

Company Case Study: High-tech



About NESI

NORAM Electrolysis Systems Inc. (NESI) is a fast-growing clean technology startup specializing in advanced electrolysis systems for battery grade lithium hydroxide production. Founded in 2023 as a subsidiary of NORAM Engineering, NESI operates out of Vancouver, leveraging decades of expertise in chemical engineering and industrial process innovation. Despite its startup status, the company has quickly gained international recognition, generating eight figures in annual revenue and expanding its global presence in the lithium battery sector. With a team of 45 employees, NESI is at the forefront of sustainable energy solutions, meeting the increasing global demand for sustainable battery grade lithium hydroxide while driving advancements in electrolysis technology.

Why the Metro Vancouver Region?

NESI was founded in the Metro Vancouver region due to its existing ties to NORAM Engineering. The idea for NESI emerged from the region's strong research and innovation ecosystem. NESI has since scaled into a globally recognized leader in electrolysis technology.

With world-class research institutions, a robust talent pipeline, and an established clean energy cluster, the Metro Vancouver region remains an ideal base for NESI's growth and innovation. "Vancouver is where our founders, funding, and research were already based, and we've stayed because of the unique advantages the region offers – access to top-tier talent, strong research collaborations, and a business community deeply engaged in clean technology," said Brent Lyon, Business Development Director at NESI.

The Metro Vancouver region's high quality of life also plays a key role in talent retention. Lyon noted that despite receiving offers for high-paying positions in cities like San Francisco, NESI employees appreciate the region's livability, making it easier for the company to attract and retain top professionals in engineering and clean energy.



Collaborative Ecosystem

The Metro Vancouver region's cleantech industry is strengthened by a dense network of companies, research institutions, and industry organizations. NESI actively collaborates with consulting engineering firms and other local industry leaders, benefiting from the proximity of major players in mining, fuel cells, and materials science.

One of the key advantages of operating in the Metro Vancouver region is the ability to easily connect with top engineering firms. The city's compact and well-connected business district allows NESI to host global industry events and engage with international partners without the logistical challenges faced in more sprawling metropolitan areas.

"We hosted a global event where every major consulting engineering firm attended—all within walking distance of our offices. That kind of accessibility is rare and gives us a huge competitive edge," Lyon said.



Research and Talent Pipeline

NESI benefits from a strong partnership with the University of British Columbia (UBC), particularly through its Chief Technical Officer, who is a Hall of Fame professor at the university. These close ties ensure that the company remains deeply embedded in research and development efforts that advance electrolysis technology.

Beyond academic partnerships, NESI actively nurtures talent through co-op programs and internships, hosting multiple students at a time, many of whom eventually become full-time employees. This commitment to workforce development not only strengthens the company's innovation pipeline but also helps cultivate the next generation of clean energy professionals. "Our collaboration with UBC and our co-op programs have been instrumental in building our talent base. We invest in young engineers, and, in turn, they help us push the boundaries of electrolysis technology," Lyon explained. Notably, in 2024, NESI's pod of junior process engineers was 100% women, reflecting the region's ability to foster diverse talent and fresh perspectives in the clean technology sector.

The Metro Vancouver region not only attracts but also retains highly skilled professionals essential for NESI's success. The combination of world-class universities, a strong research ecosystem, and the region's quality of life ensures that NESI has continued access to the specialized talent it requires to operate and grow.



Government Support

NESI has successfully leveraged government programs at both the provincial and federal levels to support its growth and innovation efforts. The company has received funding from NorthX Climate Tech (formerly known the BC Centre for Innovation and Clean Energy), securing a \$1 million grant, as well as additional federal funding of \$4.5 million, which has helped drive advancements in its electrolysis technology. Additionally, NESI has benefited from significant multi-year support from the Industrial Research Assistance Program (IRAP), which has provided crucial assistance for over a decade—predating NESI's existence—helping to accelerate its research and development efforts.

Beyond direct funding, NESI has also engaged with Canada's Trade Commissioner Service, which has played a crucial role in facilitating international partnerships and market expansion. The company has further benefited from its involvement with Foresight Canada, a leading cleantech accelerator, allowing it to access mentorship, industry connections, and commercialization support. These resources have helped position NESI as a key player in the global lithium battery economy. "The federal government has been incredibly supportive, from trade missions to funding programs. Our success in securing grants and international partnerships wouldn't have been possible without their backing," Lyon noted.

Looking Ahead

NESI is poised for significant growth as the global demand for sustainable battery grade lithium hydroxide continues to rise. The company plans to expand its workforce, adding several dozen manufacturing technicians, engineers and technical specialists over the next few years to scale its operations. NESI's focus on high-value technology and strategic partnerships positions it well for long-term success.

As the Metro Vancouver region continues to evolve as a global clean energy hub, NESI's presence reinforces the region's leadership in electrochemical lithium refining innovation. With strong research foundations, a competitive talent pool, and increasing international recognition, NESI is set to play a key role in shaping the future of sustainable energy.



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