

Climate Change Integration Group
Labor & Industries Building
350 Winter St, Room C
Salem, OR 97301
July 27, 2006
9 AM – 3 PM

Present at Meeting:

Integration Group

Ned Dempsey and Mark Abbott, Co-Chairs

Gail Achterman, Lisa Adatto, Susan Anderson, Mike Burnett, Rex Burkholder, Bob Doppelt, Dr. Mel Kohn, John Ledger, Sister Pat Nagle for Jenny Holmes, and Dave Riley,

Via conference call: Christine Ervin and Greg Jones

Other Attendees

Jon Allan, Sven Anderson, Bill Drumheller, Diana Enright, Marianne Fitzgerald, Michael Grainey, Laurel Hillmann, Justin Klure, Barry Norris, David Van't Hof and Jenifer Wetherbee

Chair Abbott called the meeting to order at 9:15 AM. Introductions were made around the room.

Chair Abbott briefly talked about climate and weather issues. He then stated that he wants to see where the state agencies are in terms in terms of climate change issues and he also wants to assess what the Governor's office has already done.

Gail Achterman asked if during today's meeting they could discuss the calendar on legislative concepts. One of the recommendations of the Governors Advisory Group was to set up a group like the one we have here today and have legislation create a group like this on an ongoing basis. Ms. Atcherman suggested that the group go into the 2007 legislation with a legislative concept creating some broadly based representative group that would be looking at this issue for Oregon across all the agencies. She asked Michael Grainey to include that as part of his report.

Michael Grainey, Oregon Department of Energy introduced himself and gave a brief overview of highlights of major issues from the Governors Advisory Committee on Global Warming Climate Report that was issued in December 2004. The Governor adopted and endorsed that report with its recommendations. Justin Klure has a matrix of all those actions and he will be keeping that up to date as things go along. There were four integrating actions from the original advisory committee. Ms. Atcherman already touched on the most important one, continuing the advisory group in some form, which is what this committee is. The advisory group thought it was important to continue the work of the committee to focus on some major tasks. Those tasks are:

- To evaluate the implementation of that report.
- Develop an adaptation strategy for the changes that are likely to occur.
- Develop a public education plan.
- Advise the Governor on other state, federal and international actions that should be taken to avoid the impacts of climate change.

There are two other task forces that were recommended in the original advisory report. The first was to focus on utility carbon allocation. They set up the Carbon Allocation Task Force. That group has been meeting since September 2005. They have been working on what types of restraints, caps, and incentives that should be used for carbon reduction in the utility sector. The utility sector is one of the two largest sectors for contributions to CO₂ and other green house gases (GHG). The second task force focused on the other major sector, which is vehicles. In particular it focused on the California tail pipe emissions standards. That was under the Environmental Quality Commission. The task force met, completed its work and the Environmental Quality Commission adopted the California tail pipe emissions standard as a temporary rule in December 2005 and just recently adopted final standards. The second recommendation was that the Governor should adopt near term, mid term and long term goals for GHG reduction. Those were recommended in the original plan as:

Climate Change Integration Group

Labor & Industries Building

350 Winter St, Room C

Salem, OR 97301

July 27, 2006

9 AM – 3 PM

- Near Term – Benchmark CO₂ emissions being reduced to 1990 levels. Currently we are about 15 percent above 1990 levels.
- Mid Term – To be 10 percent below 1990 levels by 2020, which will get us close to the Kyoto treaty targets.
- Long Term – To get a 75 percent reduction below 1990 levels by 2050. 75 percent was viewed as a level that would be stabilizing overall impacts of CO₂ emissions.

The Governor as part of his endorsement of the advisory committee's final report adopted those goals.

There were two overarching recommendations. One was that the Oregon University System develop an RD&D program for GHG. Ms. Atcherman added that we need to pay attention to how much support there is for implementing this proposal. The other was to develop an educational program, which is something that will be an ongoing responsibility of this committee.

The second large category of recommendations was energy efficiency measures. This is because of the large percentage of carbon dioxide and other GHG coming from the utility sector, both electricity and natural gas. The following recommendations are from pages 57-65 in the report of the Oregon Strategy for GHG Reductions.

- The state should adopt and implement the NW Power and Conservation Council's goals for energy efficiency, which for Oregon would be about 960 MW and to make comparable energy savings in natural gas. ODOE has supported those goals.
- Upgrading state building codes by at least 15 percent by the year 2015. Building codes is a substantial portion of our energy savings. The building code process for review is every three years. The next residential cycle for review from the Building Code Agency is 2008, with the effective date for code changes 2009. The Department of Energy staff is in the process of developing a package of measures that would be cost effective to go forward in that process. Mr. Grainey's expectation is that it will exceed the 15 percent savings. The commercial code update is scheduled for 2010, with the effective date of 2011.
- Increase in appliance standards. Some are set on a national level where progress has been very slow. Some where federal government has failed to act we set on a state level. Last session legislature passed House Bill 3363. There are 12 items that were included to update appliance standards that were the same as California, which is substantially stricter than the federal standards.

The members requested a more detailed chart than what is in the original report to show MW and what percentage of our GHG emissions comes from which sector.

Next Mr. Grainey discussed the list of legislative proposals for 2007 that come from the Renewable Energy Action Plan (REAP). There are five bills that pick up 20 items that involve legislative actions. There is a Renewable Energy Working Group consisting of about 40 people who are actively involved in the details of those bills. There will be meetings in August and September and we hope to finalize those bills to turn into the legislative council for pre session filing for next year.

Chair Abbott announced that Mike Burnett and Christine Ervin are going to head up the mitigation subcommittee. He asked that if a member is interested in participating in the group to let Justin Klure or Bill Drumheller know.

Bob Doppelt began a power point presentation on The Economics of Climate Change. See presentation at <http://www.oregon.gov/ENERGY/GBLWRM/CCIG-meetings.shtml>.

Key Points from Presentation

- From an economics perspective climate change is an externality. In this case it is a very unique externality.
- The people that will be affected the most by this externality are future generations.

Climate Change Integration Group

Labor & Industries Building

350 Winter St, Room C

Salem, OR 97301

July 27, 2006

9 AM – 3 PM

- Approaches to Economic Assessment
 1. Integrated Assessment Models
 2. Sectoral Analysis (this is what we have been doing so far)
- Pathways determine overall impacts
 1. Slow moderate warming (most models are based on this assumption)
 2. Flickering – earth trying to find balance, bring more extreme events
 3. Abrupt change – tipping point may trigger abrupt changes i.e.: ocean acidification, collapse of Greenland, methane release from tundra, etc.
- Small changes can lead to very big impacts
- Last year a group of economists and scientists got together to try to figure out what the economic impacts of climate change are for Oregon. Instead of trying to gather new information they looked at existing studies to see what economists have already said about the economic impacts for Oregon. The economic team found out that Oregon is particularly vulnerable because we are so dependant on fresh water for much of our economy and most of that fresh water is dependant on snow pack. The snow pack is by far the largest reservoir of fresh water in our state. The estimate was that as the mountain snow pack disappeared by 2050 (if that is actually what is going to happen) farmers in Oregon would loose about half the water that they use today, valued at \$265 million to \$ 995 million. This is the most critical initial issue.
- The most vulnerable sections due to water availability are:
 1. Agriculture and Agriculture dependant communities
 2. Forestry and Forestry dependant communities
 3. Municipal drinking water
 4. Power production and costs
 5. Public Health
 6. Winter Recreation and tourism
 7. Coastal infrastructure, tourism and recreation
- Global Warming is likely to fundamentally change the way the economy operates.
 1. Direct effects on output – effects on water availability, energy and material costs, transportation, etc. (this is what most economists have been studying).
 2. Increased depreciation of capitol – equipment and technology will need to be replaced more often.
 3. Adverse effects on human skills – health, increased heat issues, psychological stress related to the heat, increased pathogens ex: West Nile Virus, etc.
 4. Cumulative Impact of all these effects (we can't predict that yet).
- There are three areas that adaptation needs to focus on.
 1. Figure out policies and programs to help adapt our ability, our built systems, our infrastructure, buildings, water systems, etc.
 2. Human systems – public health systems, social welfare, etc.
 3. The natural system – forests, wetlands, etc.
- The goal should be from a broad perspective to make the economic impacts negligible early on in whatever we do, while trying to stimulate the innovation, break the path dependency we have on certain ways and then produce a net economic benefit in the future.
- From an economics perspective, economists suggest an insurance approach be taken.

Chair Abbott asked Mr. Doppelt “Is there is a role for a carbon based currency to help incorporate some of these longer term impacts and how does that change people’s behavior?” Mr. Doppelt answered that a cap and trade system does that.

Chair Abbott announced that the next CCIG meeting will be September 8 in Portland at 10 AM. Rex Burkholder offered to host that meeting at Metro.

Climate Change Integration Group
Labor & Industries Building
350 Winter St, Room C
Salem, OR 97301
July 27, 2006
9 AM – 3 PM

Bill Drumheller started a discussion on Adaptation Planning: Government Agency Focus. The key part of the adaptation is the part of the Charter which states that this group is suppose to provide recommendations on how the state can become more resilient and adapt to unavoidable changes as a result of climate change. Within that focus the group will be looking at the private sector, organizations, and private citizens although this group will primarily focus on organizational entities. Today we will start by reviewing state agencies, local government and regional agencies. There is a report due to the Governor by the end of this year and the most immediate thing the state is interested in is actions Oregon should be taking. Once we have an idea of the planning processes and status of current events for the state agencies we will pick two or three topics of key impact areas and look at the spider web of interactions between those agencies and the private sector and really map those out. Mr. Burkholder expressed concern about narrowing down to two or three key areas, he mentioned that today we have already heard numerous areas. Chair Dempsey said he wants to outline a scope of work that needs to be done. Susan Anderson suggested that instead of having the key areas be Transportation, Agriculture or Forestry look at health, economic impact and environment. Mr. Drumheller announced that staff would be building a primer on the adaptation issues.

Jonathan Allan, Department of Geology and Mineral Industries (DOGAMI) began a power point presentation on Agency Planning for Climate Change Impacts on Oregon Coasts.

Key Points from Presentation

- DOGAMI was given permission in 2000 to develop a coastal field office in Newport. The mandated task is to undertake applied geologic research on a broad range of hazard related issues along the whole length of the Oregon coast.
- Long term erosion rates are 0.18 – 0.4 meters a year.
- Coastal Hazards – Landslides
 1. Effects Highways (e.g. 101), landslides blocked Hwy 101 between Coos Bay and Florence.
 2. Local landowners and developers
- There are many processes that are important for instigating responses on our beaches.
 1. Storm generating waves
 2. High tide due to either combinations of El Ninos or storm surges
 3. Large shifts in sand due to variations in the storm tracks
 4. During El Nino we see more erosion at the Southern end of our beaches
 5. Sea level rise, sea level is rising at a current rate of 1-2 millimeters per year.
- DOGAMI has been doing analysis work looking at the responses of ocean waves along the West Coast. There are very distinct seasonal happenings, bigger waves in the winter than in the summer.
- Recently they have identified large increases in major wave heights. The biggest storm to date (at least in 30 years of wave measurements) occurred in 1999 generating 45 foot waves off the sea floor. That storm resulted in dramatic erosion in places like Rockaway Beach, Tillamook County and Seaside.
- Extreme storm waves, since 1997 there have been 9-10 events where the waves exceeded 10 meters about 33 feet.
- Identified progressive changes in off shore wave climate both in terms of the table increases and the wave heights.
- Average winter wave heights have been progressively increasing over the last 30 years.
- Implications of current and future changes to the North Pacific wave climate.
 1. Operation and safety of shipping
 2. Coastal erosion problems
 3. Design of coastal engineering structures, particularly the jetty's
- El Ninos and La Ninas in the Pacific Northwest
 1. El Nino and La Nina represent opposite extremes of climate

Climate Change Integration Group

Labor & Industries Building

350 Winter St, Room C

Salem, OR 97301

July 27, 2006

9 AM – 3 PM

2. Average conditions are prevailing
3. El Ninos have a dramatic effect on our ocean water levels

Mr. Doppelt asked how aware the coastal cities are on these issues? Mr. Allan answered that they do lots of workshops and public outreach. There is a very high turnover of coastal planners; therefore the information doesn't get passed on.

Laurel Hillmann, Oregon Department of Parks and Recreation gave a brief overview of the department and informed the group on things their agency is starting to look at in terms of climate change.

- ODPR owns 200 parks across the state; approximately 70 of those are directly on the oceanfront.
- ODPR is responsible for managing the 362 miles of ocean shore, which is basically the entire coast.
- Issues and concerns ODPR has identified as potentially affecting the agency as a result of climate change.
 1. Potential of sea level rise affecting recreation areas
 2. How erosional forces might increase dramatically with increasing storm activity on developed and likely to be developed areas on the ocean shore.
 3. ODPR is responsible for permitting all the improvements, hard structures, riprap. Including hard structures that would be put in place to potentially protect coastal properties from the effects of increased erosion as a result of increase wave action and sea level.
 4. Climate change could potentially affect permit requests.
 5. Potential for an increased precipitation
 6. Potential for reduced snow packs causing competition for water among recreation vs. agriculture, since parks are largely focused around water that is a concern for ODPR.
 7. Role of agency as a consumer, electricity use and using gas driving all over the state.
 8. The agency is interested in knowing what kinds of information the committee is going to recognize as being expected outcomes of climate change in Oregon. They hope there going to be predictions so that the agency can make long term planning.

Maryanne Fitzgerald, Oregon Department of Environmental Quality gave a brief overview of the department and informed the group on things their agency can do.

- Agency maintains and enhances the environment
- Agency is organized by environmental statute
- The best example of how DEQ might adapt to climate change is in their Air and Water planning processes.
 1. The higher temperatures associated with climate change would lead to higher episodes of summer time smog. This past Friday we had the highest ozone readings than we have had since 1998.
 2. Oregon has great air quality, especially in the summertime, compared to the rest of the United States. DEQ has done studies of meteorology to determine if our air quality is because the wind is blowing better and it's all dispersing away or because of something that DEQ did. They found out that the some of the controls they put in place in particular on the gasoline vapors and gas stations have worked with improving our air quality.
 3. In a normal planning process DEQ would monitor the air quality levels and if they exceeded the standards a planning process would get initiated. They would look at the sources of pollution, which ones are the biggest, which are the most effective ones to control and then either provide incentives to reduce the emissions or mandate certain reductions.
 4. The water quality programs works in a similar way. They have water quality extreme monitoring across the state. Every three years they look at data and try to determine where the water boundaries exceed the standards. Temperature is the most common water pollutant where the standard is exceeded.

Rex Burkholder gave a brief overview of what Metro is currently doing.

- They are doing nothing regarding CO2 emissions and adapting to climate change.

Climate Change Integration Group

Labor & Industries Building

350 Winter St, Room C

Salem, OR 97301

July 27, 2006

9 AM – 3 PM

- They are doing many things that indirectly affect climate change. (ex: recycling)
- Metro is responsible for the land use and transportation planning for the Portland metropolitan area, they also run the solid waste disposal system and the recycling part as well.
- In the Portland metro area 38 percent of CO₂ emissions come from the transportation sector.
- The City of Portland stated in a news release last year claiming that they had made the Kyoto protocols staying at 1990 levels. The actions that took place to get them to that level were regional actions.
 1. The regional transit system, which provides transportation alternatives.
 2. The land use planning system that has shortened trips considerably and reduced the amount of driving.

Chair Abbott suggested that at the next meeting we should hear more from the state agencies and get some industry perspectives on these issues. He told Mr. Burkholder that he would like to hear a longer presentation on the Metro urban planning transportation system approach, and suggested that be an agenda item for the next meeting. He also asked Mr. Burnett and Ms. Ervin to have a presentation on what they see as a Charter for the Mitigation Subcommittee.

Mr. Van't Hof stated that we need to have a report to the Governor by November. The proposed scope of that report was to be broad; to lay out the picture of why this issue matters and how vast it is in terms of what it will impact. It can be more detailed around what the specific recommendations are for 2007 legislation. Mr. Van't Hof thinks the group can develop a range of pieces that will fit into that report.

Chair Dempsey adjourned the meeting at 3:20 PM.