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DRAFT

Summary of Alaska Climate Change Mitigation Strategy Meeting

Meeting #4, November 6, 2008

Anchorage, Alaska

Attendees:

MAG Members: Karen Ellis, Meera Kohler, Sean Skaling, Greg Peters, Dave Hite, Bob Batch, Rick Harris, Jeff Cook, Kate Troll, John Rubini, Dan White, Kate Lamal, Steve Denton, Ann Whitney, Paul Klitzke, Curt Stoner, Jamie Spell, Brian Davies

Public (includes TWG members): Peter Larson TNC, Lance Wilbur, Kim..., Claire Fitzpatrick, Liz Glushenko (O&G), Chip Trauman (TLU), Jamie Norman (O&G TWG), Clint Adler (Research Needs Group), Donna Mears and Doug Buteyn (FAW), Janet Bounds (O&G TWG), Jane Williamson

State: Larry Hartig, Jackie Poston, Susan McNeill, Kolena Momberger, Diane Schellenbaum (DNR/O&G TWG), Dick Lefebvre (Subcabinet on Climate Change), Jim Pfeiffer (O&G), Scott... (DNR or DEC?),

Joining by Phone: Howard Wilmot, Sr. & Brad Inowa (Shismaref), Clint Farr (DEC), Katherine Heumann (DEC), Scott Sloan (DEC), Steve Colt (ESD TWG), John Mormon (O&G TWG)

Facilitators: Dick LaFever, Brian Rogers, Ken Colburn, Steve Roe, Gloria Flora, Jeremy Fischer, Nancy Tosta, Fran Sussman (AK-A/O&G),

Intro- Jackie Poston on behalf of Commissioner Larry Hartig

- Thanks to all TWG's and John Rubini for hosting the meeting and lunch.
- Update on Outreach: several activities for outreach to native peoples and Alaska citizens. ATCEM, consortium of 13 agencies seeking to provide more information on climate change.
- Process: Mitigation done balloting. Two Adaptation Technical Work Groups (TWG) still need to ballot.
- Other Information: Recent Arctic Net presentation on climate impacts. Forum on the Environment slated for first week of February.
- Comments from Dick Lefebvre - member of Subcabinet, thanks for contribution.

Process - Ken Colburn: Review of agenda and process.

- MAG Meetings: Next meeting Thursday, Feb 5. Will have text of draft straw proposals for MAG review. Meeting #6 scheduled for March 23rd. Meeting #7 tentatively April 29. Location TBD on both.
- Stepwise planning process overview
- I&F in draft on web www.akclimatechange.us - comments welcome.

Straw Proposal Review - Gloria Flora

- Review of template for policy option descriptions
- Straw proposals describe the policy option; provide design details that include goals, timing, parties involved and other features germane to implementation.
- Further sections provide detailed information on the kinds of greenhouse gasses (GHG) targeted for emission reduction, quantification of the amount of GHG reduced and at what cost.
- Template also includes qualitative information such as additional costs and benefits and feasibility issues.
- Status of group approval is tracked throughout the process
- The level of group support (consensus, super-majority, majority) and any barriers to consensus are noted at the conclusion of the process.
- The template for policy option descriptions will be posted on the website and emailed to all MAG members. Facilitators will distribute populated option templates for their sector to their TWG members.
- No further prioritization is required. Once the list of policy options to be analyzed, either quantitatively or qualitatively, is established, they are all essentially equal. The analyses will show which ones have more "bang for the buck" but decision-makers and legislators will want to pick and choose the options that suit their situation and resources best. Charts and graphs as well as narratives in the final report will display the differences and values of the options.

MAG Questions

Please clarify the consensus process, how is consensus achieved?

For today's meeting, as we go through the Straw Proposals, we will discuss each one individually asking for objections or concerns, all of which are recorded. If there is an objection, we will seek an alternative that addresses the objection, e.g. a better data set or another process improvement.

Why use the word 'mandate'? It's up to the TWG and MAG how to qualify and describe Implementation Mechanisms and tools to accomplish objectives.

How are philosophical concerns handled? Discussion and reference back to direction from Governor and Sub-Cabinet on expectations and framework.

Quantification Process –Ken Colburn:

This material is available on the website: www.akclimatechange.us

See "Quantification Memorandum" handout.

- Cost-effectiveness analysis, not a cost-benefit analysis. Planning process not a compliance process.
- Discussion of end date: currently 2020. MAG can suggest a longer timeframe. If it goes out to 2030 or longer, the numbers become less reliable. Some states have set two goals, a near term (ex.2025) for detailed analysis and then a longer term aspirational goal (ex. 2050). MAG recommends 2025. Inventory and Forecast will be adjusted accordingly. We have some flexibility, as there is no date/timeline in the Administrative Order.
- Geographic area - most analyses confined to within state except under circumstances where direct benefits accrue outside of state from actions taken by AK.
- Not all policy options can be quantified.
- Program-level caveats: not writing legislation or actual policy, but rather policy planning guide.
- Reviewed specific steps and how all analyses are transparently documented
- It would be important to make note of who pays for these investments (i.e., who buys the compact fluorescent).
- What's the discount rate? 5% but this group could choose a different rate. Generally adhere to EPA's approach so results can compare and contrast to other states
- Have any states used dual private discount rates? No, it removes the ability to compare between options.
- Who actually does the quantification? MAG provides overall direction (discount rate, target dates), TWG provides assumptions, data sources, sideboards, TWG Facilitators do the actual number crunching and documents process.

POLICY OPTION DISCUSSION AND RECOMMENDATIONS

*Reference materials in handouts and posted on the website www.akclimatechange.us
Examples from other states can be viewed on from links found on www.climatechange.alaska.gov*

Transportation and Land Use TWG: Jeff Ang-Olson

Balloting conducted in August and reviewed by MAG in September. Nine recommended high priority options.

TLU 1 – Transit, Ridesharing, Commuter Choice – statewide, includes expanding intercity rail and bus; employer incentives (flexible work schedules, transit passes, etc.); MAG suggestion – include car-sharing (Flex-car, Share-car). Statewide.

TLU 2- Vehicle Idling – Any technology limitations, such as in cold weather? Not with modern engines, but most states with idling regulations have “escape clause” if temperatures reach extremes. Technologies to sense engine block temperatures could be incorporated. Consider efficacy of engine idling restrictions in extreme cold environments. Consider including light duty vehicles.

TLU 3- Transportation System Mgmt –on-road highway speeds will be addressed, on-water or aircraft speed not regulated except in safety areas Air Traffic control dictates.

Congestion points addressed. Traffic signal synchronization. MAG recommends including road surface/infrastructure conditions (Dalton Hwy, North Slope route for example)

TLU 4 – Promote Efficient Development Patterns (Smart Growth) – Coordinate with Alaska Municipal League work.

TLU 5 – Promotion of Alternative Fuels Vehicles – Fish oils and cooking oils have high potential for biodiesel production in AK. Cold temps provide a very challenging situation for alternative fuels (gel up).

TLU 6 – Vehicle Miles Traveled (VMT) and GHG Reduction Goals

TLU 7 – On-Road Diesel Engine Efficiency Improvements

TLU 8 – Marine Vessel Efficiency Improvements – Consider loans for vessel operators to upgrade to more efficient engines. Phase out 2-cycle or out-board engines.

TLU 9 – Aviation Emission Reductions – significant fuel savings from pilot choices and improving air traffic patterns (through federal Air Traffic Control). 130% efficiency improvements in last decade through self-motivation within industry. Take advantage of opportunity for showcasing Fed Ex or other airline actions, such as the phasing out 727s and shifting to 757s yields a 32% increase in efficiency. Huge national issue – AK reliance on air travel underscores importance here.

MAG Discussion:

- Some concern for number of options. 11 members voted. They had a catalog of about 50 options, they allowed for bundling. At end of day, they had 8 priority options but nothing related to air sector but they added it because of its significance.
- Two proposals to reduce options to 4 or 5. Supermajority of MAG did not agree.

MAG Recommendations:

- Look at combining the policies related to fuel efficiencies (TLU 7, 8 and 9)
- MAG asks for assurance that all options are “Alaskanized”, that is, considers extenuating circumstances related to transportation in a state this large with a dispersed populations and extreme climate challenges.
- Consider bio-diesel promotion and production (under TLU 5 or in FAW)

Energy Supply and Demand TWG

ESD 0 -- Eliminate Policy Barriers – overarching policy option, focusing on state policies, applies to all options, some federal will be identified as well as local. Unquantifiable. Move to CC TWG.

ESD 1 - Transmission System Optimization and Expansion – includes Smart Grid, transmission capacity and outreach

ESD 7 – Energy Efficiency for Residential and Commercial Sectors

ESD 9 – Implementation of Renewable Energy

ESD 6 – Building Standards and Incentives. Should we be mandating or requiring building standards, or codes for energy efficiency? - concern from one member about mandates. It’s up to the TWG to recommend required or voluntary measures. A pro and con list may be useful for the MAG.

ESD – 2: Should be moved up the list of priorities for consideration by the ESD TWG. ESD 12 - Small Scale Nuclear – MAG requests that this option be analyzed despite difficulties in siting and permitting.

ESD 13- Education on Energy Efficiency - Move to the Cross-cutting TWG to be incorporated in their overall Education and Outreach policy option. Continue to forward ideas and concerns regarding education to the CC TWG including resources, implementation mechanisms, etc.

MAG discussion: Energy is key to GHG reductions, should have more options analyzed. For example these top four do not address how to reduce carbon emissions in fossil fuels-based power generation. Energy Efficiency for Industrial Sector should be brought back in.

Small scale nuclear worth considering as there is one small project in the permitting process but there are national constraints to moving forward.

Any consideration of actions to reduce SF₆ (sulfur hexafluoride) emissions, the most powerful GHG gas? TWG looked at but total quantities of emissions are very small in AK.

What constitutes high, medium low in ranking in tons of GHG emissions reduced? For this part of the process, the nominal ratings served as guides to the assumed level of emission reduction and costs. Within sectors, these ratings were relative. Once priority policy options are selected, the actual quantification process should progress with verifiable assumptions.

Is it possible to bundle more options? Yes, but if they each are to be quantified, it does not streamline the work. It may be useful in adding more clarity by linking related options in one group.

MAG Recommendations:

- Bring all medium and high priorities forward for analysis. Bundling and reductions in options possible at discretion of TWG.
- Education important but can be covered in Cross-cutting TWG.
- Move ES-0 and ES-13 to CC TWG as unquantified options.
- Build off of ideas in 2008 Energy legislation. As part of analysis, review other effective policies being recommended or implemented

Oil and Gas

Primary GHG emissions in AK are from the O&G industry from natural gas combustion. Thorough breakdown of sources, location and volumes in PowerPoint. Summary: Prudoe Bay largest emitter, primarily from compression of gas with high CO₂ content. Flaring and diesel in drilling rigs are other emission sources (diesel in vehicles is accounted for in transportation sector). Cook Inlet includes power production, refinery, and fields. Pipeline (Alyeska) very small contributor.

Overarching Policy Options: Balloting: 12 of 15 members voted, 3 abstained, consensus.

1. Evaluate how GHG regulation programs could impact industry.

2. Assure up-front planning for resource capacity to meet recommendations
3. Prepare for regional trade-offs (carbon and pollutants).
4. Streamline permitting for GHG-reducing projects
5. Inform policy makers of findings

O&G 8 - Evaluate Carbon Sequestration, Capture, Storage and Reuse (such as, Enhanced Oil Recovery [EOR]) as associated with existing oil and gas fields.

O&G 4 - Use Low Carbon Fuels (North Slope applicability - where CO₂ is high)

O&G 1 - Expand Statewide Distribution of Power to O&G Operations. Includes increased generation of energy on site and expansion of the grid.

O&G 2 - Improve Energy Efficiency at Oil and Gas Operations

O&G 6 - Renewable Energy for Oil and Gas Production

MAG Discussion:

Is there any complete CO₂ sequestration occurring in AK now, or anywhere in the world? Yes, primarily associated with Enhanced Oil Recovery (EOR). Economics is a key consideration.

Value on gas and price of carbon could dramatically affect economics.

Most selected options appear to not be economically feasible today. Cost of carbon and changes in technology may make more feasible. Time frame in O&G industry for planning and implementation is necessarily longer than with other sectors.

Would like to see Option 9 (CO₂ Sequestration not associated with existing oil and gas fields) included as part of O&G 8, even if addressed qualitatively. TWG concern that finding suitable geologic sequestration reservoirs away from fields is difficult and expensive. State is researching this issue already. Can be option be used to support and enhance existing state program?

Option 10 - Fugitive Methane - why did this receive low rating when impact of methane is so much greater than C? Appeared to be very small volume. But for a small investment, methane could be dealt with.

What is "economically feasible"? Suggestion for a screen not accepted. Bring all options forward, looking at what's best for AK. Circumstances and pricing could change significantly during life of Plan.

MAG Recommendations:

- Add O&G 9 Carbon Sequestration (not associated with oil and gas fields) to O&G 8 as an unquantified subset.
- Add O&G 10 - Fugitive Methane
- O&G 1 and O&G 6 -optimizing energy transmission and using renewable energy... should these be in ES&D instead? Joint meeting of ES&D and O&G identified two different approaches to similar topic. Possible overlap. Move forward to next stage

to more fully develop the policy description. Reevaluate at next meeting whether to merge or keep separate.

Cross-Cutting TWG

CC 1 – GHG Reporting and Inventory

CC 2 – GHG Emission Reduction Goal - can be aspirational but realistic.

CC 3 – Identify and Implement State Government Mitigation Actions

CC 4 – Coordinate with State Energy Plan and Natural

CC 5 – Identify Incentives for GHG Reductions, Green Technologies, and Energy Efficiencies

CC 6 - Advocate for and Participate in Cap and Trade or Other Market-Based Systems (includes recommendation to join the Western Climate Initiative (WCI)).

CC 7 – Establish a State Coordinating Program for Addressing Climate Change – includes education, outreach and identifying specific agency responsibilities.

MAG Discussion:

Consumption vs. production not applicable in Alaska. Use direct vs. indirect. Small consumers are not required to participate in reporting and inventory programs. *Investing in Climate Protection Act of 2008* has a mandatory reporting system for those using the equivalent of 1mm gal of diesel or more, likely scale of required participation.

CC-1 - GHG Reporting and Inventory. Why were natural sources included? To establish a baseline but volume not included in reduction goals. Natural quantities can be established from science. But what constitutes natural vs. unnatural in, for example, GHG emissions from forest fires or melting permafrost. Distinction used by International Panel on Climate Change (IPCC) is: sources from managed landscapes count as anthropogenic (human-caused), emissions from unmanaged landscapes count as natural.

CC 2 – GHG Emission Reduction Goal. Goals can be bottom-up (after summation of all analyses), from top-down (set as target before analyses), or simply to recommend that Sub-Cabinet set a goal. Goals must be realistic. (Note from previous discussion: Some states have set two goals, a near term (ex. 2025) for detailed analysis and then a longer-term aspirational goal (ex. 2050).)

CC 6 – Objections raised to advocacy and regional cap and trade or carbon tax as solutions for Alaska.

CC 7 – What would be the gain over education efforts that exist today? Coordination of all efforts. Not reinventing but increasing efficacy of existing efforts.

One member suggested joining the Western Governor's Association Western Climate Initiative.

MAG Recommendations:

- CC 1 – include evaluation of a voluntary program for comparison with mandatory. Ensure no duplication with EPA. Drop the “natural” emissions reporting. Forward to Research Needs Group for further evaluation?
- CC2 - provide pros and cons of setting a goal to MAG before moving forward.
- CC 4 – Expand the option integrate the goals of Alaska Energy Plan, Climate Change Plan and any other plans related to energy.
- CC 5 – Shift to ES&D. Consider one-stop shopping concept.
- CC 6 - Shift emphasis to elucidating choices. Broaden to look at all market-based solutions, outlining pros and cons of each of the systems. Suggest establishing an expert committee to advise state. Change “advocate” to “inquire”
- CC 7 - Ensure more education emphasis at multiple levels. Assist consumers with carbon footprint calculations so they can make more informed choices. Expand beyond existing programs.

State will bring in a speaker at February meeting who is an expert in cap and trade and other market programs to show how Alaska might be affected.

Forestry, Agriculture and Waste

FAW 1 – Forest Management Strategies for Carbon Sequestration – this straw proposal is still under development but will be looking at changes in forest management that can achieve higher levels of terrestrial carbon sequestration (e.g. restoration projects, changes in stand rotation schedules) and/or protection (e.g. wildland fire risk reduction). The TWG expects different approaches will be applied in the coastal maritime forest and boreal forest.

FAW 2- Expanded Use of Biomass Feedstocks for Energy Production. From forest and municipal solid waste primarily. Analysis will show whether there are sufficient feedstocks and capacity to meet the suggested goals. For waste management feedstocks, this does include used cooking oil to create liquid fuels.

FAW 3 – Advanced Waste Reduction and Recycling – The TWG will use life-cycle analysis methods to quantify GHG reductions. There will be greater opportunity for reductions than from just looking at the Inventory and Forecast, which only considers the emissions that occur at the end of life waste management process (i.e. landfill or waste combustion). Important to note that the reductions will include those that occur both within and outside of the state boundaries due to lifecycle GHG reductions, while the inventory and forecast only captures in-state emissions. Goals are currently based on professional judgment of the TWG and subject to change but are rather conservative based on goals in other states. Includes reducing overall waste generation, not just diverting waste from landfills or combustion.

MAG Discussion:

Can there be some emphasis on day-lighting sourcing so one can make informed choices, as a method of reducing volume of waste stream? CCS notes that the methods for achieving

the goals will be proposed during the next phase of policy development under the policy template section "Implementation Mechanisms".

Clear differences between rural and urban parts of state.

MAG Recommendations:

- MAG approves reducing this sector to three options (The TWG had previously reduced the initial set of five options to three).
- Prior to beginning quantification, send final version of written policy (via email) to full MAG with a requested due date for responses. If anyone has objections or concerns they may respond in writing. Barring significant objections, that process will constitute approval to quantify options.

Next MAG Meeting: Thursday February 5 (in conjunction with the Alaska Forum on the Environment). State will try to bring in a speaker at February meeting who is an expert in cap and trade and other market programs to discuss how Alaska might be affected.

