Chapter 4
Market Based Policies

Overview of Market Based Policies

The Market Based Policies (MBP) technical working group (TWG) was created mid-way through the MCAC planning process in response to concerns from members of the Cross Cutting Issues (CCI) and Energy Supply (ES) TWGs that some of the policies under consideration in both TWGs required more time and attention than either could provide. After reviewing a variety of options, the MCAC decided to create a new Market Based Policies (MBP) TWG and transfer selected policies under the new group's jurisdiction. The policies of principle concern were the cap-and-trade proposal and the carbon tax proposal, but a handful of related policies were also moved. The MBP TWG renumbered and reorganized the transferred policies. The MBP TWG members were self-selected volunteers from the ES, CCI and Residential, Commercial and Industrial (RCI) TWGs.

These policies selected for approval by the MCAC are different from most other recommendations in that they are not sector-specific and they rely upon economic incentives to achieve GHG mitigation targets. One of the three recommendations requires interstate action and one is a process recommendation. During the TWG's discussions several options were merged. One policy option [a carbon tax] was not approved by a majority of the MCAC.

Key Challenges and Opportunities

Congress is expressing renewed interest in national cap-and-trade legislation, and President Obama has indicated his support for the approach. Three regions within the US are moving ahead with the development and implementation of interstate or international programs – the Northeastern Regional Greenhouse Gas Initiative (RGGI), the Western Climate Initiative (WCI) and the Midwestern Greenhouse Gas Reduction Accord (MGA).

Michigan is actively participating in the development of the Midwestern Regional Greenhouse Gas Reduction Accord. The policy issues confronting the Midwestern Accord Partners will need to be evaluated regionally and by each Partner jurisdiction, and then negotiated until agreement is reached. These recommendations are offered to advise Michigan on the key program design features that Michigan should support in these regional negotiations.

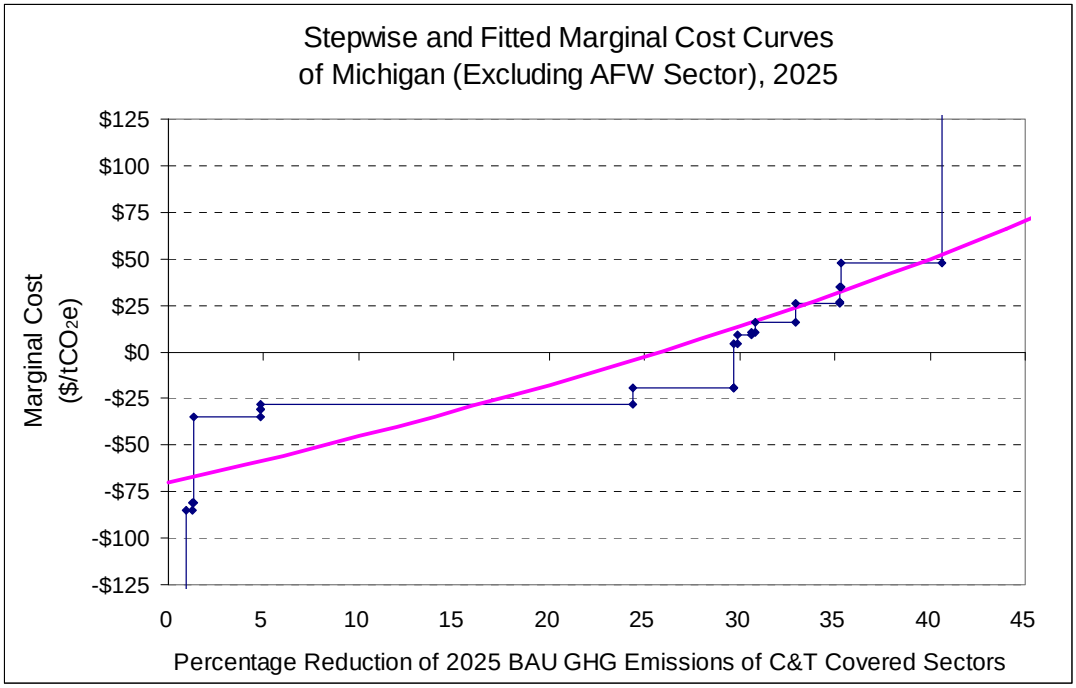
It is believed that Michigan and all other participating jurisdictions in the cap-and-trade program will benefit from the combination of non-market based policies and measures such as those proposed for the sectors and the cap-and-trade program. The cap-and-trade program allows the achievement of GHG mitigation goals (the "cap") at lower cost than would otherwise be possible, and many of the non-market based policies and measures serve to remove barriers that otherwise would obstruct access to many of the low cost options. The cap also serves to ensure that GHG reduction goals are achieved even if the non-market based policies fail to perform as expected.

The relationship between the policies and measures recommended elsewhere in this report and the benefit offered by the overlay of a cap-and-trade program can be seen in a marginal cost curve as shown in Figure 4-1. This figure ranks each of the recommended policies from left to

right in ascending order of cost. The horizontal (x) axis represents the percentage of GHG emission reduction, and the vertical axis represents the measure's marginal cost or savings. In the figure, each horizontal segment represents an individual mitigation option. The width of the segment indicates the GHG emission reduction potential of the option in percentage terms. The height of the segment relative to the x-axis shows the average cost or saving of reducing one metric ton of GHG with the application of the policy. The figure indicates that, collectively, the reduction potential of recommended policies from all economic sectors (excluding Agriculture, Forestry and Waste Management in this example) can avoid about 40% of 2025 baseline emissions in Michigan.

When regulated sources have the opportunity to purchase and sell emissions credits through an interstate market, the relative costs and benefits from comparable mitigation measures in all participating states become fungible. Lower cost options in one state can be developed in surplus with funding coming from sources facing higher cost options in another state. The market 'seeks out and finds' the lowest cost mitigation necessary to achieve the cap. In this way, both the sources in the states with low cost mitigation opportunities, and the sources in the states with high cost mitigation realize an economic benefit from the transaction.

Figure 4-1. Stepwise and fitted marginal cost curve of Michigan (excluding AFW sector), 2025[1]



AFW = agriculture, forestry, and waste management; BAU = business as usual; C&T = cap and trade; GHG = greenhouse gas.

[1] It should be noted that the data represented in this cost curve were derived from the Council's quantified policy recommendations, as approved. Due to the fact the Council included only a subset of all possible measures that could be taken to reduce CO2, they do not represent the full range of potential policies for an economy-wide cost curve.

Overview of Policy Recommendations and Estimated Impacts

The MCAC analyzed and is recommending three market-based policies of which only MBP-1, Cap-and-Trade, was quantified. Cap-and-trade modeling is limited to a single year, therefore cumulative costs and benefits are not available. The analysis does, however, project the program's total net economic benefit to Michigan in the target year, cost effectiveness, the flow of emissions allowances (permits) between participating jurisdictions and the allowance price. Two initial allowance distribution scenarios were modeled: free granting of allowances to regulated sources (grandfathering) and the sale of 100% of allowances by auction. Table 4-1 gives Michigan's GHG reductions and cost savings in 2020 for both the free granting and auction cases. Note that auction-case costs do not include the payments from the bidder to the state for the purchase of allowances at auction. This information can be found in table G-1-2 and Annex-1 in Appendix G.

Table 4-1. Summary results for energy supply policy recommendations and existing actions

No.	Policy Recommendation	GHG Reductions ($MMtCO_2e$)			Net Present Value 2009–2025 (Million $)	Cost-Effectiveness ($/tCO_2e$)	Level of Support
		2020	2025	Total 2009–2025			
MBP-1	Cap-and-trade: 20% below 2005 by 2020 (*free granting allowances*)[2]	92.48				–$25.83	Unanimous
	Cap-and-trade: 20% below 2005 by 2020 (*auctioning allowances*)[3]	92.48				–$19.33	
MBP-3	Michigan Joins Chicago Climate Exchange	*Not Quantified*					Unanimous
MBP-6	Market advisory group	*Not Quantifiable*					Unanimous

Note: The numbering used to denote the policy recommendation is for reference purposes only; it does not reflect prioritization among these important recommendations. (Gaps in numbers are due to merger of several MBP policies and rejection of one.)

Market Based Policy Descriptions

The three recommended MBP policies include the cap-and-trade program, a Michigan "lead-by-example" policy and a cap-and-trade supporting policy . They are summarized below and presented in greater detail in Appendix G.

[2] These results include mitigation costs, including payments or revenues resulting from the purchase or sale of allowances between MI emitters and out-of-state MGA partners.

[3] These results include mitigation costs but do not include payments to the state by MI emitters for the purchase of allowances at auction. The cost and revenue implications of distribution of allowances by auction can be found in table G-1-2 and Annex-1 in Appendix G.

MBP-1. Cap-and-Trade

A cap-and-trade system works by setting an overall limit on emissions (the "cap") and either selling or distributing, at no cost, emissions "allowances," or permits, to regulated entities or sources. These regulated entities must periodically surrender enough allowances to match their reported emissions or face a penalty. Cap-and-trade creates a financial incentive for emitters to continually seek out new emission-reducing options and cut their emissions as much as possible. By creating a market for the allowances, regulated entities have the choice of either purchasing allowances or directly reducing emissions and, as a result, resources are directed to the most cost-effective emissions reduction investments. To achieve overall emissions reductions over time, programs gradually lower the emissions "cap" by reducing the total number of available allowances.

The MCAC encourages national action in the implementation of a cap and trade program for the regulation of greenhouse gas emissions. In lieu of national action, or in advance of future action, Michigan should continue to participate in and encourage the development of the Midwestern Accord program. Michigan should not seek to create its own one-state cap and trade program. It is recommended that the program have the broadest possible sector coverage as soon as possible to include the maximum possible number of low cost mitigation and sequestration options. The MCAC does not make a specific recommendation on the method by which allowances are initially distributed (free granting, auction, both, etc.), but regardless of distribution method, the MCAC agrees that the *value* represented by the allowance should benefit the residents of Michigan.

MBP-3. Michigan Joins the Chicago Climate Exchange (CCX)

The Chicago Climate Exchange (CCX), launched in 2003, is the world's first and North America's only active voluntary, legally binding integrated trading system to reduce emissions of all six major greenhouse gases (GHGs), with offset projects worldwide. CCX emitting Members make a voluntary but legally binding commitment to meet annual GHG emission reduction targets. Those who reduce below the targets have surplus allowances to sell or bank; those who emit above the targets comply by purchasing CCX Carbon Financial Instrument® (CFI®) contracts. The states of New Mexico and Illinois are Members of CCX.

By joining the CCX Michigan state government will lead by example. Michigan will inventory and quantify all greenhouse gas emissions from sources that result from state government operations and are under the control of state government. State government's primary sources of GHG are typically energy usage in office buildings and transportation.

MBP-6. Market Advisory Group

GHG policies have broad based impacts and implications. As a result it is helpful to look at current and future policies from a variety of viewpoints. Some states have looked at forming groups of experts to help them evaluate both the intended and unintended consequences of GHG policies. The MCAC recommends the creation of a formal Market Advisory Group, appointed by the governor or appropriate agency head and approved by the Legislature, and working in

support of the governmental agency charged with the program. The advisory group would hold regular meetings and have defined responsibilities, to include looking at the economic feasibility of implementing GHG reduction policies. In addition to offering expert advice on the design of market-based policies, the group would catalog current policies and laws in state and local government, assess how each contributes to or reduce GHGs, and provide guidance to the state's policy makers on the design of any future compliance programs to manage GHG emissions.