



In the Community to Serve®

Technical Advisory Group (TAG) #4 OR – TAG Meeting

Date & time: 09/20/2022, 9:00 AM to 1:30 PM

Location: Microsoft Teams Meeting

Presenters: Abbie Krebsbach, Brian Robertson, Devin McGreal, Kent Crouse, Lori Blattner, Monica Cowlshaw, & Kyle Morrill (Energy Trust of Oregon or ETO), Spencer Moersfelder (ETO)

In attendance: Abbie Krebsbach, Abe Abdallah, Ashton Davis, Brian Cunningham, Brian Hoyle, Brian Robertson, Bruce Folsom, Caleb Reimer, Carolyn Stone, Carra Sahler, Chris Robbins, Devin McGreal, Eric Wood, Garret Senger, Haixiao Huang, Heide Caswell, JP Batmale, Kathleen Campbell, Kathy Moyd, Kent Crouse, Kevin Connell, Kim Herb, Kyle Morrill, Lori Blattner, Mark Sellers-Vaughn, Matt Steele, Michael Parvinen, Monica Cowlshaw, Pamela Archer, Spencer Moersfelder, and Sudeshna Pal

Brian Robertson, Supervisor of Resource Planning, opened the meeting by welcoming and thanking stakeholders for participating in Cascade's IRP Process. Brian then proceeded with introductions, the agenda, a safety moment, and a reminder of the stakeholder engagement principles.

Presentation #1 – IRP Carbon Update and Assumptions (Abbie Krebsbach & Brian Robertson)

- Abbie began by discussing Cascade's commitment to reduce emissions with a predominant amount of time spent on discussing the Oregon Department of Environmental Quality's Climate Protection Plan (CPP).
- Abbie shared the Company's baseline emissions and described the non-core regulated as covered entities separately under the CPP.
- Abbie also covered customer and operation emissions.
- As part of the CPP discussion, Abbie shared the options Cascade has to comply with the CPP rules and what our renewable natural gas (RNG)/Hydrogen projections look like.

Question: Kathy Moyd asked about using satellites or airplanes to detect methane leaks.

Answer: Kathleen Campbell responded that helicopters are used in parts of Intermountain Gas' (IGC) territory.

- Brian then discussed the local greenhouse (GHG) reduction focus and how Cascade planned to model those.

Question: Kim Herb asked about the climate committees that Cascade participates in and if Cascade will share information about them.

Answer: Brian Robertson responded that Cascade's Resource Planning Team will be meeting biweekly with Bend's Climate Action Committee starting in October 2022. Also, the narrative of the IRP will include summaries of these meetings.

Question: Kim Herb asked about the sensitivities Cascade will be modeling.

Answer: Brian Robertson responded that Cascade would have more information in TAG 5.

- Abbie touched on the national GHG reduction focus and then described the differences between Washington and Oregon policies.
- Abbie then discussed the upstream emissions calculation and described in detail the changes from the previous IRP.

Question: Kim Herb asked about Securities and Exchange Commission (SEC) ruling requiring disclosure of certain climate related risks and how it will affect Cascade.

Answer: Abbie Krebsbach responded that Cascade definitely has it on our radar.

Question: Abe Abdallah asked about the hydrogen graph on slide 21, referring to the unchanging nature of hydrogen.

Answer: Brian Robertson responded that Cascade would have more information in TAG 5, but later in this presentation, Cascade will show a graph on how Cascade will meet emissions targets.

Question: Carra Sahler asked what Cascade is exploring in regard to transport customers for CPP compliance.

Answer: Lori Blattner responded that Cascade needs to get a good feel for what energy efficiency measures are available for transport customers. Lori stated that Cascade wants to start with audits as a type of conservation assessment. This would include conversations with the plants and potential walk-throughs on site to analyze potential for rebates and replacing existing infrastructure.

Question: JP Batmale asked if the next IRP will look at risks of growth as it relates to the CPP.

Answer: Brian Robertson responded that Cascade will definitely be looking at scenarios that have various growth assumptions, and that Cascade will also be showing how it will meet emissions requirements in these various scenarios.

Presentation #2 – Energy Trust Overview (Kyle Morrill, Spencer Moersfelder)

- Kyle introduced ETO and explained who they are and their purpose.
- Kyle talked about ETO's Resource Assessment Model.

Question: JP asked "To what extent do increasing gas prices (higher avoided costs) expand the stock of EE measures considered for screening in the forecast? Or, does the model already have ALL measures included? (E.g., building shell measures)"

Answer: Kyle Morrill and Spencer Moersfelder responded with the measures that are being included.

Question: JP asked if Cascade is planning to put avoided cost risks surrounding CPP into the IRP.

Answer: Devin responded that Cascade will be doing sensitivities surrounding components of avoided costs.

Question: Kathy Moyd asked if Cascade is considering the potential of the social cost of carbon (SCC) to increase in cost.

Answer: Devin responded that Cascade is definitely monitoring this but at some point, Cascade has to lock in an assumption.

- Kyle discussed the cost-effectiveness screen that ETO uses, which is the Total Resource Cost (TRC) test to screen measures.
- Kyle reviewed all the model inputs as well as the outputs, including levelized cost, measure costs & benefits, and supply curves.

- Kyle concluded his presentation with the methodology for developing IRP savings projections as well as the results from running this methodology.

Presentation #3 – Renewable Natural Gas (Brian Robertson, Devin McGreal, Lori Blattner, & Kent Crouse)

- Brian gave a high-level overview of what RNG is, some examples of RNG, and the benefits of RNG. Brian also described the main issue with RNG is the high cost.

Question: Kathy Moyd expressed concerns to emissions related to RNG development and processing.

Answer: Brian Robertson responded that Cascade ties an emissions factor to RNG in the modeling.

- Devin McGreal discussed how Cascade does RNG Cost-Effectiveness analysis. Devin also covered the differences between purchase vs build when it comes to RNG.

Question: Carra Sahler asked “Are these costs for the RTC [Renewable Thermal Certificate] + energy? Or just RTC?”

Answer: Devin responded that the value of the attributes definitely has value and are considered.

Question: Kim Herb asked about the risk surrounding RNG assumptions.

Answer: Devin responded that Cascade is aware of the potential for having inaccurate assumptions, but Cascade is actively collecting the most accurate and up-to-date data to make the best decisions possible at a point in time.

Question: Kim Herb asked if Cascade will be using Requests for Proposals (RFP) to acquire projects.

Answer: Kent Crouse responded that Cascade isn’t currently using RFPs for on-system, but rather looking at lower hanging fruit, such as digesters that are not being used. Kent explained that Cascade isn’t ruling it out in the future though. Abbie Krebsbach mentioned that Gas Supply does look at RFPs for off-system projects.

Question: Kathy Moyd asked, “What does SB [Senate Bill] 98 require you to do that is not required by the CPP?”

Answer: Devin responded that Cascade doesn’t have requirements under SB98 as Cascade is a smaller utility.

- Lori gave an update on Cascade’s voluntary RNG program and gave some information on Hydrogen.

Question: JP asked how the voluntary RNG program relates to CPP.

Answer: Lori Blattner responded that some customers are already looking to reduce emissions and Cascade is eager to help, but Cascade is still trying to work through setting up the system and billing processes.

- Kent described in detail several projects that Cascade is working on to get on-system RNG onto Cascade’s system.

Question: Carra Sahler asked if Cascade has looked at studies on hydrogen blending impacts such as the one in California.

<https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M493/K760/493760600.PDF>

Answer: Lori Blattner explained that Cascade is monitoring this topic and referred her to a GTI assessment on hydrogen blending impacts. <https://www.gti.energy/assessing-the-impact-of-hydrogen-natural-gas-blends-on-residential-commercial-gas-fired-equipment/>

Presentation #4 – Preliminary Results (Brian Robertson)

- Brian shared the preliminary results for Cascade’s upstream transportation and showed how future demand side management (DSM) could delay upstream transportation needs approximately 11-12 years.

Question: JP asked if the DSM that would delay upstream transportation is what we expect or if it’s incremental DSM?

Answer: Brian responded that it is the DSM that Cascade expects based on the current avoided cost.

- Brian also showed what Cascade’s base case modeling could look like for the final results. Cascade is still working through CPP modeling to ensure the accuracy of all inputs.

Presentation #5 – 2023 IRP Schedule (Brian Robertson)

- Brian went through the remaining TAG schedules for both Washington and Oregon
- Brian noted that the next TAG meeting for Oregon will take place on November 9th while the next Washington TAG meeting will take place on October 20th.

The Meeting was Adjourned

Per Cascade Commitment #8 (Stakeholder Engagement Design Document, 2/22/2022: “Provide TAG minutes that include the action items from bullet #7 as well as any upcoming deadlines for feedback on the IRP”), here are additional action items to track, coming out of the TAG 4 meeting:

- Provide narrative summaries for meetings with cities who have their own climate action plans.