



**Meeting #1 Summary-Draft
Michigan Climate Action Council
East Lansing, Michigan
Wednesday, December 12, 2007**

Attendance

Michigan Climate Action Council (MCAC) Members:

Dr. Jeff Andresen	Dana Kirk
Guy Bazzani	Director Don Koivisto
Skiles Boyd	Pete Madden
Karen Cooper-Boyer	Curt Magleby
Dr. Dwight Brady	Brad Markell
Jim Byrum	Monica Martinez
Director Steve Chester	Reginald Modlin
Director Keith Cooley	Dennis Muchmore
Norman Christopher	Dr. Vincent Nathan
Dana Debel	Leonard Parker
Jim Epolito	Lana Pollack
Michael Garfield	Director Kirk Steudle
Mayor George Heartwell	Director Lisa Webb-Sharpe
Chuck Hersey	Jim Weeks
Mayor John Hiefje	Al Weverstad
Director Rebecca Humphries	Dr. Gregory Zank

Department of Environmental Quality

Donna Davis
Marcia Horan
Mary Goodhall
Steve Kulesia
Steve Zervas
Vince Hellwig
Mike Beaulac
JoAnn Merrick
Cathi Cunningham
Lynn Fiedler
Terri Novak

Center for Climate Strategies

Tom Peterson, Randy Strait, Tom Looby, Donna Boysen, Jeff Wennberg, and Linda Schade.

GOVERNOR GRANHOLM gave inspiring opening remarks about the need to take steps on climate change and the significant opportunity such action represents. Paraphrasing some of her remarks,

she is pleased that Michigan (MI) is a part of the Midwestern Governors Association Climate Accord. From a moral, global, and an economic perspective, these are necessary steps to draft the roadmap, to lead the nation in reducing greenhouse gas (GHG) emissions, to reduce global warming and also to create a whole new economic sector. Two weeks ago, the American Solar Society predicted that 40 million new jobs would be created. Michigan is poised, given its history, geography, and geology, to be the leading state. A man-bites-dog-story—the state that created the internal combustion engine should lead in this sector. Waste, wind and water are all areas of opportunity.

GOVERNOR GRANHOLM charged the Michigan Climate Action Council (MCAC) to:

- Produce an inventory of GHG emissions .
- Compile a state climate change action plan.
- Work with local government and institutions of higher learning and assist them in meeting the challenges of climate change.

GOVERNOR GRANHOLM asked Council members to stand and take the following oath: “I will support the Constitution of United States and Michigan, and I will faithfully discharge my duties as a member of MCAC according to the best of my ability.”

LYNN FIEDLER, Department of Environmental Quality (DEQ), Air Quality Division, welcomed everyone and explained the day’s logistics.

MCAC CHAIR STEVE CHESTER made opening remarks to frame the day’s work. Paraphrasing some of those remarks, he said there is no longer debate about climate change and that human activity is contributing. He pointed out that Michigan is the 9th largest emitter in the United States and quoted Bill Clinton: “I think this is the greatest opportunity our country has had to generate prosperity since we mobilized for World War I.” On November 14, 2007, GOVERNOR GRANHOLM signed Executive Order No. 2007-42 creating MCAC as an advisory body to the MDEQ.

THE CHAIR noted that the Midwestern Regional Greenhouse Gas Reduction Accord has been signed by Michigan and other states as well as the province of Manitoba, Canada. By July 2008, the Accord will set goals and targets and by November 2008, it will release a cap-and-trade proposal. The Chair encouraged the MCAC to ‘be mindful of that process here.’

TOM PETERSON reviewed the agenda and provided an overview of the step-by-step process offered by the Center for Climate Strategies (CCS) to help the MCAC accomplish its tasks. For today’s meeting, this would include looking at existing actions in Michigan and taking a first look at what will become the substantial quantitative analysis which will underpin the MCAC’s work. Mr. Peterson further explained that this analysis will be refined in Technical Work Groups (TWGs). Critical tasks for today are getting an overview of the process, structure and function of the MCAC and the Technical Work Groups (TWGs) and hearing about how other states have done this work. The process provides formal opportunities for public input.

TOM PETERSON presented slides and information on the status of the climate change debate, the general concerns specific to Michigan and its sources of GHG emissions. In 1992, the United

States signed the Rio Accord. In the 15 years since then, concern and consensus have grown significantly and urgent action is needed. Thirty of the 50 U.S. States are among the world's top 75 emitters.

MEMBER: What are the main GHGs, just to clarify that there is more than just CO₂?

RANDY STRAIT OF CCS: HFCs, CO₂, methane, ozone, and nitrous oxide. Black carbon or soot is a somewhat different radiative agent.

TOM PETERSON CONTINUED: This will be a collaborative participatory process. A Portfolio of Options lists the different types of policy choices that cover all the economic sectors. Those policy choices include Codes and Standards, Market Mechanisms, Funding Mechanisms, Voluntary Agreements, Technical and Financial Assistance, Information and Education, Pilots and Demonstration Projects, and Reporting and Disclosure.

Arizona has been challenged as the state with the highest projected growth rate in the nation—five times that of California. One major change in the discussion on climate is that in the mid-1990s, energy prices were expected to stay low, but they didn't. One important question is the impact of emissions reduction on jobs. For Arizona, it resulted in a projected net increase of 285,000 jobs and \$6 billion in economic savings. This was not expected, it was not predetermined, and the Arizona climate planning process was entirely the product of a group like this. The potential of a group of people working together is truly significant.

Efficiency and reduced GHGs are easiest in new-growth scenarios, but existing sectors and infrastructure can also be upgraded.

TOM PETERSON described sectors that bring the most reduction potential while presenting the 'Leadership State Wedges' slide. He continued: The strongest federal legislation is in line with the kinds of reductions state action plans are establishing. As is common in the area of climate change, the states are having an upward impact on emerging federal actions. What is likely to emerge is an integration of state and federal actions, including, for example, opportunities to establish a national cap-and-trade market as well as actions customized for very real differences between states. In fact, it is not uncommon for international observers to come in and attend these meetings.

The World Resources Institute has a Michigan study and some conclusions about midwestern states: Michigan is the only state where the residential sector GHG emissions exceeded 10%. Also, over the last 10 years, Michigan emissions have gone down, not necessarily from economic contraction but possibly due to efficiency gains. Agricultural emissions play a bigger role in midwestern states for obvious reasons.

MEMBER: Were Kyoto benchmarks used?

JEFF WENBERG OF CCS: There are states and provinces, as well as midwestern and western states, that have agreed to regional benchmarks and targets.

MEMBER: It would be helpful to know what other states did. Yes, and the CCS Catalog of Policy Options is a roundup of what the different states have done.

MEMBER: I'd like everyone to explain who they are and what they do.

TOM PETERSON explained that the role of CCS is to assist in a process of self-determination.

MEMBER: How do the policy outcomes line up with some of the national legislation? Very closely.

MEMBER: Can you tell us if any of the states have plans that have required legislative action and if the plans have influenced legislation?

TOM PETERSON: Yes, but states are so very different in the balance of power between the Executive and Legislative branches. Maine for example launched a process through its environment department; Minnesota passed legislation that called for a planning process; others were chartered or established through gubernatorial commissions; and then there is a wave of follow-up that takes place.

MEMBER: You mentioned the state–federal upward chain, and I want to mention municipal upward motion because many cities are signatories to agreements—let's catalog what cities are doing.

TOM PETERSON: In fact, the policy catalog is better described as 'state and local' actions. In addition, we'll seek policies from the International Council for Local Environmental Initiatives (ICLEI).

BREAK

CHAIRMAN CHESTER encouraged members to ask questions on everything, including Inventory and Forecast, and to consider Mitigation and Adaptation actions as well. He noted, for example, that some organizations present are already part of the Chicago Climate Exchange. Membership requires an emission reduction of 6% from 2000 levels.

THE CHAIR also mentioned *The Climate Registry* and its increasing membership which reflects the interest of states to do something proactive about climate change. The establishment of codes and protocols is in expectation that there will be movement at the national level, but even if that doesn't come, this will be helpful as states move forward collaboratively and proactively. Michigan is involved in a pilot program in which farmers can trade credits on the Chicago Climate Exchange.

A third project that Michigan is working on is carbon sequestration. Our Office of Geological Survey is working with the Midwest Regional Carbon Sequestration Partnership. Michigan is working with the Department of Energy on this; it involves states and other actors and is one of seven current regional efforts. Michigan has significant potential because its particular geological character has great capture potential.

THE CHAIR reviewed a list of actions taken in 2006 to promote R&D production and distribution of alternative fuels in Michigan, such as

- Green Chemistry Support Program,

- Additional ‘Renaissance Zones,’ and
- Renewable Fuels Commission.

For a full list, see [What Michigan is Already Doing](#) on the MCAC web site

THE CHAIR CONTINUED: There are five operating ethanol plants and three in various states of permitting. You all know that it is not sustainable to use corn, so cellulosic is the emerging trend. I can’t say how many more plants that use corn will come online, but there are two bio-diesel plants.

Renewable electricity is the 21st Century Energy Plan—EDGE 2 - looking at what could be done to develop green technology in the state. That started us down the path to develop this plan (Slide 38) to create reliable electricity generation.

MEMBER: We have an interest and we’ve gotten options on 30,000 acres of land on the Thumb. A lot has to do with some of the legislation that is coming through. It is certainly our intent to move forward.

COMMISSIONER MARTINEZ: The Public Service Commission is revising net-metering guidelines, although Public Action 141 is not a mandatory net-metering policy. Our intent is to bring more online, though it is currently voluntary.

THE CHAIR CONTINUED: Michigan has a biomass program. The Governor has created numerous initiatives to create greater efficiency. Work is underway with the Department of Motor Vehicles to develop a tool that can be used by state departments to reduce their footprint. We’re creating new capital outlay and contributions projects that comport with LEED-certified standards.

LISA WEBB-SHARPE: We are on track to meet the goals of reducing energy consumption and reconstructing our leases to be appropriate. We are leasing buildings that are LEED-certified and revising our purchasing policy so that we buy green products.

CHAIR: Other initiatives are electric conservation measure for state departments, developing emergency energy use reductions, the Low-Income and Energy Efficiency Fund, and Michigan Pollution Prevention Programs, among others.

MEMBER: We’ve been around for years, but we had about a 10% increase in participation in recent years.

CHAIR: Citing the Michigan Land Use Leadership Council, he noted the ‘need to minimize the impact of our land use. We’re seeing more vehicle miles traveled (VMT), and it makes sense to make better use of urban infrastructure, including transportation systems.’ State Government Recycling Programs—Michigan makes a good effort at recycling, but we still have the lowest rates in the Great Lakes Region. Energy Infrastructure—There are a number of state initiatives that are relevant to this process, and they might even be improved upon from this process.

MEMBER: We’re looking at pulp and paper mills creating bio-diesel from their waste stream.

MEMBER: We have to be most careful as the devil is in the details. If you build a bio-diesel plant that CAN burn coal, how will it be used? How will what we have done advantage or disadvantage us when federal action comes down—Michigan has set a pretty low bar compared with those of other states, which has not made us competitive.

MEMBER: If we are going to be doing something with public dollars, some of that money should be recycled to protect natural resources and not be put into some general fund program. We must constantly look at putting aside some of the profits for natural resource protection.

MEMBER: Something to consider down the line, one of the concerns I have is that we want to communicate that government can... inform people what they can do (what role they can play). I don't want to create the impression that individuals don't have to do anything. What is their responsibility? Is that part of this process? The Cross-Cutting TWG deals with public education programs.

MEMBER: I hope we are looking at what Michigan can do, and what federal polices are needed to facilitate that.

MEMBER: I hope that this panel's recommendations are given the urgency they deserve.

TOM PETERSON: Let's do the walk through on the Stepwise Planning Process (Slide 57). We can take questions and answers.

First homework assignment for TWGs is to look at a list of possible state policy actions. There is a long list of actions already underway, and we want to make sure to fully catalog them. We'll narrow it down to the top 50 potential recommendations or so, about 10 per TWG.

Then we'll develop straw proposals, which you will review, and you will decide which options should be prioritized for further analysis. Then we'll come back and evaluate externalities and feasibility issues and identify any barriers to consensus that exist.

At the state level where we do 'aggregate analysis,' we'll pull all the sectors together, eliminate overlap, and come back to begin identifying some policies as possible final recommendations, with the potential to go back again and identify barriers, develop alternatives, and move forward toward final recommendations. Here are the steps:

1. Develop inventory and forecast of emissions
2. Identify a full range of possible actions
3. Identify initial priorities for analysis
4. Develop straw proposals
5. Quantify GHG reductions and costs/savings
6. Evaluate externalities, feasibility issues

7. Develop alternatives to address barriers
8. Aggregate results
9. Iterate to final agreements
10. Finalize and report recommendations

MEMBER: There may be low-hanging fruit but there aren't any watermelons lying around on the ground. If they made money, we'd be doing them.

TOM PETERSON: Yes, that's why you'll be working to eliminate barriers to something working out. That is important.

MEMBER: As write-ups are developed, if you move forward with a particular action, does it bring air quality benefits? Commonly called externalities.

MEMBER: Vince had a meeting last week with EPA about this.

TOM PETERSON: We need to make sure the catalog includes air quality actions that have potential to reduce GHG emissions.

MEMBER: As we go through this process, will there be discussion about the implications for decisions that the state is now making that should be put on hold for this groups' deliberation?

CHAIR: Such as energy efficiency and conservation and the Chicago Climate Exchange—those are things we might take action on in the near term.

TOM PETERSON: We'd add them to 'existing actions.' Part of our task is keeping abreast of new developments, and we would include those in our tally.

MEMBER: The permitting of another coal power plant would affect this process. Can we put a moratorium on that? From the standpoint of mathematics, we can explore the implications if the group wants us to.

MEMBER: The twenty-first century plan said that efficiency could get rid of two new plants and conservation could get rid of one out of the four that are needed. We have an obligation to our customers... there is an identified need, we have the second oldest baseload fleet in the nation. Maybe it's best to build a new plant to replace an old one. We have Ford, GM, and Chrysler today and energy efficiency does not address all these issues. Let's look long term—to just say let's put a moratorium today... You mentioned the Midwestern Governors Partnership—they've been in touch with us about a sequestration project.

TOM PETERSON presented the Ground Rules. There is an assumption that all the members support the process which the Governor clearly expects as she asked everyone to swear in earlier today. Attendance is important and if meetings are missed, your role in the policy-making process will be compromised since it is not possible to move the process backward because it is stepwise in a forward direction. You will need to read materials before you come to the meetings. Note that

the State will speak on behalf of the Council, and members should not speak representing the MCAC. Please do make objective and timely contributions.

The roles and responsibilities of the various actors were explained:

- Process convened by Governor Granholm
- MDEQ oversees and coordinates process
- MCAC makes recommendations to MDEQ
- TWGs provide guidance to MCAC
- MDEQ ensures timely and full completion of MCAC duties, etc.
- Public input and review for stakeholders
- CCS provides facilitation, technical support, and final report

The importance of the TWGs in doing the heavy lifting of the process was emphasized.

TWGS will help MCAC to

- Identify potential state actions
- Identify potential priorities for analysis
- Suggest straw policy designs
- Assist with analysis and review of options
- Assist with development of policy alternatives
- Assist with input to and review of MCAC reports
- Review and assist with the state GHG Inventory and Forecast

TOM PETERSON continued: There are five and sometimes six TWGs. The most substantive conversations take place in the TWGs, and there is often overlap. We'll deal with that along the way, sometimes placing items in the Cross-Cutting TWG. The MCAC was encouraged to set meeting dates as soon as possible, also noting that there is an interim report due in April 2008.

The Consensus process was explained. Consensus, super majority, or simple majority are the levels of support that are utilized. Simple majority is when slightly more than half the members support something. A super majority is when five or fewer members object. The process is designed to work through issues until unanimous consent is achieved, whenever possible. If it is not achieved, the barriers will be clearly noted and recorded. When the report is read, it will be made clear whether conflicts were ironed out or not.

The following decision criteria were outlined:

- GHG Reduction Potential (MMtCO₂e)
- Cost or Cost Saved Per Ton of GHG Removed

- Energy, Commerce, other Co-benefits
- Feasibility Issues

These criteria can be weighted as MCAC sees appropriate. The hope is that the process will produce feasible actions that can be implemented that will not sit on the shelf.

There are two phases of fact finding. The first phase has been done today with the existing actions presented by Steve Chester and the presentation of the Inventory and Forecast of Michigan emissions. The second phase is the joint fact finding that the MCAC will do together.

Transparency is very important to this process. We will ‘show our work’ as our math teachers asked us to in class engaging in

- Policy design
 - Timing, goals, coverage, implementation methods
- Economic analysis
 - Data sources
 - Quantification methods
 - Key assumptions

Part of MCAC’s task is to determine how each policy action would be implemented. You might do something one way or in more than one way. The first homework assignment of the TWGs is to review the Catalog of State Actions and to add to the Catalog additional actions that the TWGs want to recommend for consideration. This is not in any way a list of final recommendations; it is a template to begin screening a broad list of options.

After the Catalogs are developed MCAC will identify about 50 draft potential options for further development. TWGs will screen, prioritize, and propose initial policy option designs (“straw proposals”). CCS will quantify and present results for review. Then MCAC can revisit the list of potential priorities, as needed.

The elements of the Policy Option Template include:

- Policy Description (Concept)
- Policy Design (Goals, Timing, Coverage)
- Implementation Methods
- Related Programs and Policies (BAU)
- Estimated GHG Savings and Costs Per MMtCO₂e
 - Data Sources, Methods, and Assumptions
 - Key Uncertainties
- Additional (non-GHG) Benefits and Costs, as needed
- Feasibility Issues, if needed

- Status of Group Approval
- Level of Group Support
- Barriers to Consensus, if any

The Final Report will include:

- Executive Summary
- Background, Purpose, and Goals
- Michigan Emissions Inventory & Forecast
- MCAC Recommendations & Results
- Residential, Commercial, Industrial
- Energy Supply
- Transportation & Land Use
- Agriculture, Forestry, and Waste Management
- Cross-Cutting Issues
- Appendixes

QUESTION: How do the TWGs align with what we need to do? That will be evident when you look at the Policy Options Catalog. Some items overlap. Land Use is an interesting example—it falls in both TLU and AFW.

MEMBER: We've got a gap in here for solving some of the problems. We don't have financial participation. When I look at things like methane digesters, which are incredibly expensive, I wonder how we will pay for all this. I sit on the board of farmers credit which lends billions to farmers and I wonder if that's a gap that we can fit in here? I'm concerned about being able to practically implement them.

TOM PETERSON: Financing is evaluated as part of the implementation phase—and some policies require more focus on funding mechanisms than others.

STATE STAFFER: Dennis has a good point. From a state perspective, we consult with MDEC.

MEMBER: As we set up the TWGs, will there be people to help us with that? CCS has some experts and the TWGs do need to determine if further expertise is needed.

QUESTION: Are we going to know what the ongoing reductions are for ongoing projects? We will attempt to quantify existing actions.

Presentation by Jeff Andresen of Michigan State University, the State Climatologist.

To summarize some of the findings:

Approximately a 2 degree F. mean temperature increase in Michigan since 1980.

Much of the overall increase in the mean temperature has been associated with increases in winter minimum temperatures.

There has been a reduction in the frequency and magnitude of ice cover on Grand Traverse Bay and the Great Lakes since 1980.

Examining State average annual precipitation totals in Michigan (1895–2006), precipitation has increased approximately 3 to 4 inches since the 1930s, but has leveled off in the most recent decade.

Much of the increase in annual precipitation in recent decades has been associated with an increase in the frequency of wet days and wet days following wet days (meaning consecutive days) which is most noticeable in summer. Overall, there is a concern about increasing frequency of extreme events, but we do NOT see evidence of that yet in Michigan in terms of rainfall.

In examining seasonal snowfall, in Chatham, Michigan (1897–2007) and in other areas where lake effect snowfall is common, a dramatic increase in snowfall starting in the 1950s in the Upper Peninsula was observed. However, that trend has leveled off in recent years and the number of days with snow cover on the ground is decreasing. These trends are cross-linked with one another in terms of the milder winter temperatures and reduced ice cover on the lakes.

As evidenced by the spring green-up of perennial crops and natural vegetation, the seasonal warm-up is occurring about 7 to 10 days earlier now than during the middle of last century. . This trend may be increasing the risk of cold damage to some overwintering crops such as tree fruit.

The International Panel on Climate Change Fourth Assessment Report projects a 2- to 4-7 degree F. increase in surface global mean temperatures by the end of this century. In Michigan, model projections suggest an increase of approximately 5 to 8 degrees Fahrenheit is anticipated by late this century.

In examining hydrologic changes, an increase in annual precipitation is anticipated when comparing projections of 2080–2099 vs. observations during 1980–1999. The majority of this increase would occur during the winter, with relatively little change during the summer season.

If these models are correct, what is the impact on crop production? At this point, the impacts would likely be mixed. Some effects are positive, for example, alfalfa and soybeans would both benefit from a warmer, wetter climate with more carbon dioxide. However, it also may promote increased pressure from weeds, insects, and diseases.

Regarding the impact of climate change on agricultural productivity, many human activities would be able to cope with a gradual or steady change through new technologies. However if there is an increase in extremes, that would be far more difficult to adapt to.

MEMBER: How will this affect lake levels? No clear direction, but more mild winters and other projected precipitation trends will have impacts.

MEMBER: Noting that trends in the 1920s are similar to those in the 1940s and 1950s, what lesson does this provide for today? Main point is that research shows that GHGs are linked with recent increases in global temperature.

MEMBER: How much do we need to reduce GHGs? What is sustainable? Most people think that the late 1800s is what we ultimately need to get back to.

MEMBER: That first increase, is it correlated with WWII in any way? In general, when people have looked for correlations, they haven't been able to isolate them.

Inventory and Forecast

RANDY STRAIT presented the draft Michigan-Specific Emissions Inventory and Forecast, which CCS has done so the TWGs have a place to start. The next step is to obtain state-level data that MCAC stakeholders might have access to. Michigan 'emissions by sector' are very comparable to those of the nation as a whole.

MEMBER: Is industrial fuel use separate from industrial electricity use? Yes.

We need to determine whether the state is a net importer or exporter of electricity. Michigan is a net importer by a small amount.

There was a nuclear plant that was decommissioned in 1997 to 1998, and it may have created a small spike in emissions. Emissions are attributed to each of the RCI sectors.

MEMBER: So we have a draft inventory. Do states develop ranges? RANDY STRAIT: Some states create ranges, and we can do that here. The TWGs will work on improving the Inventory and Forecast.

How much of what we recommend as a group will hinge on an inventory tweaking? More detailed calculations will take place in the TWGs.

TOM PETERSON reviewed GHG emission reduction goals in other states.

The goals that have been set by the various states have a few things in common. They use an 'index' or a baseline year. Growth rates vary significantly among states, which requires a different level of effort for each state. That is why the focus is on a percentage drop in projected levels of GHG emissions. At the high end is Arizona, which proposes a 50% drop by 2020. 34% by 2020 is on the lower end.

For states with new projected growth, there are very significant opportunities in creating new infrastructure. Also, a variance factor between states is the level of existing action so there is less new opportunity for improvement.

Target years: early targets such as 2010–2012 are based on economic and political feasibility; midterm targets such as 2020–2025 are based more on planning processes like MCAC; and late-term targets such as 2050 have been set based on scientific recommendations.

'Climate Plan Coverage' is the level of attainment if a plan is fully implemented.

Conference of New England Governors and Eastern Canadian Premiers (NEG/ECP) set goals. CCS policy templates don't currently have local goals but the TWGs can incorporate them if they so choose.

CHAIR: The Midwestern Regional Greenhouse Gas Reduction Accord will set goals and targets by July 2008.

Next Steps for MCAC and TWGs

Where are local governments taken into account? Embedded in all the TWGs is the opportunity to make local, state, or even federal policies that would help the state achieve its goals. In the CC TWG, system-wide recommendations can be made. The other category is RCI where 'Institutional' should be added to account for universities and local government. It could fit in here as well.

Public comment was sought but none was offered at this time.

Forms for joining TWGs were passed out to Members and members of the public, and many were filled out and turned in to MDEQ.

Next Steps

1. The dates for the next two MCAC meetings are February 14, 2008, for Meeting #2 and April 25, 2008, for Meeting #3.
2. After a request for potential sites for future meetings, CHUCK HERSEY from the Southeast Michigan Council of Governments offered to host a meeting.