

Science and Data Subcommittee meeting  
1 February 2023

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ATTENDEES: Jared Duval, Collin Smythe, Lesley-Ann Dupigny-Giroux, Richard Hopkins, Ken Jones, Jane Lazorchak, Catherine Lowther, Claire McIlvennie, Julie Moore, Kashka Orlow, Elizabeth Palchak, Jay Shafer, Jared Ulmer, Brian Woods, Andrea Wright

GUESTS: Olivia Novak, Carol Vassar

Minutes

- Oct 6 had not been approved
- Dec 13 meeting
- both posted to the chat

October 6 - adopted as written

December 13 - adopted as written

Jane

Agenda question: since Council had not met in a while. Offered to do a Council update. RH said yes.

Council has not met substantively since November 2022, but had a short meeting in Jan before 15 Jan Legislative Report was due. Dec meeting was cancelled because 8 House appointees terms expired in December 2022. Clearly the intention that Legislative appointees would have the majority on the Council + 8 members had critical voice. 6 of 8 House appointees have been either reappointed/new but still missing Councilors to represent the municipalities and Fuel Dealers sectors. Open application is on the Legislature's website.

Both Lesley-Ann Dupigny-Giroux and Liz Miller have been reappointed. Chris Campany, Brian Gray and \*\*\*\*\* have stepped down. David Dean is the only new councilor filling the rural seat.

Hope to have substantive meeting on 13 March. Taking stock. Process road map. New Steering Committee member. Planning for the Council for the next CAP due 1 July 2025. March will be the first time that the Council will meet in person and another Council meeting will be scheduled for shortly after March. At that meeting, outstanding items such as biomass would be reviewed. Important for March to be about process and where we are going. There will be a steering Committee meeting in the next few weeks, they may disagree.

Press lately about Biomass, WCAX last week. Another story about Council and Equity, and another about Legislative report. At the 16 Feb meeting of the Just Transitions subcommittee meeting, the focus will be on Equity.

Jared's question for Jane

Will there be space for interested subcommittee members to attend the Council's March meeting either in person or hybrid?

Jane responded that the room holds 70 and is well equipped with moving cameras.

#### LIFE CYCLE (Collin)

Kick off meeting was held on 31 January. ERG has been selected as the contractor. There will be future meetings to help determine how to do outreach related to TEK and what might be incorporated into this analysis OR slightly different analysis that is not so emissions focused. ERG will put together methodologies document containing the tools for the state. March-May 2023.

In June- July those factors will be used to create an inventory for sectoral comparisons. Note that the life cycle framework is not totally compatible with in-boundary framework. Will be talking through life cycle task group engagement in that process. Involved in reviewing major components.

#### KEN JONES' question

Woody biomass. Will ERG product assist with biomass contribution. Quantification for woody biomass.

Collin - this is one of a couple of energy pathways that will be analyzed.

step 1 - include the biogenic component

step 2 - parse it out to see what that produces

Will need to explore the datasets that will be used (not perfect). Will plan to loop in Ali Kosiba for her thoughts.

#### JARED DUVAL question

Important to have an early meeting with Task Group, to provide inputs about the scope and timeline. Pause to share with the new subcommittee, the existing members and see if they want to join.

Richard Hopkins, Jared Duval, Collin Smythe, Brian Woods

- Jane - she and Collin are managing this contract. Megan is also involved. The three will meet with ERG fortnightly.

- Judy Dow and Ryan Patch from Ag and Ecosystems also on Task group.

- Richard Hopkins still wants to continue

JANE ERG fortnightly check ins + additional one next week about the TEK scoping document. She is still struggling with calling it TEK. To her it is understanding factors like socioeconomic and biodiversity based criteria.

ERG has stakeholder meetings as part of contract. She highlighted that ERG should interface with JT and Life Cycle analysis task group. She emailed the project manager to identify how to engage the Task Groups. After next week, could figure out the touch points.

JARED - SOW in the RFP, early one we need to be clear of definitions and boundaries of the analysis. In the RFP said that the Task Group and others who wanted to provide feedback would

be early in the process.

Elizabeth Palchak

Said in the last meeting wanted to support a Task Group. Trying to figure out where she could have the most impact. Where she could step in and bring value based on her expertise.

JANE - all contracts have Task Groups associated with them. Happy to have offline conversation with her.

Municipal Vulnerability Index

Jane

Is required by GWSA. Largely hazards in VT, overlaid with vulnerabilities and socioeconomics. RFP went out. Project will be foundational in supporting municipalities in climate planning as precursor to helping them with pursuing funding. The process has been very slow. Executed on their ANR's end but sitting with AG right now before going to the contractor.

Membership from Science and Data, Rural Resilience and Adaptation (where the legislative piece sits) Carey Hengstenberg

- Cross-cutting Task Group

JAY SHAFER

Asked whether there have been end users like power companies that have been invited to participate.

Jane - will be an ArcGIS based tool. Erik Engstrom - GIS guru. Will be critical in moving development forward. Will only be as good as the understanding of risk and vulnerability. Opportunity to do better. Would like to be involved in the risk side.

Jane - Lesley-Ann has been involved, facilitating the link to national tools while bringing to local context.

Jared Ulmer clarified that David Grass is on the MVI Task Group, while he is on the Climate Toolkit

Agricultural Tool Review contract

(Collin)

Project is still on hold

Jane - 2 proposals received

- worked closely with AAFM

- choice was contractor who built the SIT module vs. other who had much more knowledge of data

- took out the part about the tool for measuring and tracking. Better to build a more robust framework around relationship with the contractor.

-she sent it to Collin to proof her work

- straightforward because only 2 tasks

JARED

- pause to ID the folks on the Task Group

Members - Ryan Patch, Collin Smythe (from SD), Abbie Corse, Alissa White

JANE - criticism around tracking ag emissions because very coarse tool. Our inventory tracks gross emissions. Question is can you pull apart gross emissions and net. Can we account for the benefits that farmers provide for GHG mitigation through practices like cover cropping.

COLLIN - AAFM comment always about capturing emissions from farms + the net framework and how important that is.

JARED - to the extent can get finer, gross emissions from the ag sector is great. Gross vs. net emissions touches on Task Group doing life cycle. Process should link to other Task Groups and conversations.

Jane - Collin will present methodology document that he has created.

#### BUILDINGS & THERMAL (Brian Woods)

Thermal energy policy contract. Effort to look at policies reduction in GHG from the building sector which was funded by ANR. The RFP went out last year Jan 10. Contract was awarded to Energy Futures Group and Cadmus Group.

State team comprised of ANR, CAO, PSD. There are 21 proposed energy options. Analysis will explore these policies with respect to economic and health effects and ability to address equity issues.

Final deliverable expected next week. Favorability to select by criteria to undergo quantification. ANR will get update of LEAP model showing where we are and going with emissions on a sectoral basis. Things like heat pumps, advanced clean cars 2, validation of reference case. Team is working really well with contractor with final report late May-early June. Brian has been in touch to Christine Donovan, Rich C, 2 others on the Task Group.

JARED – timeline and SOW around update of the LEAP model?

BRIAN - separate task in the contract. Update to baseline scenario should be received by end of March which would support quantitative analysis on the policy sets that have been selected.

Jared - thinks it is really important to say Task Group has had a chance to see and provide comments on the draft.

BRIAN - agree, but wanted to move expeditiously through the process. With RFP August-Sep, whole analysis might be available for the Legislature to deliver BUT time taken to go through contracting process, not really happening. Will try to move through first tasks expeditiously. Final qualitative analysis due next week. Can share policy sets under consideration prior to that.

JANE - thinking that should pull Task Group together around the 12 policy sets to do the quantitative analysis. Had not been thinking about getting input on the qualitative analysis. Could do that all in 1 meeting and get both feedback on both the qual and quant. Twelve policies discussed with the contractor. There will be a memo attached with the performance standard to address questions, then select a few OR a combination of policy sets to then analyze.

KEN JONES Question about baseline which was problematic and becoming more so. Baseline includes a certain amount of weatherization and heat pumps. Doing things that

exclude the baseline, led to the Pathways analysis being problematic because could not parse out the value add. Hope this has arisen. If not, we have a real problem.

COLLIN - take it offline

Disentangling things like clean heat standard not trivial

ULMER Appreciate mentioning health and equity. Would love to learn more about HOW & WHEN in the process VDH could provide input.

Brian - Qualitative phase is only high level and related to reducing GHG from fossil fuels as a yes or no. Not getting into how much more will be in the next phase. Happy to have Jared involved in all phases.

Jared - Some of what he wanted to flag related to health benefits from weatherization + resilience to heat.

Brian – understood.

DUVAL asked whether ULMER had a request to JOIN THE TASK GROUP or connect with Brian offline

ULMER will connect with Brian NOT OVER VOLUNTEER for task groups

#### BRIAN NEXT PROCESS

CAP proposes a suite of GHG. We need data to build program around fuel type and coming into the state. Want to avoid duplicative reporting to DMV + ANR and get the most accurate data possible. Have an MOU with DMV on transportation fuel delivered to ANR annually. Have information from the Tax Dept on heating fuels that are taxed, but need statute change to be able to share their data but business confidential info would remain so (fuel entity and volume). Will need forms and databases at DMV in order to share info. By fuel type needed. Dollar sales don't help ANR.

ANR leading on statute law changes, so that DMV could share with ANR and PSD. Other entities who have instituted GHG policies say that having the data first is really helpful in designing program.

RH - Climate Economy Action Center of Addison County. Lot of farmland and forest. 3 large towns. Have produced 3 annual inventories with student intern help. They don't have gasoline, fuel data at the county level. Would be helpful to have county level data for anyone who wants to work at sub-state level.

BRIAN - will see what we can do.

RH - Little happier with propane. Can add up # gallons sold by dealers within county. Fuel delivery location would be even better. RH is more concerned about the transportation fuels data than heating fuels.

KEN - urged caution

20% of all transportation fuels sales in VT sold to out of state.

RH - no way to know if his method is over or underestimating. Does not think Ken's concern should paralyze us from trying to make estimates.

KEN- How do DMV annual reports align with JFO monthly gasoline and diesel sales? About a year ago, summary report on heating sales from PSD. Can mathematically differentiate. 2022 is a critical year because the price of fuel oil went up so significantly that it probably changed behaviors and would help us to understand people's use of fossil fuels. BRIAN - yes, same JFO data. Broken out by product (gasoline, diesel). He got them to line up. JFO helpful from emissions but does not tell you who is bringing in what, so not helpful for regulatory. Puts diesel and biofuels together.

Question 2 - yes you are correct that they break out the propane and kerosene #s. Have not seen 2022 data as yet

KEN - would love to look at the data if he could. Thinks will see that people with > fuel source would have moved away from fuel oil.

BRIAN - develop mechanism through the existing authorities which would allow ANR to collect data. DMV and PSD cannot share these data. Getting data down to county or entity level is not something that they are focusing on. Step 1 is to be able to see the data so that could advance the conversation and meet the GWSA targets.

JARED - Acknowledged the level of detail that has been taken. Summary of findings of what exists/not, gaps? Really relevant when talk about the inventory

BRIAN - Not summarized like that as yet. Have the data that anyone can see (websites). This is still being developed as a concept. Ability to collect data from other departments.

#### INVENTORY (Collin)

Essentially complete. Currently under review. Planning for release in next few weeks to month. Format has been changed. Previously used to be all in one but in this iteration separate methodologies and datasets in one document and other describes the results.

#### Changes:

Inclusion of more complete LULUCF sector. Especially of land use. Prior it was only forestry related. A lot of estimates come from the EPA downscaled national inventory estimates to a state level. Still coarse for some sectors. Some of the electric sector totals have been updated to correct misunderstanding of data coming from PSD. 2016-2019 sector totals have been corrected for the line loss.

JARED DUVAL - would be helpful for Collin to do a presentation of the findings.

Richard Hopkins

Very much looking forward to seeing this to understand what Collin is doing because he is trying to do same on county level. State inventory takes a boundary based approach (GHG within VT), with the exception of electricity.

Middlebury Energy Committee - how much GHG emissions from wastewater plant in Middlebury. 20K/month on electricity to dry and sterilize materials from the plant. They would like to stop spending 25K/month if installed anaerobic digester. If didn't take

delivery of 650 tons of lime every year. Take CaCO<sub>3</sub> rock to go to calcium oxide, extremely GHG intensive, that happens somewhere else. Middlebury wants to take account of lime even if not doing consumption based inventory. Challenges of boundary choices cautionary tale

#### SUBCOMMITTEE LIAISONS REPORT OUT

Jared Duval - CSM last 2 meetings have been cancelled. 16 February is next meeting.

Jay Shafer - RRA met first week in December. LCSea Grant extensive survey on towns. Will inform about flooding.

Claire - JT met at the beginning of Jan. Takeaway was that committee is trying to find its role in the implementation phase. How to ensure that the guiding principles are integrated in the processes moving forward.

Kashka - trying to hone the role of JT within the scope of the other subcommittees. Want to be a resource for all other subcommittees. Guiding Principles and Rubric can be difficult to implement with all of the other things going on. With all of the things going forward, will try to do things better.

JANE - Interest in applying the equity rubric in a publicly vetted meeting to the biomass recommendations. Chase Whiting volunteered to do so, full subcommittee meeting 16 Feb.

Collin and Ken - Discussion amongst us to ensure that coordination with other subcommittee is happening in way that is best helpful to them.

Ken - the various work products that we are overseeing. He is not always sure that the analyses are addressing the needs of the Climate Council. Recent example is the CVV, CAO which is in ANR. Last week Sec. Moore gave testimony on the heat standard. Curious how the info from SD feeds into CAO feeds into ANR Secretary, highlights to him? Where do we fit with regards to CAO, VCC. How do we make sure that VCC is being as clear as can be so that SD meets the VCC needs

JARED - keep our ears to the ground and where our interest could be really valuable.

#### ***1447, Jared paused to see if there might be public comment***

- None because only the subcommittee members present

#### SCHEDULING

COLLIN – Best time is Fridays 0900-1000. Problem with that is that is only an hour. After that we lose at least 4 people. He offered to meet with folks individually to discuss times.

Palchak said that Friday is the only day that would absolutely not work for her Jane - strongly urge going with a fixed date that largely works for people and carry forward.

- Thursdays at 1300, Mondays at 1300?

Palchak - one approach with big group of busy people. Pick 2 times and alternate from one to the other.

COLLIN will send out one more POLL, 30 min blocks.

ULMER - might suggest rather than repolling, just narrow in of the 3-4 possible slots.

adjourned 1455