

## MI AFW TWG Policy Option Balloting Results

AFW Policy Option #	Suggested Policy Option Name	AFW Catalog Option No.	AFW Catalog GHG Reduction Policy Option	Votes	Additional Notes for Balloting
AFW-1	Expanded Use of Biomass Feedstocks for Electricity, Heat, or Steam Production	1.1	Expanded Use of Biomass Feedstocks for Electricity, Heat, and Steam Production	11	Notes on 1.1: 1 - Combine with 6.1
		6.1	Expanded Use of Forest Biomass Feedstocks for Electricity, Heat and Steam Production	7	8- Appropriate price signals and utility regulatory policy will go a long way towards making this happen. It should be supported only if the policy is crafted to support sustainability criteria, precautionary principles, cradle-to-cradle production, etc  10-Combine with 6.1  11- combine with 6.4  Notes on 6.1: 1 - Combine with 1.1  5- I suggest that the following be consolidated into one: Ag = Option 1.1, Forestry = 6.1  6- Combine with 1.1 & 6.3 & 6.4. 6.3& 6.4 are two tools to achieve biomass use  11- combine with 6.4 pyrolysis - biochar for CCS
AFW-2	In-State Liquid Biofuels Production	1.2	In-State Liquid Biofuels and Feedstock Production	8	Notes on 1.2: 1 - Combine with 6.2
		6.2	In-State Liquid Biofuels Production (Forestry)	4	3- As with the MI RFC, limit any actions to second generation biofuels and feedstocks (given the increasing number of reports showing 1st generation biofuels have large externalities and little, if any net GHG

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					<p>reductions). Such a focus should help reduce current food/fuel conflicts and higher food prices.</p> <p>4- Include 6.2</p> <p>8- Appropriate price signals and utility regulatory policy will go a long way towards making this happen. It should be supported only if the policy is crafted to support sustainability criteria, precautionary principles, cradle-to-cradle production, etc</p> <p>10-Combine with 6.2</p> <p>11- inevitable so it's a wasted vote</p> <p>Notes on 6.2: 1 - Combine with 1.2</p> <p>5- I suggest that the following be consolidated into one: Ag = 1.2, Forestry = 6.2</p> <p>11- combine with 6.4 (technology to turn wood gas to bio-oil hydrogen, ethanol)</p>
AFW-3	Methane Capture and Utilization from Manure and other Biological Waste	1.3  2.1.2	Manure Digesters/Other Waste Energy Utilization  Manure Management: Methane Capture	11  2	<p>Notes on 1.3: 4- Include 2.1.2, 11.3, 9.5</p> <p>6- Combine with 2.1.2. Policy change needs to allow for commingling organic waste with manure in on-farm digestion systems</p> <p>7- Similar to 2.1.2</p> <p>9- Can be combined with 2.1.1 &amp; 2.1.2 All of these manure discussions should be</p>

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					addressed 10- Combine with 2.1.2 and 11.3 11- combine with 5.1 Notes on 2.1.2: 8- Appropriate price signals and utility regulatory policy will go a long way towards making this happen. Appropriate policy will combine with 1.3, 9.2, 9.4, 10.1, 10.2, 11.2 11- merge with 5.1
AFW-4	Expanded Use of Bio-based Materials	1.5  6.5	Expand Use of Bio-based Materials  Expanded Use of New, Used, & Recycled Wood Products for Building Materials	7  1	Notes on 1.5: 4- Include 6.5  6- Bio-based biodegradable plastics made from crop residues 10- Combine with 6.5  11- insignificant carbon savings  Notes on 6.5: 11- Only make sense (from a carbon perspective) if replacing cement
AFW-5	Land Use Management that Promotes Permanent Cover	4.1	Land Use Management that Promotes Permanent Cover	7	Notes on 4.1: 2- Note that description has a different name  11- insignificant carbon savings (~8T/Ha/Y)
AFW-6	Forestry and Agricultural Land Protection	4.2  7.1	Preserve Open Space/Agricultural Land  Forest Protection – Reduced Clearing and Conversion to Non-forest Cover	6  6	Notes on 4.2: 8- This should be covered by the transportation & land use group, and thus should not count as one of the A/F/W measures. 9- Combine with 4.3 if you want to preserve

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					<p>ag land, consolidation may be a good way</p> <p>10- Combine with 4.4 – allowing wind generation to occur on preserved farmland is key</p> <p>Notes on 7.1: 11- regulate development projects for forests similar to how they are regulated for wetlands</p>
AFW-7	Promotion of Farming Practices that Achieve GHG Benefits	<p>5.2</p> <p>3.1</p> <p>5.4</p>	<p>Promotion of Farming Practices that Achieve GHG Benefits</p> <p>Soil Carbon Management</p> <p>Programs to Promote Organic Farming Practices that Achieve GHG Benefits</p>	<p>8</p> <p>5</p> <p>2</p>	<p>Notes on 5.2: 4- include 2.1.1, 2.3, 3.2, 4.1, 3.1, 5.4</p> <p>9- Combine with 3.1</p> <p>10- Combine with 3.1</p> <p>11- combine with 3.1</p> <p>Notes on 3.1: 10- Combine with 5.2</p> <p>11- using no-till and biochar additions</p> <p>Notes on 5.4: 3- This item should be combined with 5.2 Note: MSU's Kellogg Biological Station has been part of The Rodale Institute sponsored regional field trials of their No-till Roller Crimper, which makes organic no-till easy to do (a winter cover crop is rolled and crimped [killed] with a front-end roller while rear-end no till planting is done at the same time). Standard organic farming is as good or better than conventional no-till. Organic</p>

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					no-till will clearly be superior.  11- merge with 3.2  12-3.3, 5.1, and 5.4 seem to be closely related to each other and we suggest that they be grouped together.
AFW-8	Forest Management for Carbon Sequestration and Biodiversity	7.4	Forest Management for Carbon Sequestration and Biodiversity	7	Notes on 7.4: 11- insignificant carbon savings (13T/HA/Y)
AFW-9	Advanced Recycling, Source Reduction, and Composting	9.1	Advanced Recycling, Source Reduction, and Composting	8	Notes on 9.1: 4- Include 8.1, 8.2 8- Appropriate price signals will go a long way towards making this happen. These are efficiency improvements. 11- decreases volume for trash hauling, therefore fuel cost  12-9.1 and 9.4 seem to be very closely related since they both talk about reuse, recycling, and composting.
Medium Priority		2.1.1	Manure Management: Manure Utilization	4	11- merge with 3.2
Medium Priority		5.1	Increase On-Farm Energy Efficiency	4	6- Combine with 2.6 & 3.3  11- amend to on-farm energy production and energy efficiency  12-3.3, 5.1, and 5.4 seem to be closely related to each other and we suggest that they be grouped together.
Medium Priority		6.4	Improved Commercialization of Biomass Gasification and Combined Cycle	4	10- Combine with 9.5  11- pyrolysis - biochar for CCS: see dynamotive corp, best energies and eprida technology

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Medium Priority		9.2	Promotion of Bioreactor Technology (Advanced Municipal Solid Waste Management Practices)	4	6- Combined with 10.1. Technology exist for small scale stand alone energy generation  8- Appropriate price signals and utility regulatory policy will go a long way towards making this happen.  11- combine 9.2 -9.5 akin to Toronto's greenbin program decreases volume for trash hauling, therefore fuel cost
Medium Priority		10.2	Landfill Methane Energy Programs	4	4- Include 10.1 8- Appropriate price signals and utility regulatory policy will go a long way towards making this happen.  11-for trash hauling to nearby landfills destroys methane
Medium Priority		1.4	Improving Energy Capture from Corn and Biomass Heat	3	11-combine with 6.4
Medium Priority		2.5	Consolidation of Livestock for Efficiency Gains	3	6- Energy efficiency & application of anaerobic digester technology  11- combine with 5.1
Medium Priority		3.2	Nutrient Management	3	2- This should include regulation as well as incentives  10- Combine with 3.3 all the examples given in 3.3 were linked to 3.2  11- reduce nitrates produced by haber-bosch process
Medium Priority		3.3	Technology Improvements to Increase Efficiency	3	9- Combine with 3.2 With improved biotech seed, it is helping with nutrient management and efficiency  10- Combine with 3.2

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					11- combine with 5.1  12-3.3, 5.1, and 5.4 seem to be closely related to each other and we suggest that they be grouped together.
Medium Priority		3.4	Water Management	3	2- Mandatory controls should be included, not just GAAMPS  9- Combine with 3.5 Water issues with crops should be both water on the field and off the field  11- combine with 5.1
Medium Priority		5.3	Programs to Support Local Farming/Buy Local	3	11- implement for school lunch and food-stamp programs
Medium Priority		6.3	Improved Energy Capture from Wood Waste Combustion	3	5- I suggest that the following be consolidated into one: Ag = 1.4, Forestry = 6.3  11- combine with 6.4
Medium Priority		7.3	Afforestation and/or Restoration of Non-forested Lands	3	11- combine with 7.1
Medium Priority		8.2	Improved Logging Residue Recovery	3	11- combine with 6.1
Medium Priority		9.5	Promotion of New & Existing Technologies for Waste Energy Conversion	3	6- Recovery energy potential prior to land filling  8- Appropriate price signals and utility regulatory policy will go a long way towards making this happen. ONLY promote those that meet precautionary principle screening  11-combine with 9.2

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Medium Priority		11.3	Methane and Biogas Energy Programs	3	<p>6- Conversion of WWTP to anaerobic digestion based systems</p> <p>8- Appropriate price signals and utility regulatory policy will go a long way towards making this happen.</p> <p>11-combine with 11.6</p>
Low Priority		9.4	Enhanced Management of Organic Waste	2	<p>CCS: Could be incorporated into 9.1 Advanced Recycling, Source Reduction, and Composting</p> <p>11-combine with 9.2</p> <p>12-9.1 and 9.4 seem to be very closely related since they both talk about reuse, recycling, and composting.</p>
Low Priority		2.3	Rotational Grazing/Improve Grazing Crops and/or Management	1	<p>11- difficult to enforce regulate and verify</p>
Low Priority		2.6	Technology Improvements to Increase Energy Efficiency of Water Use	1	<p>8- Combine with 3.2, 5.1, 11.1. There are FOUR energy efficiency actions in the A/F/W list. They all should be captured by the R/C/I workgroup and the same policies should be promoting efficiency improvements in all sectors. I marked four Xs here, but I consider this only one vote. Energy Efficiency actions are almost invariably “no regrets” actions, and should be the highest priority. The policies must put into place: (1) a long-term statewide funding mechanism, (2) better price signals (e.g. carbon tax and/or cap&amp;trade); and (3) pay-as-you-save™ (PAYS®) financing (see <a href="http://www.paysamerica.org">www.paysamerica.org</a>). We’ll know the policies are correct when all no regrets and insurance policy energy efficiency happens</p>

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					automatically, as a matter of course, in all decisions about energy using facilities and equipment.  11- combine with 5.1
Low Priority		4.4	Update rural zoning to facilitate wind projects	1	8- I support this only if the proposal meets a variety of specific criteria. I'm selecting it because the existing situation is so awful, and wind energy otherwise has such a huge potential.  11-merge with 5.1
Low Priority		5.5	Promotion of Urban Agriculture, Community Gardens, and Green Roofs	1	3- This item should be combined with 5.3  11- merge with 5.3
Low Priority		7.2	Urban Forestry	1	11- insignificant carbon savings (2T/Ha/Y)
Low Priority		7.5	Mitigation of Forest Carbon Sequestration Loss and Emissions Due to Wildfire	1	11- insignificant, plus fires are good for the jack pine and kirtlands warbler
Low Priority		8.1	Improved Mill Waste Recovery	1	11- combine with 6.1
Low Priority		8.3	Silviculture Improvements	1	11- combine with 6.1
Low Priority		11.1	Energy Efficiency Improvements	1	11-insignificant carbon savings
Low Priority		2.2	Changes in Animal Feed	0	11-farmers will resist
Low Priority		2.4	Utilize Bio-filters to Control CAFO Emissions	0	11- insignificant carbon savings
Low Priority		3.5	Drainage Management	0	11- combine with 3.2
Low Priority		4.3	Consolidation of Farm Land	0	
Low Priority		7.6	Mitigation of Forest Loss Due to Insects/Disease	0	11- Ash borer and tree blights are not controllable enough
Low Priority		9.3	Resource Management Contracting	0	11-combine with 9.2
Low Priority		10.1	Flare Landfill Methane at non-NSPS (smaller) Sites	0	8- Please NEVER flare it... always find some use for the waste heat!

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					11-all landfills should eventually become NSPS Sites or get decommissioned
Low Priority		11.2	Lower Waste Processing Needs (lower water consumption, waste production)	0	8- Appropriate price signals will go a long way towards making this happen. This should be combined with 11.1.  11-insignificant carbon savings
Low Priority		11.4	Restoration of Soil Organic Carbon from Application of WWTP Bio-solids	0	11-controversial and not likely to be accepted by farmers
Low Priority		11.5	Heat Recovery	0	8- This is also efficiency and can be combined with 11.1.  11-insignificant
Low Priority		11.6	Algae and Bio-Oils	0	CCS note: potential to capture this under the biofuels production option above