans
- By 2020 complete 35 additional plans

Boreal Forest Reforestation after fire or insect and disease mortality:

- By 2010 reforest 5% of high site class lands
- By 2015 reforest 15% of high site class lands
- By 2010 reforest 20% of high site class lands

Timing:

Pre-commercial Thinning: Increase funding levels to ramp up program to meet goals at various increments and establish a viable carbon trading program to capture revenue stream from the CO2 sequestration perspective.

Mechanical Fuel Treatment Projects: Based on CWPP recommendations utilize village Type II fire crews and agency Type I fire crews to complete projects in their communities. Funding for these projects will be a key aspect and programs at the national level may help with this need.

Community Wildfire Protection Plans: Establish statewide coordinator by 2010, conduct training workshops for communities by 2011-2012

Reforestation: Increase seed collection efforts by 2010-2015, especially when there are good seed years, to ensure enough seed is on hand to meet goals. Funding for this item will be a critical aspect of this item.

Parties Involved: Alaska Department of Natural Resources, Division of Forestry, Alaska Native Corporations, University of Alaska, Southeast Conference, Cooperative Extension Service, Natural Resource Conservations Service, Resource Development Council, Alaska Forest Association, U.S. Forest Service, State and Private Forestry, State Board of Forestry, Soil and Water Conservation Districts.

Other: For reforestation projects some work needs to be done on the recommended species mix for conifers. Should lodge pole pine or Siberian larch be considered for a portion of the mix? White spruce 75% and lodge pole pine 25% per unit area planted. (Adaptation measure)

Implementation Mechanisms

TBD – [CCS drafts based on TWG inputs; this can be developed as they go along, and can start early or late as they prefer; the level of detail can vary on TWG approval]

Related Policies/Programs in Place

TBD – No recent policies or programs have been identified as of yet. The TWG and DEC can work with CCS to identify existing or planned programs that address issues raised in this option.

Types(s) of GHG Reductions

TBD

Estimated GHG Reductions and Net Costs or Cost Savings

TBD – [CCS should provide a worksheet and other reference material as needed for transparency]

- **Data Sources:** [TBD by CCS on TWG approval]
- **Quantification Methods:** [e.g. Full life-cycle analysis with supply/demand equilibrium adjustments on TWG approval]
- **Key Assumptions:** [TBD, as needed on TWG approval]

Key Uncertainties

TBD – [as needed and approved by the TWGs]

Additional Benefits and Costs

TBD – [as needed and approved by the TWGs]

Feasibility Issues

TBD – [as needed and approved by the TWGs]

Status of Group Approval

Pending – [until CCMAG moves to final agreement at meeting #5 or #6]

Level of Group Support

TBD – [blank until CCMAG meeting #5]

Barriers to Consensus

TBD – [blank until final vote by the CCMAG]

FAW-2 Expanded Use of Biomass Feedstocks for Energy Production

Policy Description

Increase the amount of biomass available from forestry, municipal solid waste, and agriculture for generating heat/electricity and liquid/gaseous biofuels to displace the use of fossil energy sources. Foster the development of the following where they are compliant with environmental requirements:

- wood biomass alternative fuel products or heat and electric generation from sawmill by-products;
- methods to economically utilize that portion of harvested trees not being used to make conventional forest products to make wood biomass alternative fuel products or heat and electric generation;
- methods to economically utilize biomass generated from silvicultural treatments and wildland fire fuel reduction treatments in the production of biomass alternative fuel products or heat and electric generation;
- methods to economically utilize feedstocks from municipal solid waste (e.g. urban wood waste, waste vegetable oil) and agricultural sources (e.g. manure management);
- large and small scale technologies that generate heat and electricity and the production of synthetic fuels from biomass;
- both conventional and emerging technologies (e.g. cellulosic ethanol/other liquid fuel; pyrolysis; gasification) for biomass utilization; and
- opportunities for industry, communities and individuals to use biomass alternative fuel products to substitute for fossil fuels for heat or transportation. This should be done either using 100% biomass or through co-firing with other fuels.

Policy Design

Goals:

- By 2020, utilize biomass feedstocks to produce 5% of the state's electricity.
- By 2020, utilize biomass feedstocks to offset 10% of the state's heating oil use.
- By 2020, utilize biomass feedstocks to offset 5% of the state's fossil transportation fuels.

Timing:

- By 2010, establish a demonstration pilot facility to produce biomass electricity, heat generation, synthetic fuels or biomass alternate fuel products.
- By 2015, utilize 50% of practical and available resource.
- By 2020, achieve the full policy goals.

Coverage of Parties:

Executive and Legislative Branches of State Government, Alaska Department of Natural Resources, Alaska Department of Environmental Conservation, Alaska Energy Authority, Alaska Native Corporations, University of Alaska, Southeast Conference, Alaska Industrial Development Authority, Cooperative Extension Service and Agencies, Natural Resource Conservation Service, Alaska State Chamber of Commerce, Resource Development Council,

Alaska Forest Association, Alaska Public Service Commission, Alaska Department of Revenue, Alaska electric utilities and electric cooperatives, crop producers, and timberland owners.

Other: Not Provided.

Implementation Mechanisms

TBD – [CCS drafts based on TWG inputs; this can be developed as they go along, and can start early or late as they prefer; the level of detail can vary on TWG approval]

Related Policies/Programs in Place

TBD – No recent policies or programs have been identified as of yet. The TWG and DEC can work with CCS to identify existing or planned programs that address issues raised in this option.

Types(s) of GHG Reductions

TBD

Estimated GHG Reductions and Net Costs or Cost Savings

TBD – [CCS should provide a worksheet and other reference material as needed for transparency]

- **Data Sources:** [TBD by CCS on TWG approval]
- **Quantification Methods:** [e.g. Full life-cycle analysis with supply/demand equilibrium adjustments on TWG approval]
- **Key Assumptions:** [TBD, as needed on TWG approval]

Key Uncertainties

TBD – [as needed and approved by the TWGs]

Additional Benefits and Costs

TBD – [as needed and approved by the TWGs]

Feasibility Issues

TBD – [as needed and approved by the TWGs]

Status of Group Approval

Pending – [until CCMAG moves to final agreement at meeting #5 or #6]

Level of Group Support

TBD – [blank until CCMAG meeting #5]

Barriers to Consensus

TBD – [blank until final vote by the CCMAG]

FAW-3 Advanced Waste Reduction and Recycling

Policy Description

Reduce waste generation and increase recycling and organics management and in order to limit GHG emissions upstream from material production, through transportation and on the downstream end associated with landfill methane generation. Reduction of generation at the source reduces both landfill emissions and upstream production and transportation emissions. Increase economically-sustainable recycling programs, create new recycling programs, provide incentives for the recycling of construction materials, develop markets for recycled materials, and increase average participation and recovery rates for all existing recycling programs.

Policy Design

Goals: Quantify current waste generation rates (pounds per capita per day) for rural and urban areas. Reduce waste stream, including diverted waste, 10% in 2012, 15% by 2015, and 25% by 2020.

Timing: Startup in 2010 and ramp up to higher levels in 2012 and 2015, consistent with goals

Parties Involved: Consumers, manufacturers, relevant trade associations, consumer's associations, all state and local agencies, retail outlets, non-profit organizations, shippers, waste management industry

Other: Urban areas are considered to be Anchorage, Mat-Su Valley, Fairbanks, and Juneau. Rural areas are all other communities in the state.

Implementation Mechanisms

TBD – [CCS drafts based on TWG inputs; this can be developed as they go along, and can start early or late as they prefer; the level of detail can vary on TWG approval]

Related Policies/Programs in Place

The four largest communities in Alaska are embarking on new recycling programs. In Anchorage, the Municipality has dedicated a fund for recycling and is planning to build on private efforts by expansion of drop-off sites, school district recycling and public outreach. The Municipal collection utility, which serves approximately 20% of Anchorage residences, has implemented a Pay As You Throw (PAYT) and curbside recycling program beginning in October 2008. The residential waste hauler, Alaska Waste, is offering curbside recycling service to a third of Anchorage and Eagle River residences.

The Fairbanks North Star Borough (FNSB) is soliciting proposals for optimizing the Municipal Solid Waste (MSW) stream. The FNSB is seeking a long-term partnership to implement a method for economical disposal of the community's municipal solid waste while returning

energy savings to the Borough; with a particular emphasis on waste reduction, recycling and waste to energy options.

The City and Borough of Juneau has just completed an evaluation by a consultant for a long range solid waste management strategy and analysis. Alaska's capital city is targeting the implementation of a curbside recycling program in 2009.

In the Matanuska-Susitna Valley, Valley Community for Recycling Solutions is securing funds and moving forward for the construction and operation of a Community Recycling Center. The site is located adjacent to the Matanuska-Susitna Borough's Central Landfill.

The Municipality of Anchorage refuse collection utility has implemented a Pay As You Throw (PAYT) and curbside recycling program beginning in October 2008. The PAYT system promotes waste reduction through lower rates for smaller refuse containers. The utility is discontinuing flat-rate refuse collection service.

Alaskans for Litter Prevention and Recycling (ALPAR) has an in-store plastic bag recycling, reuse and conservation toolkit available on their website www.alparalaska.com.

Types(s) of GHG Reductions

TBD

Estimated GHG Reductions and Net Costs or Cost Savings

TBD – [CCS should provide a worksheet and other reference material as needed for transparency]

- **Data Sources:** [TBD by CCS on TWG approval]
- **Quantification Methods:** [e.g. Full life-cycle analysis with supply/demand equilibrium adjustments on TWG approval]
- **Key Assumptions:** [TBD, as needed on TWG approval]

Key Uncertainties

TBD – [as needed and approved by the TWGs]

Additional Benefits and Costs

TBD – [as needed and approved by the TWGs]

Feasibility Issues

TBD – [as needed and approved by the TWGs]

Status of Group Approval

Pending – [until CCMAG moves to final agreement at meeting #5 or #6]

Level of Group Support

TBD – [blank until CCMAG meeting #5]

Barriers to Consensus

TBD – [blank until final vote by the CCMAG]