

**Chemtrade Logistics-ERCO Worldwide-Univar Solutions-GFL Environmental
North Shore Community Advisory Panel (CAP)
MEETING SUMMARY NOTES
Kenneth Gordon Maplewood School, 420 Seymour River Pl, North Vancouver**

**Meeting 6:30 pm to 8:30 pm
November 18, 2025**

Attendance

Kris Petterson, Chemtrade Logistics
Paul Leyen, ERCO Worldwide
Ashley Leow, ERCO Worldwide
Neil Saldanha, GFL Environmental
Yan Liang, GFL Environmental
Brad Wilder, Univar Solutions
John Hawkes, NSEM
Elmira Nazar, Blueridge Community Association
Griff Marshall, Resident
Bruce Crowe, Inter River Community Association
Corrie Kost, NV Can
Dave Mair, Resident
Samir Saleh, Resident
Melissa McKinnon, HTEC
Jarrett Davis, HTEC

Regrets

Grace Timney, Tsleil-Waututh Nation
Alex Adams, Blueridge Community Association
Trey Bell, Lower Lynn Community Association
Sean Poole, Valor Fireplaces

1. Welcome and Introductions

CAP members introduced themselves and welcomed new attendees.

2. Review of October meeting minutes

Members reviewed the October CAP meeting minutes. No edits to the original draft sent out after the meeting were noted. The facilitator will finalize the October meeting minutes and send them to DNV to post on their CAP information webpage.

3. HTEC presentation

The HTEC presentation was given by Melissa McKinnon and Jarrett Davis

HTEC dispenses ~90 kg of hydrogen per day to light duty fuel cell vehicles through their LD hydrogen station network, more than 130,000 kg of hydrogen total since they began operations in 2018.

In Burnaby, HTEC has built a 1.8 tonne per day capacity hydrogen production facility.

In North Vancouver, HTEC is planning to build a hydrogen liquefaction facility that will liquefy the hydrogen that ERCO has been producing for 60 years. Up to 45 tonnes of liquid hydrogen will be stored on site.

Chart Industries, a strategic investor in HTEC, is the manufacturer of the liquefaction equipment.

The daily capacity of the plant is 15 tons. This amount of hydrogen can support ~30,000 fuel cell vehicles or ~300 heavy duty trucks.

Once fully running, the facility will create 20 full-time jobs.

This is the first hydrogen liquefier in the Pacific Northwest. There are others in North America which have a record of safety.

CAP member questions:

1. How many fuel cell vehicles exist in the market today, are most large or heavy duty?

As a benchmark, in California there are 11,000 light duty vehicles. In BC there are ~300 light duty fuel cell vehicles. More recently we are introducing HD fuel cell trucks. We are also looking to industrial companies for offtake.

2. What is the cost per 100km compared to your real competition (gasoline)?

The price is \$16/kg at our stations, so around \$60 for a fill.

Fuel cells are twice as efficient, so you can pay approximately twice as much on an energy basis and still be comparable.

Primary focus is heavy duty vehicles.

There are low carbon fuel credits available from the government which provides HTEC with an additional revenue source at ~\$5-8/kg.

3. Is there white hydrogen in the ground?

We are not experts on white hydrogen, but yes there appears to be naturally occurring hydrogen in some areas. We are not familiar with any in the Vancouver area, however ERCO is an excellent source of zero emission hydrogen that has been underutilized for decades.

4. Are there any byproducts produced in the NVan facility?

Not really, its 95% clean.

5. It mentioned that Chemtrade is using the excess hydrogen from ERCO. Does that mean Chemtrade is running a deficit of hydrogen?

Melissa clarified that HTEC won't know until the liquefier is operational. It is possible that there may be excess hydrogen that could flow to Chemtrade. In the absence of hydrogen, Chemtrade would switch to natural gas.

6. Are there emergency response type safety and facilities present?

The design includes a number of safety elements including emergency stops and deluge systems. Melissa clarified they have not yet been in touch with John at NSEM and this is an action they intend to take.

7. Is HTEC involved with the rail system?

No, the liquid hydrogen will be transported by road only.

8. Are hydrogen fuel cells in locomotives viable?

Yes, they have been demonstrated by a number of railroads, including CPKC.

Please see the attached presentation for further information.

4. NSEM Update

John Hawkes shared that NSEM's Operational Readiness Manager has taken a new job in Squamish, and they are in the process of looking for a new person. In the meantime, he will be the point person for related issues.

5. Reports from the Companies

a) Chemtrade Logistics.

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Please see the Appendix for the full Chemtrade Logistics report.

b) ERCO Worldwide

Please see the Appendix for the full ERCO Logistics report.

A question was asked about the commercial relationship between Chemtrade and ERCO. It was clarified that Chemtrade provides brine and salt to ERCO and ERCO provides hydrogen to Chemtrade; the plants are interrelated.

Another question was how reverse osmosis is used in treating effluent water. Paul replied that the water is put under high pressure through a semi-permeable membrane, which together with anti-corrosion chemicals, removes dirt.

c) Univar Solutions

Please see the Appendix for the full Univar Solutions report.

d) GFL Environmental

Please see the GFL Environmental report in the Appendix.

5. CAP Outreach Updates

Thanks to Eric and Alex from Blueridge Community Association who assisted with outreach efforts. Corrie Kost has committed to attending CAP meetings where possible and Trey Bell, President of Lower Lynn Community Association, will attend as well although he couldn't attend tonight's meeting.

The facilitator also heard back from a professor in CaPU's Geography Department who said the invitation was much appreciated and will plan on sending people to future meetings.

Tonight's meeting was set up to be hybrid to increase accessibility. It was a challenge for people attending online to hear the conversation in person and we will look at investing in speakers for future meetings.

We will continue to meet in person at KGMS at 6:30pm with the hybrid option available going forward.

Corrie raised concern about a lack of reports interconnecting the companies. The facilitator explained that the CAP Forum was the place to bring those concerns and have them addressed as the four companies are all present in this space. The companies also reiterated the safety measures that they are legally held accountable to, including the Responsible Care standards.

6. Brainstorm on Presentation Topics for the Upcoming Year

The facilitator will send out a survey to determine the topics for the rest of the year. One of them would be a presentation by Univar Solutions on their new methanol refueling project.

7. Meeting Close

The meeting ended at 8:15pm.

The next meeting will be held on Tuesday, 17 February 2025 at Kenneth Gordon Maplewood School at 6:30pm.



Community Advisory Panel (CAP)

Chemtrade Update: November 18, 2025

Safety

- Pleased to report no employee or contractor injuries so far in 2025.
- Excellent progress on various areas of focus in driving our 2025 safety performance objectives.

Environment

- Work continues on our comprehensive rewrite of our effluent permit to meet the new Burrard Inlet Water Quality Guidelines. Targeting End of Q4 completion.
- Continue work on renewal of our air permit. Notification of the Permit to the public was on October 29th.

Process Safety

- Ongoing engineering work on potential safety/capital enhancements as shared previously.

Transportation

- Nothing new to report

Security

- Nothing new to report.

Plant Operations

- Some reduction in demand for all products continues.
- Circuit overhaul was completed in Oct.

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- Pre-work on going for our plant turnaround in April 13, 2026

Other

- Submitted the rezoning application for 100 Amherst Avenue on Thursday, Sept 25.
- As part of the rezoning process, there will be two engagement opportunities for the public. - COMPLETED
 - The District of North Vancouver will be hosting a two-week virtual Public Information Meeting, from Oct 27 – Nov 7. You can access the site starting at 8:30 a.m. on Oct 27 here: www.DNV.org/public-meeting
 - Chemtrade will be hosting an in-person Public information Meeting on Wednesday, Oct 29, from 6:00 p.m. to 8:00 p.m. at the North Vancouver Inn and Suites, 700 Old Lillooet Road, North Vancouver.
 - The Port, First Nations, the Mayor and Council (and staff), various levels of both provincial and federal elected officials, the community, and other stakeholders are being kept apprised of all activities.
- Next Step would be the DNV public hearing which will likely be in January.
- <http://www.AskChemtrade.ca> remains up and active.
- The public facility tour program continues.
- As mentioned, last month we held a very successful community and family day on September 6 at the site with over 350 members of the community attending.



ERCO Worldwide

ERCO Worldwide Update - (since last CAP meeting on October 7, 2025)

Safety

As of November 18, 2025, NV employees have worked 90 days since the last Recordable safety incident (August 20, 2025 Broken Finger) & 347 days since our last Lost Time Accident (Dec 6, 2024).

Environmental

644 Days since our last Reportable Environmental Incident
(City Water Release Feb 13, 2024)

Process Safety

We are working on completing action items from process safety studies performed earlier in 2025. Significant progress has been made. More studies are planned for 2026.

Operations

The Plant was SD for a couple of days in October where some high voltage electrical PMs were performed.

Responsible Care

To support the Chemtrade Rezoning Application two representatives from ERCO North Vancouver participated in the “In Person Public Information Meeting” Wednesday October 29 at the Holiday Inn in North Van.

To better reach our goal of eliminating outfall effluent by 2030, we have been working on external water testing with RO system – results are promising, achieved high flux rates and 97% recovery of clean water that can be recycled back into the process. Meanwhile we also have SLR environmental consultants working on full panel outfall effluent testing at various sampling points including sampling points by boat to establish a baseline study for permitting with the Ministry of Environment.

Paul Leyen, P. Eng.

Plant Manager, North Vancouver



Univar Solutions report – November 18, 2025

Univar Solutions reported that there have been 237 days since the last personal safety recordable, and 239 days since the last DAWC (as of end of day Nov 18, 2025).

Unplanned Events:

- Leaking glycol tote – Univar is recycling glycol samples and line flushes using a local company. The tote that was supplied had a hole in it. No longer using totes supplied by company but will purchase our own totes for this service
- Caustic truck with strong odour
 - Operators refused to load and truck was replaced with another
- Caustic exposure during ship disconnect
 - Operator disconnected hose while a small amount of material was still in hose
 - Level sensor appears to have ‘frozen’
 - Didn’t check hose to ensure it was clear prior to discharge
 - Training operator and cleaning of level sensor conducted. Will review as part of next caustic vessel offloading

Operations:

- Kosher visit in November
- Transport Canada Marine recertification completed November
- New marine loading arm being delivered shortly

Key Projects:

- Methanol refueling is being considered at our location. This would entail new rail offloading, new tank and a tug refueling location at our site. Risk assessment and HAZOP being conducted in Nov/Dec, engineering permitting in early new year with construction slated to begin mid to late 2026.
 - First in world tug refueling using methanol as an alternative fuel
 - Two tugs have been built and are slated to be delivered to the Vancouver area early 2026



CAP Meeting – November 18, 2025

Current Status / Schedule

- The refinery is currently performing its semi-annual turnaround (TAR). Expected completion is targeted at November 22, where the plant will slowly be brought up to full capacity.

Health, Safety and Environment

- The facility operated within permitted approvals since the last meeting.
- The facility has operated lost time injury free since the last CAP report.
- First aid incidents – One - see below.
- North Vancouver Refinery is in the final stages of permit approval for starting up our new LUWA (#3). This will not only improve our reliability but impact our capacity for the facility. In parallel to the permitting process with the DNV, we have been commissioned by the DNV to conduct a watermain upgrade for tenants on Forester Street - we expect this work to kick-off and be completed in the month of November and December - weather permitting.
- Incidents and Near Misses:
 - Multiple Dates - Experienced failures on some seals on valves. These are wearable items and need to be replaced like brakes on a car. This turnaround we are replacing with seal material or the valves entirely.
 - October - Forklift made contact with a protection bollard in our warehouse. No damage. The operator was made to retake forklift training.
 - November - Contractor was moving equipment and fire extinguisher hooked on wall came off the hook and landed on an area of steel toed boot with less protection. The contractor received first aid (icing) and returned to work shortly after.
 - November – Found discarded syringe outside our rail gate. It was properly disposed of. We are witnessing more transients

and are migrating to having our front gate closed at all times.

Training and Audits

- Plant Air Emissions testing is planned for Q4 2025
- A refresh of the Emergency Response Plan is in final stages and we expect to perform some drills in Q4 2025.