



## Catalog of State Actions

### Forestry, Agriculture, and Waste Management Technical Work Group

A catalog of state-level, GHG-reducing actions and policy options based on actions undertaken or considered by state, local, and private actors.

#### Key to Future Rankings of Options in the Following Tables

Potential GHG Emission Reductions*	Potential Cost or Cost Savings* <sup>†</sup>
<b>High (H):</b> At least 1.0 million metric tons of carbon dioxide equivalents (MMtCO <sub>2</sub> e) per year by 2020	<b>High (H):</b> \$50 per MtCO <sub>2</sub> e or above
<b>Medium (M):</b> From 0.1 to 1.0 MMtCO <sub>2</sub> e per year by 2020	<b>Medium (M):</b> \$5–\$50/tCO <sub>2</sub> e
<b>Low (L):</b> Less than 0.1 MMtCO <sub>2</sub> e per year by 2020, or 1 MMtCO <sub>2</sub> e by 2050	<b>Low (L):</b> Less than \$5/tCO <sub>2</sub> e
<b>Uncertain (U):</b> Not able to estimate at this time	<b>Negative (Neg):</b> Net cost savings
	<b>Uncertain (U):</b> Not able to estimate at this time

\* Several measures may overlap in terms of emissions reductions and/or cost impacts. Estimates assume measures would be implemented independently from other measures.

<sup>†</sup> Costs are denoted by a positive number. Cost savings (i.e., “negative costs”) are denoted by a negative number.

#### Definition of “Priorities for Analysis”:

- **High:** High priority options will be analyzed first.
- **Medium:** Medium priority options will be analyzed next, time and resources permitting.
- **Low:** Low priority options will be analyzed last, time and resources permitting.

Option No.	GHG Reduction Policy Option	Potential GHG Emissions Reduction	Cost per Ton	Other Considerations: Jobs, Fuel Imports, Externalities, Feasibility	Priority for Analysis	Notes/Related Actions in Alaska
<b>FAW-1</b>	<b>FORESTRY—PRODUCTION OF ENERGY AND MATERIALS</b>					
1.1	Expanded Use of Forest Biomass Feedstocks for Electricity, Heat and Steam Production					<ul style="list-style-type: none"> <li>• GVEA SNAP Program</li> <li>• REAP</li> </ul>
1.2	In-state Liquid Biofuels Production					
1.3	Improved Energy Capture from Wood Waste Combustion					
1.4	Improved Commercialization of Biomass Conversion Technologies					
1.5	Expanded Use of New, Used, & Recycled Wood Products for Building Materials					
<b>FAW-2</b>	<b>FORESTRY—BIOMASS PROTECTION AND MANAGEMENT</b>					
2.1	Forest Protection—Reduced Clearing And Conversion to Non-forest Cover					
2.2	Urban Forestry					
2.3	Afforestation and/or Restoration of Non-forested Lands					
2.4	Forest Management for Carbon Sequestration					

Option No.	GHG Reduction Policy Option	Potential GHG Emissions Reduction	Cost per Ton	Other Considerations: Jobs, Fuel Imports, Externalities, Feasibility	Priority for Analysis	Notes/Related Actions in Alaska
2.5	Mitigation of Forest Carbon Sequestration Loss and Emissions Due to Wildfire					
2.6	Mitigation of Forest Loss Due to Insects/Disease					
<b>FAW-3</b>	<b>FORESTRY—WOOD PRODUCTS AND WASTE</b>					
3.1	Improved Mill Waste Recovery					
3.2	Improved Logging Residue Recovery					
3.3	Silviculture Improvements					
<b>FAW-4</b>	<b>AGRICULTURE—PRODUCTION OF ENERGY AND MATERIALS</b>					
4.1	Expanded Utilization of Biomass Feedstocks for Electricity, Heat, or Steam Production					<ul style="list-style-type: none"> <li>• GVEA SNAP Program</li> <li>• REAP</li> </ul>
4.2	In-state Liquid Biofuels Production					
4.3	Manure Digesters/Other Waste Energy Utilization					
4.4	Improving Energy Capture from Biomass Heat					
4.5	Expand Production/Use of Bio-based Materials and Chemicals					

Option No.	GHG Reduction Policy Option	Potential GHG Emissions Reduction	Cost per Ton	Other Considerations: Jobs, Fuel Imports, Externalities, Feasibility	Priority for Analysis	Notes/Related Actions in Alaska
4.6	Improved Commercialization of Biomass Conversion Technologies					
<b>FAW-5</b>	<b>AGRICULTURE—LIVESTOCK</b>					
5.1	Manure Management & Utilization					
5.2	Changes in Animal Feed					
5.3	Technology Improvements to Increase Water Conservation					
<b>FAW-6</b>	<b>AGRICULTURE—CROP PRODUCTION</b>					
6.1	Soil Carbon Management					
6.2	Nutrient Management					
6.3	Technology Improvements to Increase Efficiency					
6.4	Water Management					
6.5	Drainage Management					
<b>FAW-7</b>	<b>AGRICULTURE—LAND USE CHANGE</b>					
7.1	Land Use Management that Promotes Permanent Cover					
7.2	Preserve Open Space/Agricultural Land					
<b>FAW-8</b>	<b>AGRICULTURE—FARMING PRACTICES</b>					
8.1	Increase On-Farm Energy Production and Efficiency					

Option No.	GHG Reduction Policy Option	Potential GHG Emissions Reduction	Cost per Ton	Other Considerations: Jobs, Fuel Imports, Externalities, Feasibility	Priority for Analysis	Notes/Related Actions in Alaska
8.2	Promotion of Farming Practices that Achieve GHG Benefits					
8.3	Programs to Support Local Farming/Buy Local					
8.4	Promotion of Urban Agriculture, Community Gardens, and Green Roofs					
<b>FAW-9</b>	<b>WASTE MANAGEMENT—WASTE MANAGEMENT STRATEGIES</b>					
9.1	Expanded Use of Yard Waste Biomass Feedstocks for Electricity, Heat, and Steam Production					<ul style="list-style-type: none"> <li>• GVEA SNAP Program</li> <li>• REAP</li> <li>• FNSB RFP</li> </ul>
9.2	In-State Liquid Biofuels Production					
9.3	Advanced Recycling and Composting					<ul style="list-style-type: none"> <li>• FNSB RFP</li> </ul>
9.4	Promotion of Bioreactor Technology (Advanced Municipal Solid Waste Management Practices)					
9.5	Source Reduction Strategies					
9.6	Resource Management Contracting					
9.7	Enhanced Management of Organic Waste					

Option No.	GHG Reduction Policy Option	Potential GHG Emissions Reduction	Cost per Ton	Other Considerations: Jobs, Fuel Imports, Externalities, Feasibility	Priority for Analysis	Notes/Related Actions in Alaska
9.8	Improved Commercialization of Biomass Conversion Technologies					• FNSB RFP
<b>FAW-10</b>	<b>WASTE MANAGEMENT—LANDFILL GAS STRATEGIES</b>					
10.1	Flare Landfill Methane at non-NSPS (smaller) Sites					
10.2	Methane and Biogas Energy Programs					
10.3	Landfill Methane Energy Programs					
<b>FAW-11</b>	<b>WASTE MANAGEMENT—WASTEWATER MANAGEMENT ACTIVITIES</b>					
11.1	Wastewater Treatment Plant Biosolids for Energy Production					
11.2	Energy Efficiency Improvements					
11.3	Lower Waste Processing Needs (lower water consumption, waste production)					
11.4	Install Digesters and Turbines or Engines					
11.5	Algae and Bio-Oils					