Northwest Power & Conservation Council Fuels Advisory Committee June 24, 2024

Tomás Morrissey, NWPCC, greeted the room at 1:00pm and called for introductions. Chad Madron, NWPCC, reviewed the best way to interact with the Go-to-Webinar platform.

Dan Kirschner, NWGA, asked if there have been any calculations around the average heat rate along with the generation illustrated on [Slide 11]. Morrissey said no and was not sure if combined cycle turbines or peakers are running more today than in past years. He thought it could be calculated by the next meeting. Kirschner suggested not using emissions data but using volumes of gas consumed to generate electricity in the four states and dividing by average MW produced.

Michael Cocks, BPA, asked about plant conversions, like at Jim Bridger. Morrissey said he thought that conversions have not happened yet, but assured him the planning process is working to incorporate this information.

Fred Heutte, NW Energy Coalition, responded to Kirschner saying heat rate data is directly available from the EPA CEMS data set. Morrissey asked for a link to the set. Heutte said he would send it, noting the data goes back to 2005.

Heutte flagged LNG exports out of British Columbia as a likely topic for future discussion [Slide 12]. He called this a big change with possibly big implications. Morrissey said he plans to touch on this further in the presentation.

Scott Johnson, NW Natural, said he is seeing a bunch of data centers, owned by large companies with commitments to decarbonize, asking for services [Slide 15]. Morrissey said data centers are coming up in many advisory committee discussions and thanked him for alerting him here.

Morrissey asked if the data centers are asking NW Natural for services. Johnson could not go into great detail but said there have been requests for various technologies.

Ken Ross, Fortis BC, did not think RNG makes sense for a base plant but said it was included in their electric resource plan for a peaker. He then addressed gas RECs saying they are still dealing with that issue but would like to see it treated in the same way as RECs for electricity.

Alexandra Karpoff, PSE, added that PSE is looking more into renewable diesel as opposed to biodiesel because of its better shelf life.

Simmons asked Johnson if NW Natural's dairy feed plant for RNG near Boardman is still in existence. Johnson said that Threemile Canyon is not a NW Natural project but thought it was still running. Shannon Souza, Obsidian Renewables, confirmed that the project is still up and running, with a phase two planned for their landfill.

Daniel Serres, Columbia Riverkeepers, voiced significant concerns about RECs for gas. He also noted that renewable diesel varies greatly in carbon intensity.

Heutte talked about the 2019 price spike at Sumas [Slide 21] that made global headlines and other spikes that correlated to extreme weather. He then pointed to other spikes that he attributed to the West Coast's tendency towards price separation from national trends. Heutte said this seems to be happening more frequently. Because of this he called for rethinking staff's approach towards pricing, particularly with the new LNG exports about to roll out.

Johnson agreed with Heutte, adding that the Winter 2018/19 saw less gas coming into the Pacific NW. He said prices spiked because of a limited amount of infrastructure to serve the region and depleted storage. Johnson then pointed to the pipeline rupture that contributed to the reduced supply. Johnson added that when Woodfibre LNG comes on in 2027 it will take gas supplies away from Sumas, increasing pipeline tightness.

Johnson also noted a pipeline outage in 2022 on the El Paso system that provided gas into California, which helped contribute to high west-coast prices in December 2022. He said in 2025 the LNG export facilities coming online in Mexico may have some price impact in our region.

Morrissey said staff see these shifts coming and would like to hear more about how NW Natural is looking at it.

Clay Riding, NW Innovation Works, agreed that the northern LNG project will not have a huge impact on the region. He added that California went into the winter with no storage as it was depleted it in the summer because of high prices. Riding suggesting watching this and concluded by saying if anyone could predict volatility then none of us could afford to be on this call.

Morrissey said the Council does long-term planning and tries to get a reasonable price forecast, but won't be able to capture all sources of risk. Riding said predicting volatility is not as important as resource adequacy on both sides.

Simmons pointed to increased gas consumption year over year on the power side, wondering if there is a seasonality to this trend.

Morrissey asked if the dates for the Westcoast Pipeline expansion shown on [Slide 22] are correct. Riding answered that the target is late 2028.

Johnson noted the difference between LNG directly tied to gas production areas versus LNG that is connected to a demand area [Slide 25]. He said Woodfibre and Costa Azul are connected to demand centers, adding that Permian is connected to Gulf Coast LNG and prices are very low there. Johnson thought LNG Canada should be similar to projects connected to Permian but didn't know about projects connected to production zones.

Heutte pointed to a detailed blog about LNG Canada and the start-up process that he could send a link to. He said some test flows and shipments could happen as early as this winter with the rest happening in a year.

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Johnson pointed to hydrogen being transported on existing pipelines as a potential future topic of interest [Slide 31]. He noted the existing tightness in the NW and how hydrogen, which is a lower energy molecule, could make that even tighter. Morrissey noted that staff discussed this, saying it might overlap with the GRAC.

Souza addressed the Pacific Northwest Hydrogen Hub, saying Renewable Hydrogen Alliance should be here but are busy planning for a town hall meeting, adding that they sit on the board. She speculated that the region will be in a better position to firm up speculation as the Hub vets the initial portfolio of included projects. Souza thought that initial vetting will be completed in September. She added that this is a dynamic portfolio that will change as the project matures.

Morrissey agreed, noting different hydrogen projects staff is following.

Stephanie Celt, WA Dept of Commerce, agreed with Souza's comments, pointing to a recently published Green Hydrogen and Renewable Fuels Legislative Report. She noted that the work focuses specifically on Washington State but contains some broader, NW modeling. She dropped the <u>link</u> in the chat.

Souza suggested adding "what percentage of industrial hydrogen use is already there" to the points on [Slide 33]. She said many of these people are generating hydrogen internally, often from fossil fuels, calling it an interesting topic.

Celt said she doesn't think about what percentage of energy users can switch to hydrogen, but which should or are most likely to, given the energy intensity producing hydrogen. She said WA State is thinking about where hydrogen will play the most impactful role in decarbonization.

Morrissey ended the meeting at 2:45.

Attendees via Go-to-Webinar

Jennifer Light **NWPCC** Ian McGetrick Idaho Power Steve Simmons **NWPCC** Heather Nicholson Orcas P&L Tomás Morrissey **NWPCC** Tom Pardee Avista Corp John Ollis **NWPCC** Clay Riding NW-IW Chad Madron **NWPCC** Annika Roberts NWPCC Brian Robertson James Adcock independent CNGC Michael Brutocao Avista Corp Aimee Robinson BPA Stephanie Celt WA Dept of Com Ken Ross Fortis BC

Nathaniel Clayville NWPCC Daniel Serres Columbia River Keepers

Michael Cocks BPA Gurvinder Singh PS

Jeanne Currie Clean Energy Transition Shannon Souza Obsidian Renewables

Northwestern Rob Diffely **BPA** Matthew Stajcar PSE Michael Freels ODOE Hannah Wahl Nicolas Garcia WPUDA Christine Wallat Williams Karma Hara Tacoma Power **BPA** Greg Brunkhorst

Fred Heutte NW Energy Coalition Erin Childs Renewable H2
Dor Hirsh Bar Gai NWPCC Rachel Clark Tacoma Power

Scott Johnson NW Natural Marcus Sellers-Vaughn CNGC

Alexandra Karpoff PSE Martina Steinkusz Renewable H2
Dan Kirschner NWGA Brian Dekiep NWPCC