ENVIRONMENTAL QUALITY COUNCIL

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COUNCIL STAFF
TODD EVERTS, Lead Staff

MINUTES

Date: September 13, 2007 Room 102, State Capitol Building
3:00 p.m. - 8:00 p.m. Helena, Montana

Please note: These are summary minutes. Testimony and discussion are paraphrased and condensed. Committee tapes are on file in the offices of the Legislative Services Division. **Exhibits for this meeting are available upon request. Legislative Council policy requires a charge of 15 cents a page for copies of the document.**

Please note: These minutes provide abbreviated information about committee discussion, public testimony, action taken, and other activities. The minutes are accompanied by an audio recording. For each action listed, the minutes indicate the approximate amount of time in hours, minutes, and seconds that has elapsed since the start of the meeting. This time may be used to locate the activity on the audio recording.

An electronic copy of these minutes and the audio recording may be accessed from the Legislative Branch home page at http://leg.mt.gov. On the left-side column of the home page, select *Committees*, then *Interim*, and then the appropriate committee.

To view the minutes, locate the meeting date and click on minutes. To hear the audio recording, click on the Real Player icon. Note: You must have Real Player to listen to the audio recording.

COMMITTEE MEMBERS PRESENT

SEN. DAVID WANZENRIED, Chair
REP. CAROL LAMBERT, Vice Chair

SEN. BOB HAWKS
SEN. CHRISTINE KAUFMANN
SEN. DANIEL MCGEE
SEN. JIM SHOCKLEY
SEN. ROBERT STORY, JR.

REP. NORMA BIXBY

REP. SUE DICKENSON
REP. JULIE FRENCH
REP. CHAS VINCENT
REP. CRAIG WITTE

MS. DIANE CONRADI
MR. DOUG McRAE
MR. MIKE VOLESKY

COMMITTEE MEMBERS ABSENT

MR. BRIAN CEBULL

STAFF PRESENT

TODD EVERTS, Lead Staff
JOE KOLMAN, Environmental Research Analyst
DEE BARFKNECHT, Committee Secretary

Visitors

Visitors' list (Attachment 1)
Agenda (Attachment 2)

COMMITTEE ACTION

- The EQC adopted the Minutes of the June 28 and 29, 2007 meeting
- The EQC adopted the Rules and Procedures
- The EQC adopted the EQC Work Plan
- The EQC reviewed the current budget

CALL TO ORDER AND ROLL CALL

00:00:18 Sen. Wanzenried called the Environmental Quality Council (EQC) to order at 3:05 p.m. He welcomed the Council and briefly reviewed the agenda. The secretary noted the roll (Attachment 3).

AGENDA

00:02:15 **ADMINISTRATIVE MATTERS**

00:02:16 **ADOPTION OF PREVIOUS COUNCIL ACTIONS**

Sen. Hawks moved that the EQC adopt the June 28 and 29, 2007 minutes. The motion carried unanimously by voice vote.

Rep. Dickenson moved to adopt the Rules and Procedures of the Council. Mr. Everts advised there were no comments, no public input on the rules. Rep. Witte asked if these rules and the procedures are the same as they have been historically. Mr. Everts advised that yes, they are the same. The motion carried unanimously by voice vote.

Rep. Bixby moved to adopt the EQC Work Plan. The motion carried unanimously by voice vote.

Mr. Everts reviewed the current budget, the Council's total balance for the remaining of the interim is $72,092.48 with a per meeting cost at just over $8,000 per meeting. Mr. Everts advised the $8,000 is primarily due to travel/mileage/per diem, etc. He explained that this Council is a very dispersed group.

00:06:01 **INTRODUCTION OF PRESENTATIONS**

Chairman Wanzenried introduced the afternoon presentations and speakers:

- Professor Steven Running, UM Ecology Professor
- Phillip Farnes, Retired Civil Engineer, Soil Conservation Service
- Joseph Caprio, Retired MSU Professor, Agricultural Climatology
- James Taylor, Attorney, Heartland Institute, Editor of *Environment and Climate News*

Professor Steven Running - UM Ecology Professor, presented The Implications of Climate Change for the Northern Rockies (EXHIBITS 1 and 2).

Philip Farnes - retired Civil Engineer, Soil Conservation Service, presented Climate Change in Montana, Snowcap Hydrology (EXHIBIT 3).

(Break)

Joseph Caprio - retired MSU Professor, Agriculture Climatology, presented information on the Atmosphere and Atmospheric Change, Biological, Water and Climate Changes. Discussing the extremes of climate. He advised that what is happening within the region, including Montana, is also happening worldwide.

James Taylor - Atty, Editor of *Environment and Climate News*. Mr. Taylor presented on the science of the Earth's Changing Climate (EXHIBITS 4, 5, 6 and 7).

(Break)

02:29:24 **EQC COMMITTEE DISCUSSION REGARDING THE CLIMATE CHANGE PANEL DISCUSSION**

- **Questions/Comments**

Sen. McGee asked Mr. Farnes what the climate pattern/shift is showing currently, as he has noticed a shift in the climate. Mr. Farnes advised that he calls it a 'variability' because there really isn't a pattern. Sometimes seasons are early and sometimes late, primarily driven by temperature. For example, based on the temperature, fish swim up stream to spawn and salmon flies hatch, etc., so what is happening is that when we have a cold spring everything is delayed and in a warm spring, all is advanced. He explained that we have the plants, the trees and the animals we do today because they are adapted to the climate variabilities. Sen. McGee asked Mr. Farnes if he sees this as a natural phenomenon and is it related to atmospheric issues. Mr. Farnes advised he does in fact see it as natural and it is related to the atmosphere because when things warm up, things happen. Each year is a variable and you never know.

Sen. McGee asked Mr. Running if there was anything in past history that would have fundamentally changed the temperatures in the ocean. Mr. Running advised that he doesn't feel there was enough ocean temperature data from the past to have a good sense of where the ocean temperature trends were back then. We didn't have satellite tracking data, prior to 1970, so it would be hard to put together ocean temperature trends prior to that. Sen. McGee asked Mr. Running to clarify his statement about 90% of the earth's energy being contained in the ocean. Mr. Running advised that the energy that has been trapped by the green house gases over the last 50 years has been studied by leading scientists for years and they can calculate that it is going into the ocean. Sen. McGee asked what drives and generates this energy. Mr. Running advised that it is the sun that drives our climate system. Sen. McGee asked what human causes could have changed the oceans in the 1940s or 1950s, what did mankind do to increase the solar energy in the ocean as it is today. Mr. Running advised that the increase in the solar energy in the ocean is the energy that used to re-radiate out into space. The progressive greenhouse gas is trapping the thermal energy and that is where the excess energy comes from and it is one of the things they have been able to measure most accurately. Sen. McGee asked if they were seeing an increase in temperatures in depth in the ocean or is it staying toward the surface. Mr. Running advised that automated buoys take samples from different depths (down to 400 meters), which shows that most of the heat content is in the upper 100 meters. However, it is not just the surface and over time, more and more of that energy will circulate down deeper into the ocean. Sen McGee asked about Greenland's losing/melting icecap, what happens to the current, does it flow down to the South Atlantic, to the Gulf Stream and come back up. Mr. Running said it is a contributor, but there are a number of different contributors to the ocean 'conveyor belt'. The four contributors include the earth's circulation, salinity gradient, atmospheric pressure gradient (driven by wind), and then temperature gradient. You have to add all of those factors to be able to answer his question. Melting ice off the Greenland icecap will change a couple of those things, but not all of them. It is a complicated computer model to determine what the final result would be.

Sen. Shockley advised that he too believes it is getting warmer but does not believe that CO_2 is the main factor. He stated that he had read, "The Little Ice Age", which talked about various climate changes that have taken place in the past and asked Mr. Running to comment on climate changes that have been part of history. Mr. Running advised that there is no doubt that we have had warmer temperatures on earth previously and there is no doubt that we have had higher atmospheric CO_2 before. He said that if you look far enough back into the records, you will see that there are a number of these cycles. But, he advised that some of the more difficult things to figure out are variables like volcanic eruptions that are completely random, but have a huge impact on the climate and like the continents not staying still so they aren't in the same place on the planet. He advised they have learned a lot about the dynamics that change the earth and what the various factors are that cause these changes. All of these factors are built into the best climate models. There are about a dozen lead models, all from various countries. The models then become part of the IPCC (United Nations Intergovernmental Panel on Climate Change) report. These are the very best climate models on earth.

Sen. Shockley asked why, if a century ago, they were farming on Greenland, but can't now, why are scientists worried, it appears it was warmer back then. Mr. Running advised that climate scientists are worried because we're accelerating by a factor of about a million of the basic carbon cycles of the planet. So a thousand years ago, it was warmer, but the atmospheric CO_2 was about 290 and now we're at 380 and increasing 2-3 ppm every year. It is a matter of the stability of the earth's system, we find that we are generating a de-stabilizing force that is unprecedented in human history. Sen. Shockley asked Mr. Running about Dr. Lamb's statement of believing in this theory, and how he questioned it because it can't be proved. Mr. Running advised that greenhouse physics was figured out a hundred years ago, so when you get down to the fundamental physics, that is not in question by anybody. Sen Shockley asked if the model really works, if you can take the temperature from 1950, plug the data in and get the actual temperature. Mr. Running advised that at a certain level of generality, with all dynamics included, the models have tracked from 1860 to present, the actual climate of the earth and this was done by a dozen different models. This does not mean that they can simulate the temperatures of an exact point. Sen. Shockley asked about water vapor, if it is more important in modeling than CO_2. Mr. Running agreed it is. Sen. Shockley advised that models don't always fit his criteria for science. Mr. Running advised that anyone who tries to project into the future must use models. He said he knows that people can be suspect of models, they don't understand models and they are suspicious of them yet they are the best summary of how they put all of their knowledge of the earth's system together. He advised that models are under continuous scrutiny.

Sen. Shockley asked Mr. Taylor why he believes it is getting cooler and why he is the only person who is saying it is getting cooler, when year over year, average temperatures are getting warmer. Mr. Taylor advised that over the last 10 years it has been getting cooler. That 1998 is the warmest year on record. He feels that since 1998, year after year we have gotten slightly cooler and he believes we have leveled out or hit a plateau. He agrees we were warmer than we were at the end of the little ice age and warmer than we were in the 1950s, but what we don't see is that temperatures are continuing to rise at the rate we expect them to rise, considering greenhouse gas emissions continue to rise. If greenhouse gas emissions are the

primary driver of climate, the temperatures would be leveling out over the last 10 years. Sen. Shockley stated that he does not agree, he believes the model is wrong and he can't accept that it is getting colder. Sen. Shockley asked Mr. Taylor where he is getting his information that 2006 was not warmer than 1998 and 1934. Mr. Taylor advised that NASA and NOA compiles this data and no one disputes it. Sen. Shockley advised that he 'Googled' 1934 temperature data and it said that 2006 was barely warmer than both 1934 and 1998.

Sen. Hawks asked Mr. Running why the North Atlantic ocean temperatures are rising and are significantly higher than the other oceans -- if there is something in the model regarding ocean flows that would explain this. Mr. Running advised that the data come from the NASA satellites and he believes that it is because it has very little ice melt coming into it (the North Atlantic) and because it isn't as large nor as deep as the other oceans, so it is probably due to its size and turn over rate. He also advised he is not an expert on ocean science. Sen. Hawks asked about the thousand year trend, what the factors are that cause these trends to break outside the norm. Mr. Running advised that the thousand year trend is the anomaly in global average air temperatures and the variability changes due to changes in history (changes in climate science throughout history), but the trend has to show the top end of where the climate models expect global air temperatures to be by 2100 at our current trajectory. He advised that the temperature increase they expect over the next hundred years is dramatically larger than any of the natural variability of the last thousand years.

Sen. Shockley stated that the theory behind the North Atlantic getting warmer is that the water is becoming less saline because the Greenland glaciers are melting.

Rep. Dickenson asked Mr. Taylor about the book, "The Little Ice Age", which Mr. Taylor has referenced during some of his discussion today. She stated that the author of the book discusses industrial and domestic coal burning and other variables which have caused global temperatures to rise over the past 150 years. Rep. Dickenson said that the author also discusses the solar issues and how they affect the climate and that the current human generated greenhouse gases, which were virtually absent during the little Ice Age, are almost certainly the major agents of the current sustained warming. She asked Mr. Taylor to respond to some of the comments made by this author. Mr. Taylor advised that the author might be an expert in history versus a climatologist. He advised that while coal was utilized in the mid-1800's, it was not used to a great extent and it was not widespread, so he believes it had very little impact on the composition of the atmosphere until about the middle of the 20th century. He noted that the charts showing 6 degrees Celsius of warming during the next century are not true. That even among the IPCC, their latest assessment of the average of their models is showing 2.5 degrees Celsius of warming over then next century, predicated on 1% rise of carbon dioxide emission each year when in fact the long standing history that has not changed is 0.5% increase in carbon dioxide emissions per year. Rep. Dickenson asked Mr. Running to respond to Mr. Taylor's remarks regarding temperature change. Mr. Running advised that the IPCC simulations are done with a number of scenarios where they attempt to evaluate what the fossil fuel emission rates will be over the next hundred years. One of the scenarios include Asia as a substantial carbon emitter in the future. The range of temperatures that are being projected are a function of the 12 different models used and the worst case scenarios go up to 5-6%

degrees difference. They don't consider this to be the most likely scenario, but more the worst case scenario. He advised that it is important for Montanans to realize, we are going to have higher than average global temperatures because of our latitude and because we are not near an ocean. Rep. Dickenson asked about the IPCC, with Mr. Running as a lead author designated by IPCC, she wondered about the validity of the IPCC, the review process they use, the peer review aspect and what the changes in scientific attitudes have been from 1991 to 2007. Mr. Running advised that the job of the IPCC is to read all of the relevant climate change literature of the past six years and analyze each of them. He explained that the contributing scientists from each of the 130 countries are nominated by their governments, as he was, to be part of IPCC. They have met four times over four years to read, analyze and summarize all of the substantiated literature. They have written three drafts of the summary and after each draft there were reviews by governments, by scientists and by the public and they were required to respond to every critique. The bottom line is that it is very hard to get something through the IPPC process that hasn't been scrubbed and re-scrubbed by experts all over the world. He advised the most readable document that is very informative and endorsed by the scientific community is the document on Most Frequent Questions (EXHIBIT 2).

Rep. Lambert asked Mr. Running how many days the fire season has increased. Mr. Running advised 78 days is the average and it is an average across the western U.S. and is compared to the period from 1970 to 1986.

Sen. Story asked Mr. Caprio about the precipitation events that are becoming greater in the temperate zones where all the populations reside currently, he wondered what is happening in the Equatorial and Arctic Zones. Mr. Caprio advised that the data he presented were from many points/areas in many parts of the world where people live, but there wasn't enough data in remote locations to determine those precipitation events. Sen. Story asked if more precipitation is falling in those zones because there is more water available or if more water is falling because there is less water falling somewhere else. Mr. Caprio advised that he has seen an explanation as to why we may have worldwide intense occurrences of precipitation. That with the warmer atmosphere and warmer oceans you have more humidity in the atmosphere with a greater opportunity to have heavy precipitation amounts in spurts. Sen. Story verified that because it gets warmer, there is more water vapor in the atmosphere, then there is more precipitation. Mr. Caprio advised that yes one leads to the other. Sen. Story asked if there was some kind of an event that would basically shield the sun out and lead to an ice age. Mr. Caprio advised he could not answer that question.

Rep. French asked Mr. Caprio about the studies of the increase in night time temperatures versus daytime temperatures. Mr. Caprio advised that there are more night time temperature studies because they see a greater significance, partly because the daytime temperature is compounded by the time of observation when they are measured later in the day. Many different extremes have been studied worldwide, but the greatest significance is night time temperature change. Rep. French asked Mr. Caprio if the increase in night time temperatures has had the most effect on the planetology of Montana and the world or have the daytime temperatures had the most effect. Mr. Caprio advised a fruit farmer would say the night time temperatures are most important, as they tend to kill the crops, but extreme daytime temperatures are very

important as well and can be very disastrous for certain crops. He advised that he can't say one is more important than the other, but they are able to detect more significant statistical changes in night time temperatures than they can in day time temperatures.

Rep. French then asked Mr. Farnes about the early melt of snow pack and how it affects river flow. Mr. Farnes advised that this depends in part on the total snow pack. Melt rate is not changed by the amount of snow pack, i.e., it is only going to take half as much time to melt the low snow pack as it does to melt the high snow pack. It is a combination of low snow pack, which has less run off and the fact that it is also occurring earlier. Rep. French asked if there are other factors that dictate the river flow, regardless of the early or late melting. Mr. Farnes advised that if precipitation occurs, if it rains at the same time the snow melt is taking place, then you will have higher flows because the soil is saturated, the snow pack is saturated, so the additional rain will cause additional stream flows. If you have just snow pack melting by itself, then it will be less than it is if you have rain with it. Rep. French asked Mr. Taylor about the 17,000 scientists who signed the statement that in essence is in disagreement with the scare of global warming. She wondered how many scientists are on the other side of the issue that have come out and said they agree with this statement. Mr. Taylor advised there has been no document signed in large scale by scientists on the other side of the equation. He stated there have been efforts to put together a counter document by various groups that agree with the alarmist theory and the most they have been able to get were a couple of thousand.

Ms. Conradi asked Mr. Running to speak about the timing of emissions, of fossil fuel and the response of the climate. Mr Running advised that they don't expect an immediate response of air temperatures from fossil fuel emission. Currently, about half of the CO_2 emitted by fossil fuels is being absorbed by the oceans and the land. He explained that we know that there are many feedback responses that occur before you end up with a final response by air temperature to emissions. These emissions are well mixed in the atmosphere. CO_2 is almost constant from the South Pole to the Equator because it is mixed so well. So regardless of where it is emitted it is mixed into the atmosphere pretty quickly and it immediately changes the energy balance because it is trapped. So, while it doesn't necessarily change the temperature immediately, it might increase the snow melt rate a little bit, it does increase plant growth in high latitudes with a longer growing period. After all these other feedbacks accumulate, you also end up with a bit of temperature response. He advised that in the discussion regarding water vapor and humidity, these are big moderators of the climate. Night temperatures are increasing and it's fair measure because humidity is increasing. We do have more water vapor in the atmosphere and that is part of dampening a pure temperature response to the CO_2 emissions, along with the other feedback responses.

Sen. McGee asked Mr. Running what policy issues he thinks are before the legislators in the State of Montana, considering these are global issues. Mr. Running advised we really do need a global solution agreed upon by all emission emitting countries in order to make a significant dent in this problem. There is no single state or single country acting alone who can accomplish much. It is an incredible challenge to get everyone to participate. He explained that Montana is a coal burning state and coal is the cheapest way to produce electricity right now as long as the changing climate is not included. The day that climate change is internalized in the cost of

burning coal for electricity, the economics will change stunningly. He believes it is important to look forward to opportunities that will change the energy environment. We are already seeing wind turbines, solar panels (which are still very expensive), hydro power, etc., all of these will help. Legislators in the future will need to look at and think about how to give a balanced economic race to future energy options so the best energy options win.

Mr. Brenden asked Mr. Running about non-firm energy (i.e., wind turbines), and the costs of spot market prices. He advised that when the wind doesn't blow and the turbines don't produce energy (when those alternative energy sources fail), then you have to buy spot market energy and the prices are astronomical. He questioned how you balance inexpensive, sustainable coal energy with global warming and the new alternative energy sources that don't always work when needed. Mr. Running advised that no single source will work because there will always be intermittency issues. We need many comprehensive energy solutions, with lots of options, including reducing demands and decreasing energy use per person. He stated that we really need a mix of technologies, hydro, wind, coal, solar, etc., to make it work for all of us and most of all to reduce the demand per person.

Rep. Witte asked about carbon sequestration and where the greenhouse gases go after they are trapped. Mr. Running advised that you can push the carbon down, but it is so expensive that it is not worth it at this point - possibly in the future, when it is refined. He advised that there are future projects, like producing a specific algae that could help dissolve CO_2 or developing biofuels out of a giant algae bed, these may not be that far fetched in the future. Rep. Witte asked if decaying dinosaurs are really part of fossil fuels and Mr. Running advised yes. Rep. Witte then asked Mr. Taylor about fossil fuels and he advised that the oil and gas industry doesn't fully believe fossil fuels are decaying dinosaurs because the oil and gas industries find that sites can regenerate, even after 20 years, and they can come back to a site and continue to produce gas and oil.

03:42:54 **PUBLIC COMMENT**

Chuck McGraw, representing the Natural Resources Defense Council and the Renewable Northwest Project, advised he doesn't believe "sides" need to be taken in the global warming issue, but that legislators should think about this as a global climate experiment that would have enormous adverse effects on human beings.

EQC COMMITTEE DISCUSSION REGARDING THE CLIMATE CHANGE PANEL DISCUSSION CONTINUED

Sen. Story asked about the conclusion of all the modeling that has been conducted showing that temperatures are rising. He wondered if the models are pointing to carbon being the cause of the rising temperatures. Mr. Running explained that the major cause is all of the greenhouse gases (not just CO_2), as well as water vapor. Water vapor is not as significant as the greenhouse gases. Sen. Story wondered if we stopped producing man-made CO_2, would it make a difference in the modeling. Mr. Running advised that the models have not penetrated down into the agricultural domain because the agricultural domain adds additional variables that

have yet to be addressed (the plan is to address those at the IPCC level in 2013). Sen. Story asked if plant photosynthesis is included in the models, where plants produce CO_2 and water. Mr. Running stated that the models definitely have plant photosynthesis and respiration in the models. He wrote part of that code in his lab, so he can speak to how the models treat the biosphere. They do have correct feedbacks for increasing CO_2, accelerating photosynthesis and the feedback of growing more plants in places that have enough water. Sen. Story asked if half of the carbon that we are emitting is being re-sequestered and the other half is staying. Mr. Running advised that we could start sliding backwards where the biosphere will take up less than half of the emitted CO_2, especially as the overall amount of CO_2 continues to rise - they are getting nervous that the biosphere might be reaching the saturation point of CO_2 uptake. Then you would see accelerated warming trend over the pace we already have.

Sen. Shockley asked Mr. Running where the missing CO_2 has gone. Mr. Running believes that half of the CO_2 is absorbing into the ocean, by physical mixing, not by photosynthesis and the other half is in the land biosphere.

Sen. McGee asked Mr. Running to clarify the fact that if plants utilize CO_2 and they also emit O2, won't that help correct the overall problem. Mr. Running advised they have been conducting what is called, "The Free Air Carbon Experiment" for about 20 years, where they triple the CO_2 in a chamber and watch the plants/ecosystem respond. He explained that plants do increase their photo synthetic activity by about 15-20%, but much of that comes right back off in respiration loss. The plants end up growing about 10-12% more, but then you worry if there is enough water to support the plants, because without precipitation the plants won't grow. If it doesn't rain, more crops won't grow. Sen. McGee clarified if there would be more production of O2 and Mr. Running advised that yes, there would be. Then Sen. McGee asked that if there is more CO_2 in the atmosphere and the temperature is continuing to warm, won't there be more water vapor evaporated from the oceans, non-saline water that can turn into rain. Mr. Running said they keep hoping that will happen and that the models project a more enhanced hydro-logic cycle which is more rain overall, but you have to factor in the geographic distribution of the rain and realize that some areas will get the rain and some may not.

Chairman Wanzenried thanked the panel for their presentations and then asked Rep. Dickenson to give an overview of the Governor's Advisory Committee on Climate Change. Rep. Dickenson advised that the committee has basically finished its work, except that they are working via conference call to reach a consensus on some of the issues they aren't all in agreement on yet. She stated that the goal of this committee was to be in consensus on all of the issues, transportation, land use, energy supply, etc., and they are almost there. The report was due to the Governor in July, but it is not finished yet. It is work in progress. The committee should have a final draft of the six-part document to the Governor by the end of September and then it will be ready for public comment.

Discussion Regarding the Direction from Council on the Climate Change Study

- Mr. Kolman advised that as soon as the Governor's Advisory Committee's recommendations are complete, the EQC could choose to do a number of things

with that document. The EQC could choose to hear from all the parties that provided input into the results of that document or staff can have an analysis done on the document. They could also look at what other states have done in regards to these issues. Whatever the EQC would like to do with this document, he would be glad to coordinate.

- Rep. Vincent advised that he feels it is important to talk about these issues and not focus on whether it is or isn't happening, but to look at it like it is happening. To treat it as a global experiment and what we can do about it. He would like to bring in more experts, look at it from a global perspective, look at the economics and continue to learn about the issues.
- Mr. Brenden advised that he has an article on global warming by S. Fred Singer that is very informational. He would like to distribute it to the EQC (EXHIBIT 8).

- Sen. Story advised that between now and the next meeting, as Montana policy makers, legislators can only do what they can do, but he felt it would be helpful to learn about economic factors related to global warming. For example, if Montana doesn't want to burn coal, it would be helpful to know the economic cost of that decision and also the economic benefit of continuing to burn coal and also to learn about the tax advantages of the different energy sources. So in the end, if the EQC can have more economic discussions regarding global warming, it might be helpful.
- Sen. McGee advised he believes there are things we can do differently and do better as a society to help this effort, so as policy makers we need to determine what it is we can do and lead those efforts. He would like to see the Legislature appropriate funds to the university system to work on a solution to hydrogen fuel cells or something similar. He would like to see us take the lead on these types of issues.
- Sen. Hawks feels that with the threats to the current energy supply, we should be on the road to creating our future energy supply and thinking of every energy source available to us. And the Legislature had better be creating policy to try to meet those future markets, so we are prepared when things change in the world and we are then one step ahead when the energy needs must be met.
- Rep. Dickenson advised that for the next EQC meeting in January, she would like to see the EQC take the Advisory Council report and dissect it by section. EQC members could be assigned sections to study and read and then report out or summarize the section at the next meeting. She thought the EQC could then discuss what they thought they could do with the recommendations and where they see the possibilities for policy change or legislation.
- Rep. Vincent thought that instead of assigning the EQC to sections, he would like to have the EQC look at the entire report and come up with overall recommendations.
- Rep. Dickenson thought it was a good idea to bring in an expert who worked on each section, to help present the recommendations, but she advised that the document is so large, it would take quite a bit of time to go through.

- Sen. Story didn't think we should 're-plow' ground already plowed, why not wait and look at it and then decide what the EQC wants to do with it.
- Rep. Vincent asked how many EQC meetings there will be between now and the next legislative session. Mr. Kolman advised 5 meetings, January, March, May, July and September.
- Chairman Wanzenried advised that the January meeting could be extended an extra day and the extra time could be spent on the report.
- Sen. McGee advised that he wants to look at the entire document, but he recommends that members of the Governor's Council come in and present and then it can be discussed by the EQC.
- Mr. Brenden agreed that if the report was sent out far enough in advance, it would be worth seeing and reviewing the entire document prior to the next meeting.
- Louise Moore, Chief of the Energy and Pollution Prevention Bureau at the DEQ, advised the report will be a 50 page document, giving a summary of what the group did, along with a 10 page appendix. There will also be a series of six lengthy documents: 1) An inventory and forecast/calculation document of what we put out in the atmosphere in Montana. The additional documents will have policies attached: 2) Transportation and Land Use, 3) Ag and Forest Waste, 4) Residential, Commercial, Industrial and Institutional Recommendations, 5) Energy Supply, and 6) Cross-cutting, how we measure what we do. Sen. McGee asked Louise Moore if she would give the committee an overview of the report at the January meeting. She advised either she or Richard Opper would be glad to do that.
- Sen. Story summarized the action between now and the next EQC meeting; that the EQC will get a copy of the Advisory Council's report and then a member of the DEQ will summarize the report at the next EQC meeting in January. The EQC will determine what to do from there. Chairman Wanzenried asked if it would be helpful to have additional advisory members present at the January meeting. Rep. Witte felt that since the EQC will be hearing about the document in January and meeting again in March regarding the recommendations, maybe it should wait till then. Chairman Wanzenried advised he just wanted to make sure the EQC makes the best use of their time.
- Sen. Kaufmann also requested a public comment section be added to this action, so people can include their thoughts and comments if they choose.
- Ms. Conradi asked Rep. Dickenson if there were work groups set up during the development of this report and if so, it might be helpful to have the leaders of these work groups present during the January meeting. Rep. Dickenson advised there were no leaders of the work groups, but she could get representatives from each of the work groups to be at the next meeting to help answer questions.
- Sen. Kaufmann stated that instead of just advertising public comment, that maybe people should be invited to respond to this document who have spent time on it. This would create more of a 'panel' than an 'open-mic'.
- Rep. Vincent asked when the report will be out. Rep. Dickenson advised the report will be out at the end of September. Rep. Vincent stated that he also

agreed with Sen. Kaufmann and would like to hear the debate continued in January.

- Mr. Kolman will follow-up on the ideas discussed regarding the January meeting.
- Chairman Wanzenried asked the EQC if they agreed to another panel type discussion in January and the EQC agreed.

04:29:07 **RECESS OF 09/13/07 EQC MEETING**

draft