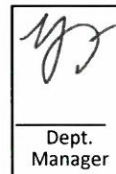


AGENDA INFORMATION	
<input checked="" type="checkbox"/> Regular Meeting	Date: <u>May 15, 2023</u>
<input type="checkbox"/> Other:	Date: _____



The District of North Vancouver REPORT TO COUNCIL

May 9, 2023

Case: 08.3060.20/014.23

File: 08.3060.20/014.23

AUTHOR: Tamsin Guppy, Planner

SUBJECT: Public Input Received - 100 Forester Street, Bylaw 8626
Proposed Hydrogen Liquefaction Facility

RECOMMENDATION

That this report supplement item 8.4 on the May 15th Agenda, Bylaw 1426 (Bylaw 8626), a text amendment to permit a Hydrogen Liquefaction facility at 100 Forester Street.

REASON FOR REPORT

To report on the results of the public information meetings.

PUBLIC INPUT

The applicant held a virtual public information meeting that ran from April 20 – May 4th, 2023, and an in-person meeting on April 27, 2023.

280 notices were circulated in accordance with the District's policy on Non-Statutory Public Consultation for Development Applications.

Following the completion of both public information meetings, a summary of public input was prepared and is Attachment 1.



The in-person open house on April 27, 2023

There were 10 members of the public at the in-person open house, and the virtual meeting discussion page received 184 views.

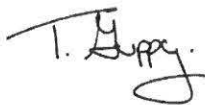
Eight comments were received during the public input process and the topics raised include:

- Questions and concerns related to safety and ensuring this project meets industry standards for risk tolerance.
- A desire to view the professional report on risk tolerance (which will be posted on the District's website).
- Questions about hydrogen fuel cell vehicles and how they compare to standard electric cars and interest in the hydrogen fuel cell car that was on display at the in-person meeting.
- Support for the proposal.
- Interest in the hydrogen industry.
- Questions about the value of the project in terms of Climate Action.
- Questions about the method of hydrogen production.
- Questions on the referral process.

Of the issues raised, the applicant, HTEC, provided information on the hydrogen industry in general, the use of hydrogen as a fuel and why it is a useful complement to electric vehicles, information on the proposed technique for re-using the hydrogen currently being released to the atmosphere, and the comparative merits of this form of low emissions hydrogen production.

The applicant team and staff provided information on the Quantitative Risk Assessment (QRA) and the study's findings that show that the proposal meets the risk tolerance criteria. Risk reduction experts were available to answer questions during the public information meetings. The full QRA will be included in the Public Hearing materials available online and at the District Hall.

Respectfully submitted,



Tamsin Guppy
Planner

Attachment 1: Summary of Public Input

REVIEWED WITH:		
<input type="checkbox"/> Community Planning _____	<input type="checkbox"/> Clerk's Office _____	External Agencies:
<input type="checkbox"/> Development Planning _____	<input type="checkbox"/> Communications _____	<input type="checkbox"/> Library Board _____
<input type="checkbox"/> Development Engineering _____	<input type="checkbox"/> Finance _____	<input type="checkbox"/> NS Health _____
<input type="checkbox"/> Utilities _____	<input type="checkbox"/> Fire Services _____	<input type="checkbox"/> RCMP _____
<input type="checkbox"/> Engineering Operations _____	<input type="checkbox"/> ITS _____	<input type="checkbox"/> NVRC _____
<input type="checkbox"/> Parks _____	<input type="checkbox"/> Solicitor _____	<input type="checkbox"/> Museum & Arch. _____
<input type="checkbox"/> Environment _____	<input type="checkbox"/> GIS _____	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Facilities _____	<input type="checkbox"/> Real Estate _____	
<input type="checkbox"/> Human Resources _____	<input type="checkbox"/> Bylaw Services _____	
<input type="checkbox"/> Review and Compliance _____	<input checked="" type="checkbox"/> Planning _____	

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100 Forester Street - Proposed Hydrogen Liquefaction Facility

Summary of the Public Input Received

MEETING DATES:

In Person – Open House:

Date: April 27th, 2023

Time: 5:00pm – 6:30 pm

Location: Kenneth Gordon Maplewood School Gymnasium, 420 Seymour River Place

Virtual Public Information Meeting

Discussion open: April 20 – May 4th, 2023.

Web link: www.DNV.org/Public-Meeting

ATTENDANCE AND INPUT RECEIVED:

Attendance:

- In-Person Visits to the Open House: 10 people
- Virtual meeting [landing page](#): 120 unique visits; 154 total views
- Virtual meeting [discussion board](#): 132 unique visits; 184 total views
- YouTube video presentation: 28 total views
- Main project page on DNV.org: 124 unique visits; 240 total views

Number of Comments:

- Virtual Public Meeting chat: 3 people (and responses from Staff and HTEC)
- Emails: 5 members of the public
- Comment sheets: 0
- Phone calls: 0
- In person discussion: approximately 10 members of the public

Comments and Questions Raised:

- Questions and concerns related to safety and ensuring this project meets industry standards for risk tolerance. (The QRA by the qualified professional will be posted on the District's webpage for this application and be part of the Public Hearing materials.)
- Questions about hydrogen fuel cell vehicles and how they compare to standard electric cars and interest in the hydrogen fuel cell car that was on display at the in-person meeting.
- Support for the proposal.
- Interest in the Hydrogen industry.
- Questions about the value of the project in terms of Climate Action.
- Questions about the method of hydrogen production.
- Questions on the referral process.

From the Virtual Public Information Meeting Comment Section:

Username	Comment	Reply
Lpatch	<p>Please share the facility siting study that HTEC must conduct to be compliant with CSA Z767 / Environmental Emergency Preparedness Act / and other industry expectations regarding land use planning with respect to facilities handling explosive and flammable materials. What is the blast radius? Has a Quantitative Risk Assessment been performed, following the Chemical Institute of Canada guidelines. The permit shi not be approved until these fundamental risk assessments have be completed.,</p>	<p>District Staff: Thank you for your comment. HTEC provided the District with the Qualitative Risk Assessment completed in accordance with the Canadian Society for Chemical Engineering Process Safety Management Division (MIACC) guidelines and requirements. The District hired qualified experts in this field to peer review the Qualitative Risk Assessment to ensure the proposal meets industry standards.</p>
DNV		
steambrewed	<p>I've worked in and around hydrogen processing for a large portion of my career.. a blast radius is a guesstimate at best. How can you claim a hydrogen compression facility located directly next to chlorine storage in railway cars is a safe and good idea.. Chemtrade has a ridiculous amount of chlorine sitting right at the fence line of this property.. on the same side of the property that the proposed compression station and tanks are being considered.</p>	<p>District Staff: The District relies on reports prepared by qualified professionals to assess hazard. McCutcheon & Associates prepared a report on the proposed Hydrogen facility. SLR Consultants undertook a peer review of the McCutcheon report. Both qualified experts are aware of the adjacent chlorine plant. The McCutcheon report states that the proposed facility meets the required risk tolerance criteria. SLR states that McCutcheon's findings are credible and can be relied on.</p>
DNV		
kost	<p>Are you aware that FCV cost about 10 times more in fuel per kilometer than Electric Vehicles. Am I correct that currently about 27,000kg of hydrogen is used by cars in BC per year. Also, I believe that every kilogram of hydrogen takes about 40 to 70 kWh of energy to produce - enough to drive 100 kilometers. Compare this to a Tesla EV which consumes about 16kWh to drive 100 kilometers. Charging a Tesla EV from home costs about 16x0.15 = \$2.40 to drive 100 kilometers. Hydrogen costs \$13/kg</p>	<p>Thank you for your comment. To achieve a low-carbon future we will need a suite of options. No single solution will be able to mitigate the impacts of climate change and pollution. Hydrogen is well suited for certain transportation applications where other zero-emission options do not meet the needs, such as medium- and heavy-duty trucks. Hydrogen offers long range, fast fueling time and extreme weather tolerance among other benefits. Ultimately hydrogen FCEVs offer another choice for consumers.</p>
HTEC		
kost	<p>Could the public be provided with the QRA study?</p>	<p>District Staff: Yes, information on the risk analysis will be available.</p>
DNV		

Email Correspondence During the Public Input Period

From: [REDACTED]
Sent: 4/21/2023 12:27:41 PM
To: [REDACTED]
Cc: muril@dnv.org; planning@dnv.org; littlem@dnv.org;
Subject: Re: New Significant Development Applications

Even small amounts of liquid hydrogen can be explosive when combined with air, and only a small amount of energy is required to ignite it. Both its explosiveness and the extremely low temperatures involved make handling it safely a challenge.

This seems like a bad idea so close to forest and residential communities...

Please pass this on to all current councillors and planning staff.

Thanks

[REDACTED]

<https://www.nasa.gov> › pdf
[EXPLOSIVE LESSONS](#)

From: [REDACTED]
Sent: Sunday, April 30, 2023 10:15 AM
To: Mayor and Council - DNV <council@dnv.org>
Subject: Application at 100 Forester Street

Your Worship & Members of Council,

You are probably aware of the application at 100 Forester Street by HTEC for the production of Hydrogen and it's ultimate distribution to the consumer. I have already commented on this application at

https://dnv.civilspace.io/en/projects/100-forester-street-htec-hydrogen-plant/discussion_topics/35

Through district staff I have requested that since HTEC provided the District with the Qualitative Risk Assessment completed in accordance with the Canadian Society for Chemical Engineering – Process Safety Management Division (MIACC) guidelines and requirements, **that it be made available to the public.** I trust, for transparency of the process, that this QRA will be made public.

When this application comes to the DNV Council for approval you may be interested in the Hydrogen Station Permitting Guidebook for BC (June 2022) - particularly those pages following 36(31) on Zoning.

The particulars for the rezoning are as yet unclear to me, but they may follow in due course.

Yours truly,

[REDACTED]

From: [REDACTED]
Sent: Monday, May 1, 2023 4:44 PM
To: info@htec.ca; Tamsin Guppy <GuppyT@dnv.org>
Subject: HTEC rezoning input

Hello Tamsin and Melissa,

I'm a resident in North Vancouver District and am writing seeking clarification on the impact the proposed rezoning at 100 Forester in our local community, and to the atmosphere. The information provided to the public is very general, while the energy system is obviously very complex.

- 1.) The IPCC and IEA highlight the positive potential for green hydrogen to play a role in global energy decarbonization, particularly for difficult to decarbonize industries, yet HTEC's stated focus for this project on personal vehicles rather than targeting heavy equipment and industry (such as cement/steel). Can you please elaborate on this choice? (graph attached)
- 2.) Hydrogen production is energy intensive, expensive, and ripe for greenwashing given the various feedstock and production methods (ie. green, blue, grey). While this proposal intends to capture hydrogen (a byproduct of sodium chlorate production), it will still require significant energy and resources to capture, purify, process, and transport hydrogen. Will the *lifecycle emissions and lifecycle energy consumption* be shared with the public for this project? How will this project increase DNV community-wide emissions and energy consumption? How far will this product travel from North Vancouver to the end market?
- 3.) As noted in [this article](#), the CEO/President of HTEC is quoted as saying, : "*I think we're all firm believers that natural gas and hydrogen and LNG need to work together.*" As well, [CEO Colin Armstrong spoke](#) at the 2022 Gas and LNG Conference and is scheduled to be a speaker at the 2023 conference. Could you please provide the contents of the 2022 presentation and if, available, the 2023 presentation in May 2023?
- 5.) Does HTEC have any plans to sell hydrogen to FortisBC or any other fossil gas distributor to inject into existing fossil gas infrastructure?
- 6.) Does HTEC participate in any carbon offsetting schemes?
- 7.) Hydrogen is itself an indirect greenhouse gas. Does HTEC agree with the findings of [this report](#) out of the UK which among other findings, indicate that hydrogen has a Global Warming Potential 11 times that of carbon dioxide (over a 100-year time horizon)?
- 9.) Recent evidence demonstrates that hydrogen leakage is a serious and growing concern (due to hydrogen's impact on the atmosphere). "Hydrogen is thought to leak across the entire value chain, including electrolyzers, compressors, liquefiers, storage tanks, geologic storage, pipelines, trucks, trains, ships, and fuelling stations—with the highest rates likely in midstream and downstream sectors (van Ruijven et al., 2011). [Source](#) How does HTEC account for leakage and what measures are in place to mitigate?
- 10.) The DNV classifies all gases as a hazardous substances, yet there is little information in the slide deck addressing safety, are safety studies/analysis publicly available?

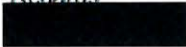
11.) What environmental assessments have been conducted on potential impacts to the surrounding environment (including the adjacent wildlife sanctuary), are these publicly available? Noise? Sound? Pollutants?

12.) Have local First Nation's, specifically Tsleil-Waututh and Squamish, been included in this rezoning process consistent with the DNV's commitment to implementing UNDRIP?

13.) Slide deck clarification: "*Reduce GHG emissions up to 141 kilotonnes CO2e per year.*" Please explain this figure.

I look forward to the responses to the above questions, thank you.

Regards



From: [REDACTED]
Sent: Thursday, May 4, 2023 8:43 AM
To: info@htec.ca; Tamsin Guppy <GuppyT@dnv.org>
Subject: Re: HTEC rezoning input

Dear Melissa and Tamsin,

Just following up on when I receive a response to these questions? I understand input is being accepted through May 4 (today).

When do you expect this rezoning application to go before council?

I understand that a public hearing is not a legislated requirement for this text amendment, but can staff please clarify why the choice was made to hold a public meeting rather than a public hearing for this rezoning?

Thanks,
[REDACTED]

From: [REDACTED]
Sent: Monday, May 8, 2023 1:13 PM
To: Tamsin Guppy <GuppyT@dnv.org>
Subject: Re: Civil Space Comments - 100 Forester

Hi Tamsin,

I had hoped that links would be published.

I highly recommend viewing the 20 minute YouTube video on the Hydrogen issue by Sabine Hossenfelder - a physicist at CERN, titled

Hydrogen Will Not Save Us. Here's Why.

found at

<https://www.youtube.com/watch?v=Zklo4Z1SqkE&pp=ygUPaHlkcm9nZW4gc2FiaW5l>

or in short

<https://youtu.be/Zklo4Z1SqkE>

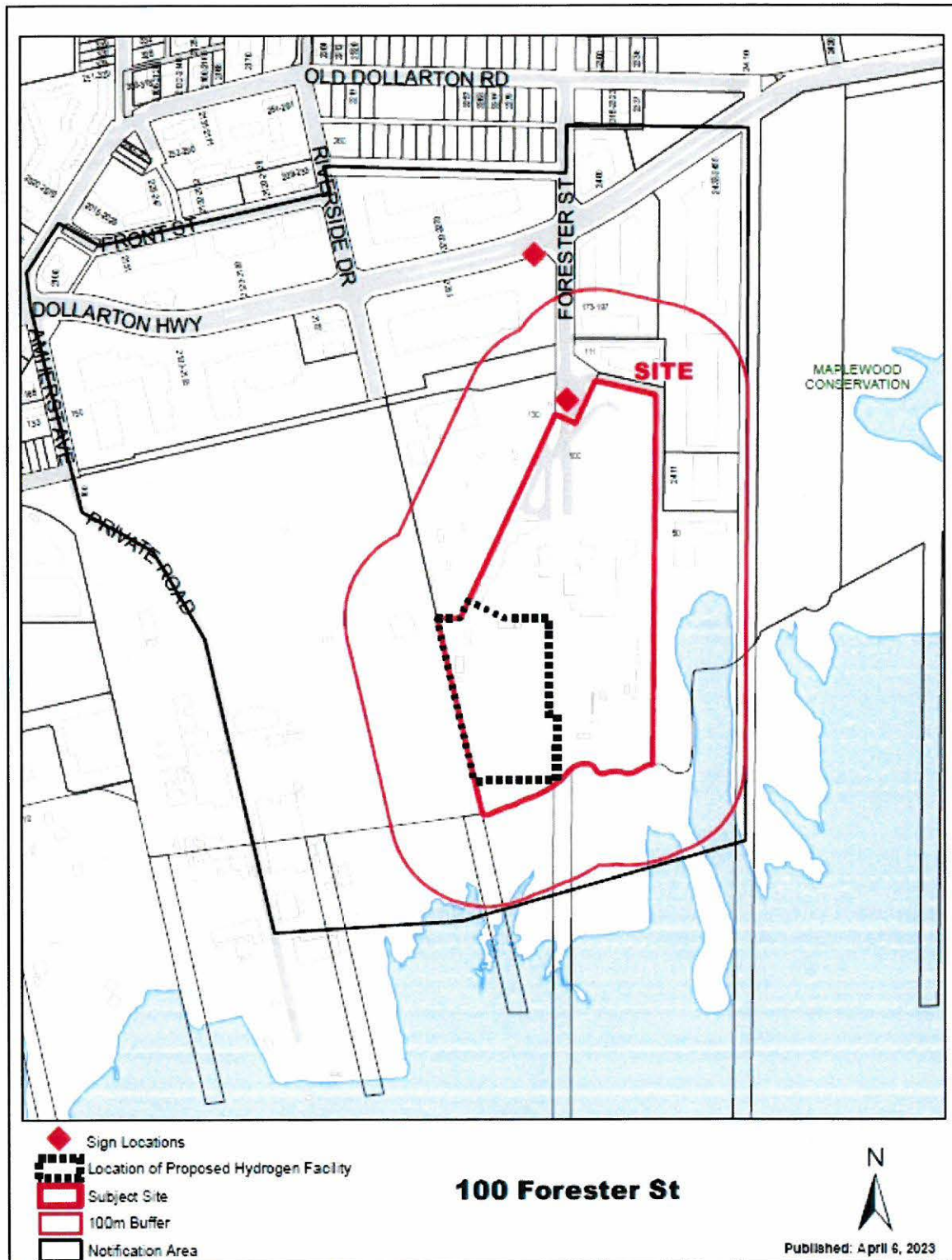
Hopefully you don't screen out hyperlinks!

Yours truly,

[REDACTED]

Notification Area (black line) and Sign Locations (red diamonds):

- 280 addresses in the notification area.

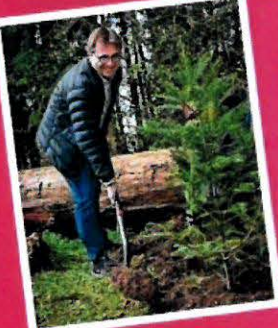


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April 18, 2023


A18 | WEDNESDAY, APRIL 19, 2023

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Member of Parliament, North Vancouver
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MILITARY HISTORY

UXO team finds two explosives in Blair Rifle Range sweep

BRENT RICHTER
for nrsnews.com

Department of National Defence contractors and Canadian Forces members found and detonated two explosives in their latest sweep of North Vancouver's Blair Rifle Range Lands.

Today, the land off Mount Seymour Parkway is lined with recreational trails but from the 1930s until the 1960s, it was a military training site.

Over February and March, unexploded ordnance (UXO) experts were scouring a two-hectare swath of the lands with metal detectors, which turned up an unexploded three-inch mortar shell, and a fuse used to detonate mortars.

In both cases, the UXO team called in Canadian Forces explosives experts to come to the site, plant charges on the items and detonate them safely, with the public kept away. Based on the explosion the detonation produced, project manager Debbie Nicholls said the mortar shell would have been filled with high explosives.

The Department of National Defence has been working to clear all of its legacy sites in Canada, prioritizing those that pose the highest risk to the public first. When they were last at the Blair Rifle Range Lands in 2018, they found about 200 kilograms of mortar shells, practice rounds and grenade components.

"In 2018, the immediate dangers to the public were addressed when we cleared UXO from the open areas and the trails that are used by the public," Nicholls said. "Because of that, the site no longer poses a high risk or immediate urgency to the public."

The UXO team will be sent elsewhere for the summer but return this fall for a more substantial search, attempting to clear another seven hectares over five to seven months, Nicholls said.

The likelihood of UXO detonating on its own is extremely unlikely, but it is possible if one is disturbed, so Nicholls said it is imperative that no one dig holes or light fires within the Blair Rifle Range Lands. If a three-inch shell were to go

Continued on page 19

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Development Proposal

PUBLIC INFO MEETING
Thursday, Apr. 27, 5:00 - 6:30pm
Kenneth Gordon
Maplewood School Gym,
420 Seymour River Place.
Participate virtually:
Apr. 20 - May 4 at
DNV.org/public-meeting

PROPOSAL
100 Forester Street



HTEC is proposing to co-locate a hydrogen facility at the existing ERCO Worldwide plant to turn waste hydrogen into clean fuel for electric vehicles.

WE ARE HERE
PUBLIC INFO MEETING → PUBLIC HEARING →

HTEC
PULSING THE DRIVE TO HYDROGEN

Contact:
Melissa McKinnon, HTEC
info@htec.ca

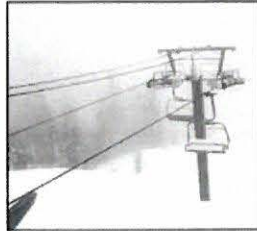
All three North Shore resorts now closed for skiing

Continued from page 24
not be accessing the CRA for skiing and snowboarding when the resorts are closed."

Mt. Seymour asks that backcountry users stay on backcountry trails. Whitehead said, "as we have unmarked hazards and machinery on-hill preparing for next winter."

Cypress did not provide comment on accessing its recreation areas until the end of the permit period.

Grouse pays an annual lease fee to operate its tram and parking lot, which are adjacent to Metro Vancouver park land, but the resort itself is on privately held land.



The snow-covered Eagle Chair sits idle above mounds of untracked powder at Cypress Mountain Resort on Friday, April 21. CYPRESS MOUNTAIN RESORT

Mountain resorts 'need to have all seasons represented'

Shutting down operations while there's snow on the mountains is a bad use of resources, says Chase Wright, who lives in Vancouver but commutes to work on the North Shore and to snowboard at Cypress.

"If you're going to have a mountain like that, you should probably have it open whenever there's snow, right?" he said.

Eventually, there might be a few bad

winter seasons due to climate change, Wright said. "Then do we have local mountains anymore? Or do they shut down?"

"If you want to create a consistent and sustainable mountain culture, you need to have all seasons represented," he continued, pointing to Whistler's transition to downhill biking in the warmer months. Grouse continues to lift guests up the mountain throughout the year — hosting activities like ziplining, birds of prey demonstrations and

a tree canopy rope course — but bikes aren't allowed on the tram.

"There's no one on the North Shore that's doing gondola cycling in the summer," Wright said. "They should be able to adapt to switching sooner to biking or switching later for skiing."

Drawing on his travel experiences, Wright referenced mountain cultures in Europe that have developed to accommodate dual seasons. One shining example is the town of Grindelwald, nestled in a valley in Switzerland's Bernese Alps. The region hosts world-class skiing in the winter, and hiking in the warmer months. Much of the area is interconnected by trains and gondolas.

Wright said there's a big fear that we could over-develop, and lose too much of the pristine wilderness on the North Shore, which is a valid concern.

But there's room to strike a balance, he said.

"If you go up there on a busy day, it's just a zoo," Wright said. "There's not enough outdoor space for everyone going up there.... I think there's a real desire for people to have more fun outdoor spaces that are respectfully and environmentally developed."

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Development Proposal

PUBLIC INFO MEETING

Thursday, Apr. 27, 5:00 - 6:30pm
Kenneth Gordon
Maplewood School Gym,
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Participate virtually:
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PROPOSAL

100 Forester Street

HTEC is proposing to co-locate a hydrogen facility at the existing ERCO

Worldwide plant to turn waste hydrogen into clean fuel for electric vehicles.

WE ARE HERE

→ PUBLIC INFO MEETING → PUBLIC HEARING →

HTEC
PULLING THE BEST TO HYDROGEN

Contact:
Melissa McKinnon, HTEC
Info@ntec.ca

Public Information Meeting Flyer

Virtual Public Information Meeting Details:

Website - www.dnv.org/Public-Meeting
Date: April 20 to May 4, 2023

Public Information Meeting Time & Location:

Thursday, April 27, 2023
Doors Open: 5:00 PM
Open House Discussion: 5:00 to 6:30 PM
Kenneth Gordon Maplewood School Gymnasium
420 Seymour River Place

A HYDROGEN FUEL CELL ELECTRIC VEHICLE WILL BE ON DISPLAY AT THE EVENT

For further information, please contact:

HTEC
Project Inquiries: General Inquiries:
Melissa McKinnon Audrey Marande
E-mail: mmckinnon@htec.ca E-mail: amarande@htec.ca

District of North Vancouver
Planning Department
Tamsin Guppy
E-mail: guppyt@dnv.org

Notice of Public Information Meetings in Your Neighbourhood

HTEC is hosting Virtual and In-Person Public Information Meetings to present the rezoning proposal for a Clean Hydrogen Production Facility at 100 Forester St, North Vancouver, BC V7H 2M9.

This information package is being distributed to the owners and occupants within 100 metres of the proposed development site in accordance with District of North Vancouver policy.



The Proposal: Recycling waste hydrogen at an existing electrolysis plant in North Vancouver to help us meet our climate goals.

HTEC, a Vancouver-based leading clean hydrogen solutions company, is proposing to co-locate a clean hydrogen production facility at an existing ERCO Worldwide (ERCO) sodium chlorate plant, located at 100 Forester Street, North Vancouver.

HTEC will capture, purify, and process the vented hydrogen from this electrolysis plant to produce 15 tonnes per day of clean hydrogen. The rezoning proposal is to intensify the industrial use of existing manufacturing land.

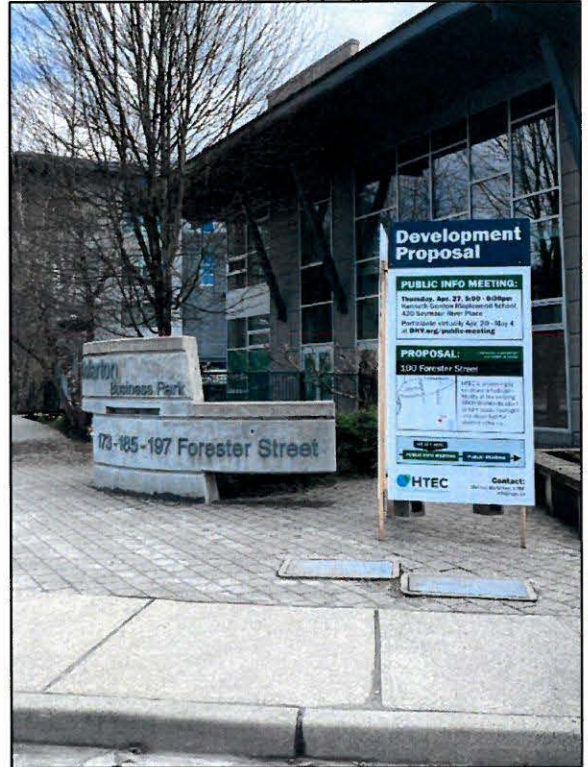
The proposed facility will be located on a portion of the 5 acres of land that HTEC will occupy at the existing ERCO property. The plant will be located immediately southwest of the ERCO plant on a portion of the site not currently used.

Changes to traffic through the site during normal operations will be minimal, with an increase of 26 additional truck movements per week above ERCO's existing average of 82 truck movements per week. Parking on the site will be shared with ERCO and utilize the existing parking lot. Access will continue to be from the main driveway serving ERCO.

HTEC plans for the facility to be operational in early 2026.



Signs:



In-Person Public Information Meeting Set Up (photos as doors opened)





A hydrogen fuel cell powered car was also on display at the open house.



In-Person Meeting as it was Underway

