

# Information and Activity Report

*CBRM Regional Enterprise Network*

Q1 – FY 2024/25  
(April - June 2024)

**Subject:** ..... CBRM REN Information and Activity Report  
**To:** ..... Cape Breton Regional Municipality  
**Date Prepared:** .... July 17<sup>th</sup>, 2024  
**Prepared by:** ..... Tyler Cole, Economic Development Officer, CBRM  
Lan Zheng, Economic Development Officer, CBRM

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## Background:

The Cape Breton Partnership (CBP) provides economic development support to the Cape Breton Regional Municipality under the Regional Enterprise Network (REN) model in partnership with the Province of Nova Scotia.

The Cape Breton Regional Municipality Regional Enterprise Network (CBRM REN) serves all of the communities of the CBRM from the CBP offices in Sydney.

The CBRM REN is part of a larger network of Regional Enterprise Networks across Nova Scotia.

The CBP maximizes the value of the CBRM REN's funding partners, leverages that investment to have a greater impact, and collaborates with other partners, funders, and projects that it is responsible for (like the Cape Breton Local Immigration Partnership) to deliver operational synergies across Unama'ki – Cape Breton and to benefit the CBRM.

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Partnership

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Regional  
Enterprise  
Network  
**CBRM**

## 2024/25 CBRM REN Board of Directors

- **Chair** - Tracey Boutilier, Vibe Creative Group
- Brad Jacobs, Colbourne Auto Group
- Shaowei Xu, SW East Trading
- Howie Doiron, Lindsay Construction
- Darrell Gallant, Marine Atlantic Inc.
- Nicole Morrison, Mabel Systems
- Ron Blinkhorn, Casino Nova Scotia – Sydney

## 2024/25 CBRM REN Liaison Oversight Committee:

- **Co-Chair** – Steve Gillespie, Councillor, CBRM
- **Co-Chair** – Jennifer Campbell, Chief Financial Officer, CBRM
- Steve Parsons, Councillor, CBRM
- Karen Neville, Acting Director of Planning and Development, CBRM
- Marilyn Hay, Nova Scotia Department of Economic Development
- Donald Ferguson, Nova Scotia Department of Labour, Skills & Immigration

## Additional information about the CBRM REN

Full information on the CBRM REN, including the CBRM Forward Strategic Plan, annual business plan, quarterly reports and more is located on the [CBRM REN webpage](#).

## Reporting Period:

Your CBRM REN team and the CBP are pleased to share highlights, milestones achieved, and metrics from **April 1 – June 30, 2024**.

## Highlights and Events:

- **Mi'kmaw Consultation session for Tourism Strategy for NS: April 3** – Cape Breton Partnership representatives participated in a Mi'kmaw Consultation Session for Tourism Strategy for Nova Scotia organized by [TIANS](#) and Tourism Nova Scotia, at Membertou Trade and Convention Centre.
- **Breakfast and Roundtable Discussion with Nova Scotia Power: April 5** – CBRM REN staff facilitated a roundtable discussion with local business and community leadership and representatives from NS Power at the Port of Sydney.
- **Sydney Job Fair: April 9** – The Cape Breton Partnership hosted a job fair at the Joan Harriss Cruise Pavilion, with employers and job seekers from around the CBRM invited to participate. More than 500 job seekers attended over the course of the event.
- **Reventus Site Visit: April 16-17** – CBRM EDOs worked with local energy sector partners including Novaport and Atlantic Canada Bulk Terminals to organize a site visit to the CBRM for Reventus Power, a UK-based offshore wind development firm.
- **Tourism Training Session Kickoff Event: April 19** - CBRM EDOs presented at the World Tourism Institute's Tourism Training Session Kickoff event, hosted in Membertou. The team's presentation shared results of the recent economic impact study on the Island's tourism industry, as well as the supports the Partnership provides for businesses in the sector.
- **Green Energy Engagement Program – Workshop with CBRM Council: April 25** – Members of the Regional Assessment for Offshore Wind Development in Nova Scotia, and the Green Energy Engagement Program from the Partnership, hosted a workshop with CBRM Councillors at City Hall to provide information and answer questions about the process of offshore wind development in the region.
- **Impact of Transportation Costs on Life and Work in Unama'ki - Cape Breton: May 6** - This event, hosted in partnership with the Cape Breton Regional Chamber of Commerce and the Scotia Rail Development Society, brought together key stakeholders from government, the transportation sector, the public, and private business to discuss how an expansion of transportation opportunities in the region would benefit business and consumers alike.
- **Safety First Symposium: May 8** – This annual event is hosted in partnership with the Workers' Compensation Board of Nova Scotia and the Department of Labour, Skills, and Immigration, and was hosted at Membertou Trade & Convention Centre. It is focused on highlighting safe work practices, seeking to avoid accidents and prevent injuries on the job. More than 200 attendees were there for a full day of learning.
- **Destination Cape Breton Community Engagement Sessions: May 9, 22-23** – The CBRM REN team attended these sessions, hosted by Destination Cape Breton, to learn more about their 2024-27 tourism strategy, and to network with tourism businesses based in the CBRM.
- **CANS Spring Fling Event: May 16** – The CBRM REN team participated in the Construction Association of Nova Scotia's Spring Fling golf tournament and dinner event at The Lakes at Ben Eoin. The team connected with

construction sector leaders from across the Island.

- **Atlantic Economic Council – Building Atlantic Canada Conference: May 23** – Members of the CBRM REN team attending this 1-day conference in Halifax, focused on the economic outlook for Atlantic Canada and the effect of major projects, including the Beechmont Copper Mine and healthcare construction projects, on the regional economy.
- **Procurement Information Session - Selling to Government: May 24** – The Cape Breton Partnership hosted this Lunch and Learn session, which focused on providing insights and making connections for local businesses to learn about selling to all three levels of government and how they can actively participate in the procurement process.
- **Sydney Ports Day: May 30** – This annual event bringing together stakeholders in the Sydney Harbour was hosted at the Port of Sydney, with presentations from the Cape Breton Partnership, Canadian Coast Guard, Atlantic Canada Bulk Terminals, Novaporte, Marine Atlantic, and more.
  - The CBRM REN contributed an updated asset map slideshow of information on the large side-wall.
- **Offshore Wind Centre of Excellence Site Visit: June 17-18** – Members of the CBRM REN team worked with local stakeholders, including NSCC, the Canadian Coast Guard College, CBU, and the Verschuren Centre, to organize a site visit for consultants exploring the creation of an Offshore Wind Centre of Excellence, which will prominently feature CBRM-based organizations and experts.

## Select Project Updates:

### Economic Development Project Updates

- **Industry Sector Pages** – The CBRM REN team has continued to work on the content for the [Industry Sector Pages](#) on the Welcome to Cape Breton website’s Invest Tab. These pages highlight key areas of focus for investment on the Island. New pages covering residential real estate, commercial real estate, agriculture, farming and food processing, innovation and technology, fisheries and aquaculture, tourism, green energy, and the creative economy will be launching later in 2024.
- **Centre 200 / Cape Breton Eagles Economic Impact Study** – The CBRM REN team, in collaboration with CBRM staff and the Cape Breton Eagles Hockey Club, have entered into an agreement with a consultant to study the economic impact of the hockey team and the arena on the CBRM. This initiative is an excellent example of collaboration, as it is jointly funded by the CBRM REN, the CBRM, the Cape Breton Eagles, and ACOA. The study will be taking place over the summer and fall, with strong community engagement planned.
- **Women+ Microloan Program Enhancement** – Some changes have been made to this program, in collaboration with delivery partners, to streamline the application process for interested parties. While making these changes, promotional efforts for the program were paused, leading to a drop in applicants. 2 Microloans are currently in progress and one has approved the loan from Sydney Credit Union.
- **Community Solar Projects** – The CBRM REN Staff has supported community Solar projects development in Sydney (7MW) and Enon area (10MW). Two projects from one company have been submitted final application to Nova Scotia Community Solar Program and are waiting for approval, additional projects from other companies (local and regional) are expected.

- **Energy Sector Development** – The CBRM REN team is regularly assisting interested parties who are exploring offshore wind (see Reventus Power Site Visit above), solar, onshore wind, and green hydrogen projects in the region. There is significant interest in the region for development following the recommendation of the Sydney Bight as a location for offshore wind farms as part of the Regional Assessment for Offshore Wind Development in Nova Scotia Interim Report. [Summary of the Interim Report](#)

### Green Energy Sector:

- Finalized “What We Heard” document from our OSW engagement sessions across Unam’aki – Cape Breton. The document is currently with our partner, Net Zero Atlantic (NZA), for review, and will hopefully be published shortly.
- Discussions with a consultant working on behalf of the Public Policy Forum – regarding Cape Breton’s transition to low carbon workforce/economy. Highlighting the opportunities and challenges in Unama’ki – CB connected to this transition, including workforce development, skills realignment, and supply chain opportunities around the green energy sector and other carbon-intensive industries.
- Setting up a meeting with the Regional Assessment Committee to discuss their interim report, including selection of the Sydney Bight as a proposed future development area. Meeting held for CBRM Council, CBP Board and LOC.
- Attending the Regional Assessment engagement session in Sydney and gathering feedback – there was heavy attendance by fishers who oppose the selection of Sydney Bight as a development location.
- Material development for a hydrogen Sector Page on WelcomeToCapeBreton.ca and collateral materials for attending the World Hydrogen Summit in Rotterdam. The Summit was attended by Tyler Mattheis as part of a Nova Scotia delegation.
- Formal input into Module 2 of the Nova Scotia Government OSW Roadmap – session hosted by Marine Renewables Canada and Department of Natural Resources and Renewables. Providing input on the opportunities for Cape Breton with respect to supply chain development, infrastructure investment, capital spending incentives, etc.
- Participation in the Electricity Sector Implementation Team meetings – Green Energy Engagement Program Coordinator is part of the Implementation Team that is putting the Nova Scotia Department of Environment’s Electricity Sector Climate Adaptation Strategy in place. Cape Breton Partnership is the only organization from Unama'ki - Cape Breton participating in this group.
- Meeting with NZA Geothermal project leaders, facilitating introductions to EDOs/municipalities.
- Ongoing planning with NZA for a second round of OSW information sessions between September-November 2024. Community sessions will be held across Unama’ki – Cape Breton, with information building on our first round of sessions. It will also provide community members the opportunity to provide feedback on the RA Final Report Draft that will be out for public comment after its release in September.
- Providing input for the Offshore Wind Centre of Excellence, and facilitating planning for AECOM to meet with key stakeholders in CBRM.
- Letter of support for large-scale academic hydrogen research project – details to follow as it remains confidential presently.

- Meeting with Next Ride (Clean Foundation) to identify opportunities to engage in Unama’ki – Cape Breton. They bring EVs to events to test drive and can offer educational materials and information on EV incentives. I can set up introductions if there are municipal events of interest for this type of engagement.
- Wrote a letter of support in fourth quarter last fiscal for the Canada-Germany Chamber of Commerce and Innovation to bring a German delegation to Nova Scotia to learn about workforce development and supply chain development. Notified that funding was obtained and the delegation will arrive in November 2024. Meeting will be held to identify Cape Breton Partnership participation.

## Creative Economy Projects and Sector Initiatives

- **Film & TV Production Distance Location Incentive** – The Creative Economy Development Officer has been working with Screen Nova Scotia and the Unama’ki Motion Picture Cooperative to advocate for the creation of a Distance Location incentive from the Nova Scotia Government. This provincial incentive would create a financial benefit for bringing film & TV production to Cape Breton. An announcement is expected in July 2024 from the Premier’s Office.
- **Film & TV Productions in CBRM** – Work has been ongoing to support production companies with upcoming film & TV shoots taking place in the CBRM in Summer 2024. This support work includes finding candidates for the Screen Nova Scotia [Diversity Mentorship Program](#), connecting producers to suitable filming locations around the CBRM, promoting the IATSE Local 849 Set Etiquette Course, and finding extras to participate in the productions.

## People and Labour Force Attraction:

- **Cape Breton Job Board** – The Job Board has continued to evolve, with an expansion to the Resources page, increased accessibility features, promoting Volunteer and Board opportunities, and a rebranded homepage. There are 230 organizations in the CBRM using the Job Board as of Q1.
- **Welcome Network** – A new Welcome Network Coordinator, Danielle Casagrande, started in this role on March 11, 2024. In Q1, Danielle’s activities were focused on getting up to speed in the role, connecting with program partners Island-wide, and working with the Chair of the CBRM Welcome Group. A “Plant Your Roots” event, focused on newcomers to the region, was held in Sydney on June 27.
- **Immigration Services** – The Immigration team has been busy as ever supporting employers and individuals in Q1, full statistics for their work can be found in the Addendum below.

## Upcoming Events:

- **Partners Day: July 10** – This annual event in Sydney brings together the Partnership’s investors, strategic partners, and key staff to share highlights of our programs and key services.
- **ABO Energy Mill Creek Solar Project Open House: July 10** – A drop-in information session, hosted by ABO Energy, to learn more about their proposed 10 MW solar project in Millville.
- **CBRM Moving Forward Roundtable: July 23** – Hosted by Cape Breton University, this roundtable event will bring together key stakeholders from around the CBRM to discuss the progress being made on the regional economic development strategy “CBRM Moving Forward”.
- **Lighthouse in Little Lorraine Film Project: July** – A film titled *Lighthouse in Little Lorraine* will be filmed around the Island, mainly in Louisbourg, in July.
- **MORE EVENTS** - To be kept informed of all upcoming events as they unfold, follow the Cape Breton Partnership’s social channels or [subscribe to the Pulse Newsletter](#).

## Metrics Overview *(Full Metrics are available in Addendum 1: CBRM REN Metrics (April 1 – June 30, 2024))*

- Your Economic Development Officers, and CBRM REN team members, continue to provide business support and advisory services to entrepreneurs, business clients, and individuals throughout the CBRM. These projects are reflected in the Addendum below.
- The Women+ Micro Loan program has approved 1 loan in CBRM since it was relaunched in January 2024, with another applicant currently reviewing their application with the Sydney Credit Union.
- The CBRM REN team is currently providing 48 individuals and businesses in the CBRM with immigration and human resources supports, guidance, and direction in an effort to grow our population and to assist employers with labour related challenges.

## Additional Information:



**CBRM REN Website:** Additional information on the CBRM REN, including the CBRM Forward Strategic Plan, annual business plan, quarterly reports and more is located on the [CBRM REN webpage](#).



**Welcome to Cape Breton Website:** Additional Information on Living, Working, Investing, Studying and Moving to the CBRM - including community profiles and economic data - can be found on the [Welcome to Cape Breton website](#).

- **News and Updates** – Elevate Magazine, and articles from Pulse Newsletter, new podcasts, news releases and more can be found on the [Partnership News section of our website](#).



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## Signatures:

Respectfully submitted by:

Tyler Cole

Tyler Cole (Jul 22, 2024 09:10 ADT)

Lan Zheng

Lan Zheng (Jul 18, 2024 13:10 ADT)

Tyler Cole  
Economic Development Officer - CBRM  
CBRM REN, Cape Breton Partnership

Lan Zheng  
Economic Development Officer - CBRM  
CBRM REN, Cape Breton Partnership

Tyler Mattheis  
President and CEO  
CBRM REN, Cape Breton Partnership

## Addendum(s):

- **CBRM REN Metrics (April 1 – June 30, 2024)**
- **World Hydrogen Summit 2024 – Briefing Note**

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## Addendum I: CBRM REN Metrics (April 1 – June 30, 2024)

Activities	CBRM Metrics (April 1 – June 30)			Year-To-Date
	Total Started	Total In Progress (as of June 30)	Total Completed	YTD Total Completed
<b>Business Support, Sustainability, &amp; Growth</b>	<b>Total – 75</b>	<b>Total – 237</b>	<b>Total - 26</b>	<b>Total - 26</b>
Business Planning	<b>Service in Transition.</b> At the current time, clients requiring business planning and startup / entrepreneurship are being supported either directly by the EDOs, or by partners such as the MSVU Centre for Women in Business, CEED, or others.			
Business Productivity & Growth Services		2	4	4
Business Quick Support	1		1	
Continuous Improvement & Business Advisory	2	7	6	6
Human Resources Advisory Services		2	1	1
Immigration Advisory Services	4	7		
Immigration Engagement – Business Support	11	50		
Immigration Engagement – Candidate Support	22	109		
Immigration Quick Support	24	25	1	1
Immigration Representation	5	17	5	5
Investment & Business Attraction Projects	4	10	2	2
Micro-Lending	2	2	2	2
Succession Planning			4	4
Creative Economy		6		

<b>Economic Development Projects &amp; Strategic Sector Support</b>	<b>Total - 0</b>	<b>Total - 5</b>	<b>Total - 4</b>	<b>Total - 4</b>
Sector Analysis (Strength & Weaknesses)				
Other Economic Development Projects		5	4	4

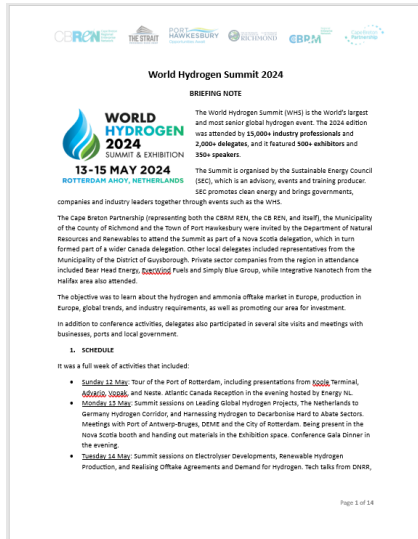
<b>Addressing Talent Needs (Labour &amp; Population)</b>	<b>Total Active Files – 48</b>
Human Resources Advisory Services	24
Business Immigration Consultancy	13
Immigration Advisory Services – for Businesses	11

<b>Retention Activities</b>	<b>Connector Program Total - 40</b>
New Connectors	9
New Connectees	31
Welcome Network - Welcomed	n/a



## Addendum 2: World Hydrogen Summit 2024 Briefing Note

- The 14 Page Briefing Note with the cover below will be attached to this report.



- A short montage video from the trip was developed by CBRM REN, which was also shown on social media after Sydney Ports Day 2024.



World Hydrogen Summit, Rotterdam May 2024 - CBRM REN

Unlisted

- [https://youtu.be/xKaFd5Kb\\_i8](https://youtu.be/xKaFd5Kb_i8)

# World Hydrogen Summit 2024

## BRIEFING NOTE



**13-15 MAY 2024**  
**ROTTERDAM AHOY, NETHERLANDS**

The World Hydrogen Summit (WHS) is the World’s largest and most senior global hydrogen event. The 2024 edition was attended by **15,000+ industry professionals** and **2,000+ delegates**, and it featured **500+ exhibitors** and **350+ speakers**.

The Summit is organised by the Sustainable Energy Council (SEC), which is an advisory, events and training producer. SEC promotes clean energy and brings governments,

companies and industry leaders together through events such as the WHS.

The Cape Breton Partnership (representing both the CBRM REN, the CB REN, and itself), the Municipality of the County of Richmond and the Town of Port Hawkesbury were invited by the Department of Natural Resources and Renewables to attend the Summit as part of a Nova Scotia delegation, which in turn formed part of a wider Canada delegation. Other local delegates included representatives from the Municipality of the District of Guysborough. Private sector companies from the region in attendance included Bear Head Energy, EverWind Fuels and Simply Blue Group, while Integrative Nanotech from the Halifax area also attended.

The objective was to learn about the hydrogen and ammonia offtake market in Europe, production in Europe, global trends, and industry requirements, as well as promoting our area for investment.

In addition to conference activities, delegates also participated in several site visits and meetings with businesses, ports and local government.

### 1. SCHEDULE

It was a full week of activities that included:

- Sunday 12 May: Tour of the Port of Rotterdam, including presentations from Koole Terminal, Advario, Vopak, and Neste. Atlantic Canada Reception in the evening hosted by Energy NL.
- Monday 13 May: Summit sessions on Leading Global Hydrogen Projects, The Netherlands to Germany Hydrogen Corridor, and Harnessing Hydrogen to Decarbonise Hard to Abate Sectors. Meetings with Port of Antwerp-Bruges, DEME and the City of Rotterdam. Being present in the Nova Scotia booth and handing out materials in the Exhibition space. Conference Gala Dinner in the evening.
- Tuesday 14 May: Summit sessions on Electrolyser Developments, Renewable Hydrogen Production, and Realising Offtake Agreements and Demand for Hydrogen. Tech talks from DNRR,

Bear Head Energy, EverWind Fuels, Net Zero Atlantic, and Government of New Brunswick. Being present in the Nova Scotia booth and handing out materials in the Exhibition space.

- Wednesday 15 May: EverWind Fuels and Port of Rotterdam MOU signing in the morning. PosHydon site visit. Summit sessions on Decarbonising Shipping, Leading Cities Spearheading Hydrogen Development, An Outlook for Hydrogen's Future, and Hydrogen Accelerating Sustainable Mobility.
- Thursday 16 May: Visit to Port of Antwerp-Bruges in Antwerp, Belgium. Meeting with the Port as well as their International Division followed by a tour of the port.

## 2. PORT OF ROTTERDAM TOUR – SUNDAY 12 MAY

Included in the Summit Pass was a tour of the Port of Rotterdam on both boat and bus.

The Port of Rotterdam is the biggest port in Europe and activity in the port has historically been built around container shipping and the energy sector. The port is home to 3,000 companies and hosts a large number of container terminals, oil refineries, biofuel refineries, and tank farms. The Port of Rotterdam is owned 70% by the City of Rotterdam and 30% by the Dutch State. The Port has an ambition to become 100% green by 2050, and hydrogen will play a key role to enable the port to achieve that goal. Furthermore, only 10% of the green hydrogen demand will be able to be met by local production. The Port is therefore also developing capacity to handle, store and move significant amount of green hydrogen imports – primarily destined for the industrial hinterland in Germany. Currently 13 hydrogen projects located in the port have been announced, and on the tour presentations from some of the businesses behind these projects were delivered:



**Koole Terminal** – Developing an import terminal for ammonia on their 1,200 acre site, which also functions as storage for biofuels. 5 new large tanks will be built in a phased approach that will store 70K tonnes of ammonia. The ambition is to be operational at the end of 2028. Initially ammonia stored at Koole will arrive in Germany by barge, but there are plans to develop an ammonia pipeline to Germany.



**Advario** – Another proposed import terminal for ammonia on an existing tank farm primarily used for the storage of petrochemicals. They are currently restoring some of their land to greenfield conditions and will begin development in 2025. Their site will also have a ‘cracking’ facility in which the imported ammonia can be converted back into hydrogen.



**Vopak** – Vopak operates the Europoort in Rotterdam, which is a large scale oil hub terminal. Vopak have ambitions to develop an ammonia terminal on the site which will handle 1.5 tonne/day.

**Gasunie** – Gasunie is developing the ‘Hynetwork’, a network of hydrogen pipelines that will connect the hydrogen production and import facilities in the Port of Rotterdam to the rest of



Europe, primarily Belgium and Germany. Five main industrial clusters will be connected to each other, and the plan is to be fully operational by 2030.

**Porthos** – In this project CO2 from industry in the Port of Rotterdam is captured, transported and stored in empty gas fields under the North Sea. This includes CO2 from hydrogen projects ('blue hydrogen').

**Neste** – This is a refinery that produces different renewable products. Neste have plans to install an electrolyser at the refinery, which will enable them to produce hydrogen and hydrogen derivatives such as Sustainable Aviation Fuels on-site.

**Hydrogen Conversion Park I** – This project is spearheaded by the Port of Rotterdam itself and will look to combine green hydrogen production projects in one industrial park for a combined 1GW electrolysis capacity. Here producers will share infrastructure and excess heat will be captured and used in other areas of the port. The park is already full with businesses such as Shell, Tennet and AirLiquide, and the Port therefore has plans to establish a Hydrogen Conversion Park II for future projects.





### 3. ATLANTIC CANADA RECEPTION – SUNDAY 12 MAY

Energy NL hosted a networking event at the Marriott Hotel in Rotterdam on the eve of the Summit. The event was very well attended, and there was strong representation from Nova Scotia, Newfoundland & Labrador and New Brunswick, as well as Ottawa and the Canadian Embassy in the Netherlands.



During the event speeches were delivered by:

- **Hugh Adsett** - Ambassador of Canada to the Kingdom of the Netherlands
- **The Honourable Andrew Furey** - Premier of Newfoundland and Labrador
- **Jeff Hoyt** - Assistant Deputy Minister, Natural Resources and Energy Development, New Brunswick
- **Toby Balch** – Director, Business Investment & Export Development, Natural Resources and Renewables, Nova Scotia

From the speeches it was clear that all three provinces have high ambitions for their budding hydrogen sectors with a lot of support provided through the respective provincial governments. All have singled out the Netherlands, and Rotterdam in particular, as a key partner in future export agreements, which was also evidenced through the speech by the Ambassador.



#### 4. WORLD HYDROGEN SUMMIT & EXHIBITION – MONDAY 13 MAY TO WEDNESDAY 15 MAY



The World Hydrogen Summit at the Rotterdam Ahoy featured three days of seminars and two days of exhibition. The main take aways from the summit content and meetings are summarised in section 7, however this section aims to provide a bit of the ‘flavour and feel’ of the Summit itself.

Summit content included government and industry leaders speaking and discussing a long range of topics, including regulations, offtake markets, supply chain, affordability, technology collaboration and partnerships, and wider industry trends.

The exhibition featured stalls and booths hosted by a diverse collection of organisations, including national and regional governments, hydrogen developers, electrolyser manufacturers, electrolyser component developers, end-use pilots, and many more. The exhibition also featured a comprehensive program of ‘tech talks’ in which speakers had 15 minutes to lay out their project, product, policy initiative, organisational mandate, or whatever their pitch may be about. There was a 1-hour Nova Scotia theme of tech talks, which featured presentations from the Department of Natural Resources and Renewables, Bear Head Energy, EverWind Fuels, and Net Zero Atlantic.





## 5. POSHYDON SITE VISIT – WEDNESDAY 15 MAY

A tour of the PosHYdon pilot project was also included in the Summit Pass.

PosHYdon is an initiative of Nexstep, the Dutch association for decommissioning and reuse, and TNO, the Dutch organisation for applied scientific research, which collaborates closely with the sector. PosHYdon is an assembled modular technology currently located on land at INVESTA Expertise Centrum, an expertise centre for biomass and gasification technology that supports startups and research. Once the system is disassembled and reassembled at Neptune Energy’s Q13a-A platform, the first fully electrified platform in the Dutch North Sea, it will integrate three energy systems in the North Sea – offshore wind, offshore gas and offshore hydrogen.



While there, we were able to witness PosHYdon receiving green H2 certificates that can be traded for every kg of H2 produced. This “Guarantee of Origin” (GoO) certificate was granted by VertiCer, the institution in the Netherlands that issues GoO and certificate of origin (CoO) for all sustainable energy carriers. A GoO is the only proof that energy has been generated in a sustainable way. Note on use of existing oil platforms with significant life remaining: a way to re-use stranded assets before or after the oil reserves that the platforms were originally built to extract are depleted.

Key Observations from the PosHYdon tour:

- While PosHYdon is the world’s first operational offshore green hydrogen production platform, it is a very small operation, and it is an experiment to see what the possibilities are for scale in the future. Examples of small experimental size include:
  - 0.02% H2 is currently permitted to be mixed into Natural Gas pipelines as per Dutch law – PosHYdon received special permission to enable 0.5%, to enable more hydrogen to be piped to shore from the platform, diluted with Natural Gas being already shipped to shore in the same pipeline.
  - Air cooling rather than water
    - A large-scale operation is likely to require extensive environmental monitoring / study to determine potential ecological impact
  - Brine/salt release
    - A large-scale operation is likely to require extensive environmental monitoring / study to determine potential ecological impact
- Key potential benefits of an at-sea H2 producing platform in the future:
  - endless supply of water
  - units are designed to be pretty much self-contained and operated REMOTELY from shore (don’t necessarily need full time operators on the platform – just need scheduled maintenance)
  - Easy access for ship transfer, with close-to-shore platforms able to connect to pipelines
  - Close to wind farm sites<sup>5</sup>

- Key potential issues of an at-sea H2 producing platform in the future:
  - Efficiency – some of the energy will be needed to desalinate the water, which may impact the economics
  - A large-scale operation is likely to require extensive environmental monitoring / study to determine potential ecological impact of salinity impact, heat, and other currently unknown impacts

While this particular type of research may not be applicable in the Strait of Canso or in the broader region, and if it was the learning from PosHYdon may be applicable for us to learn from, the concept of a small research installation to test different uses/placements (like an offshore oil and gas platform) of established technology (desalination plant, electrolyser, heat exchanging system) may be useful for our region to consider as we discover assets that we have not fully realized as assets, and work towards local applications of technology adaptation and iteration, rather than new technology development in this new industry.

**Key lessons learnt so far**

- Breadth and depth of stakeholder engagement required
- Current legal frameworks can now accommodate blended Hydrogen
- Repurposing/co-using existing oil and gas facilities is possible, but requirements are site-specific and must be assessed as such
- Large consortia present a different management model to what is familiar in the offshore sector

**Typical Onshore Electrolyser Design**

**PosHYdon Offshore Electrolyser Design**

## 6. PORT OF ANTWERP-BRUGES VISIT AND TOUR – THURSDAY 16 MAY

The Strait of Canso organisations were invited to the Port of Antwerp-Bruges for a meeting, presentations and a short bus tour of parts of the port in Antwerp, Belgium. DNRR and Invest Nova Scotia joined MOCR, Town of Port Hawkesbury and the Cape Breton Partnership on the visit.



The Port of Antwerp-Bruges is *one* port but with two locations: Antwerp and Bruges, of which Antwerp accounts for the largest share of facilities and activity. It is arguable the second biggest port in Europe (Port of Hamburg puts forward a similar claim). It is the largest chemical hub in Europe and is home to 1,400 companies. Ownership does not fall under the federal government at all, and the Port of Antwerp-Bruges is owned by the Cities of Antwerp and Bruges (80%/20% ownership split respectively). The port is the largest importer of LNG in Europe and is well-suited to import hydrogen and ammonia. Its proximity and connection by road, rail and barge to the German industrial hinterland (i.e. close to the hydrogen offtake) also makes it an ideal location. Similar to the ‘Hynetwork’ being developed by Gasunie in the Netherlands, Fluxys will develop a similar hydrogen infrastructure network in Belgium.

The Port has developed a 2030 Hydrogen Roadmap which highlights a pathway to local production, development of import facilities, development of ‘cracking’ facilities, and a pipeline to Germany.



The Port of Antwerp-Bruges has a subsidiary, Port of Antwerp-Bruges International (PABI), which focuses on establishing partnerships with ports and organisations outside of Belgium. PABI offers four services: port management, consultancy, investment, and training. If all four services are being delivered in conjunction it is called a ‘Total Partnership Model’. PABI is currently involved in nine Total Partnerships globally, for

example with ports in Namibia, Oman and Malaysia. The Total Partnerships are often formed with entities (e.g. port authorities) in areas with ambition to produce and export hydrogen and ammonia.

As part of the visit, the Nova Scotia delegation also delivered presentations. These were:

- Nova Scotia Green Energy Opportunities (InvestNS)
- Nova Scotia Green Hydrogen Roadmap (DNRR)
- Current Green Hydrogen Projects (Cape Breton Partnership)
- Landrie Lake Water Utility Project (Town of Port Hawkesbury)



- Strait of Canso Port Infrastructure (MOCR / Town of Port Hawkesbury)

In addition to container terminals, refineries and tank farms, the bus tour of the port included a few interesting stops:

- A hydrogen refuelling facility developed by CMB.TECH. This facility allows hydrogen cars to refuel on the roadside, while hydrogen-powered marine vessel can refuel on the other side that faces the water.
- The village of Lillo is a small settlement completely surrounded by the industrial areas that make up the Port. The village is still inhabited and gets busy with tourists in the Summer months due to its cafes and bars, and access to skyline views of the industrial areas in the Port.
- The Doel Nuclear Power Station is still operational and towers over the city of Antwerp and is located in the most densely populated area for any nuclear power station in Europe.



## 7. KEY TAKE AWAYS FROM SUMMIT CONTENT AND MEETINGS

Western Europe is *preparing* to produce, import, transport, and use hydrogen and its derivatives in large scale. Ambitious climate targets and the war between Russia and Ukraine are both key reasons for this development. There are similar trends throughout the world: Australia is preparing for large-scale production and domestic use of hydrogen, while places such as Namibia and Oman, like Canada, are looking to produce at scale for export. There are currently 1,400 projects announced globally, representing \$570Bn in investments, out of which \$310Bn are considered mature. In the words of H.E. Rob Jetten, Minister for Climate and Energy Policy at the Dutch Government, hydrogen is “the next industrial revolution that includes the entire world”.

While expressions such as this and others like it heard during the Summit (e.g. “a new Golden Age”) reflect the momentum green hydrogen is currently experiencing, it also clear after having attended the Summit that significant barriers remain for the industry to reach its potential.

In summary, four priorities should be addressed:

- 1) Address lengthy permitting processes;
- 2) Funding
  - a. Hydrogen Production
    - i. Government’s role in “Contract for Difference”
    - ii. Private Sector’s role in providing risk capital
  - b. Infrastructure
    - i. Product Transportation Infrastructure
    - ii. Port Infrastructure
    - iii. Distribution Infrastructure;
- 3) Strong international collaboration and trade; and
- 4) Need for an open and competitive market

In the following the main takeaways from the Summit content and meetings attended are summarised. They expand and elaborate on the four priorities above.

- **Affordability** is the main barrier to large-scale production of green hydrogen. There appears to be two main camps on how to best address this: on one side some are suggesting that blue hydrogen production creates a stepping stone to green hydrogen. Producing blue hydrogen will help to increase the end-use demand in a more affordable way, which eventually should pave the way for green hydrogen production. On the other hand, others are suggesting that in order to decarbonise green hydrogen has to happen now. It may be unviable now, but the same was said for wind and solar 30 years ago. There is a need to focus on bringing costs down now, so subsidies should be used to bring down the cost of the green electricity. Government incentives are important to this end. The Inflation Reduction Act in the US, tax credits in Canada and carbon credits in Europe are all helpful measures in achieving this goal. However, subsidies are only one way of incentivising. Currently production exceeds demand, so further work is needed on



creating the end-use demand to further help green hydrogen producers establish a business case.

- **Regulatory certainty** is needed in order to establish a pipeline of projects reaching FID. While decarbonisation targets are important to incentivise the industry, they often bring a mismatch between supply and demand. Demand tends to arise near to target deadlines, which in turn does not give the supply side enough time to build a business case and ramp up production. There are also things governments can do to make it easier for industry to navigate regulations. For example, South Australia has developed a ‘one window to government’ mechanism by combining a number of policies into one Hydrogen and Renewable Energy Act (2023).
- **Offtake industries** are somewhat varied, however it is clear that more work is needed to increase demand for hydrogen and its derivatives. Currently, gray hydrogen is primarily used for converted heavy industry operations. The main offtake sectors for green hydrogen seem to be steel mills, paper mills, refineries, gas-fired power stations, and transportation such as aviation, heavy goods vehicles, rail, and marine vessels. There are also examples of Microsoft developing hydrogen fuel cell generators for their data centres to act as backup.
- **Hydrogen ‘backbones’** refer to all the infrastructure that will produce, import, store, and transport hydrogen and its derivatives to make sure the end-user will receive the product. As mentioned earlier in this report, the Netherlands, Belgium and Germany are fairly far ahead in establishing import and storage facilities as well as a common user network of pipelines for transportation. This could hold some lessons for Canada and Nova Scotia when eventually hydrogen being produced here would also be used domestically. Although distances are longer in Canada compared to Europe, there certainly are examples of successful gas pipeline networks developed in the past, e.g. The Maritimes and Northeast Pipeline.
- **Collaboration** among industry, academia and all levels of government will be crucial to enabling the scaling up needed for production as well as establishing an end-use strategy domestically through the shared use of storage and transportation infrastructure. In Europe, ports are increasingly working together on the energy transition, while local governments around the world are collaborating. Rotterdam, Antwerp and Hamburg are all working together on the hydrogen file, and recently an MOU has been signed between the city of Rotterdam and the town of Luderitz in Namibia.
- **Supply chain development** for hydrogen production revolve around electrolyser manufacturing. Currently, the largest concern is the availability of the components that go into an electrolyser to some extent driven by price pressures on precious metals. While the market for both PEM and Alkaline electrolyser manufacturing seems saturated, opportunities exist in its sub-supply chain, such as production of components and catalytic coating. Europe is introducing a ‘Made in

Europe' legislation for electrolyzers (similar initiatives in China), which would make the export of Nova Scotia-based electrolyzer manufacturers challenging. However, should Canada opt for similar legislation, there will naturally be a demand that can only be met from electrolyzer manufacturing inside the country. There does not seem to be great concern about the actual build-out of facilities hosting electrolyzers in Europe, however general availability of construction labourers locally in Nova Scotia should be considered. Other business opportunities exist for smaller and potentially local companies after the hydrogen is produced. Companies in Europe are working on things like hydrogen compression systems and ways in which to transport hydrogen (i.e. not ammonia), e.g. pairing it with oils or developing new marine carriers. Finally, should Nova Scotia, Canada and the Eastern US start development on its own 'hydrogen backbone' in the future, opportunities in construction and pipeline development will also exist.

- **Workforce development** did not feature as a topic at the Summit, however it remains an area of focus for the industry. There is a need for people with existing technical skills, such as engineers, to upskill for the hydrogen sector, as well as highlighting opportunities in hydrogen in existing technical courses and degrees at colleges and universities.
- **Social license to operate** is crucial for the industry to be successful. From conversations with the City of Rotterdam and the Port of Antwerp-Bruges, people in these cities indeed have some concerns regarding the new hydrogen projects in their vicinity, however they are not too different from concerns encountered in any large-scale industrial development. People are mainly concerned about safety and industrial expansion into residential areas. Developers and local government have put in place initiatives, such as quarterly community meetings, to listen to and understand community concerns and take the required actions, e.g. updating safety standards on ammonia and conducting spatial studies in particular areas.
- **Port governance** has been crucial in supporting and developing hydrogen projects in Rotterdam and Antwerp, whilst ensuring local benefits optimisation. The port entities are owned by local governments (except 30% of Port of Rotterdam that is owned by the Dutch Government), which means that lease rates on land, harbour fees and harbour services fees ultimately enables local governments, through the Port entity, to reinvest locally. It also means that there is one entity that can spearhead the development of common user facilities, such as the Hydrogen Conversion Park I in Rotterdam and the infrastructure that eventually will make up the European 'hydrogen backbone'.
- **International partnerships** are also key to the global energy transition, and an increasing number of formal partnerships between all levels of government, industry, ports, and academia are taking place. While partnerships are being formed between Nova Scotia-based hydrogen producers and their offtake markets in Europe as well as the federal governments of Canada and Germany, it would be interesting to explore how partnerships at different levels may look like



through a Nova Scotia lens. Both the Port of Rotterdam and the Port of Antwerp-Bruges are actively forming partnerships with ports in hydrogen producing jurisdictions such as Namibia, Brazil and Oman, while local governments in Rotterdam, Antwerp and Hamburg are forming similar partnerships in these same jurisdictions. It would be helpful to understand what entities in Nova Scotia are the ideal partners for international collaboration around ports, academia, local government, regional government, etc.

**Briefing Note Authors:**

<p>Tyler Mattheis President &amp; CEO Cape Breton Partnership CBRM REN, CB REN E: <a href="mailto:tyler@capebretonpartnership.com">tyler@capebretonpartnership.com</a> P: 902 562 0122</p>	<p>Jason MacMillan Manager of Engineering and Public Works Town of Port Hawkesbury E: <a href="mailto:jmacmillan@townofph.ca">jmacmillan@townofph.ca</a> P: 902 625 7899</p>	<p>Martin Thomsen Manager of Energy Sector Development Municipality of the County of Richmond / Town of Port Hawkesbury E: <a href="mailto:energy@richmondcounty.ca">energy@richmondcounty.ca</a> P: 902 227 5204</p>
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A short montage video from the trip was developed by Cape Breton Partnership, which was also shown on social media after Sydney Ports Day 2024.

- CBRM REN: [https://youtu.be/xKaFd5Kb\\_i8](https://youtu.be/xKaFd5Kb_i8)









# 20240718-FY24-25-CBRM-REN-Q1-Report-FINAL-Combined

Final Audit Report

2024-07-22

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