

## Port Colborne Operations Update 2021-2022



# Acknowledgement

We acknowledge that Vale's Port Colborne Refinery operates within the traditional territory of the Mississaugas of the Credit First Nation and Six Nations of the Credit River and the home of the Métis Nation of Ontario — Region 9.

## Purpose

**Vale exists to improve life and transform the future. Together.**

We believe mining is essential to the world's development. We only serve society when we generate prosperity for all and take care of the planet.

**This is our purpose.**

## Values — What do we believe in?

**Life matters most.**

We believe that life is more important than material results and goods, and we incorporate this vision in our business decisions.

**Act with integrity.**

We build relationships of trust and we promote open and transparent communication, acting with respect and integrity.

**Value the people who build our company.**

We trust people, and together we build a work environment admired by all. We seek lifelong learning and personal growth.

**Make it happen.**

We are engaged, responsible and disciplined about generating results and overcoming challenges. We act in the pursuit of excellence, being sustainable and reliable.

**Respect our planet and communities.**

We are committed to economic, social, and environmental development in our business decisions.

On the cover: Port Colborne Electrocobalt Refinery operator removing pure Cobalt metal rounds on cathode sheets from an electrowinning cell.



# A message from Alfredo Santana

Vale's North Atlantic Operations are in the midst of an exciting transformation that encompasses everything from the way we operate to the configuration of our asset portfolio to the culture that underpins our business. It is driving us towards realizing our goal to be a great company recognized for our safety performance, operational excellence, and leadership in sustainable mining.

As part of our transformation, we are revitalizing our asset portfolio. This includes advancing the Voisey's Bay Mine Expansion Project, which will transition the operation from open pit to underground mining, extending mine life to at least 2035. We are also investing \$150 million to extend our mining activities in Thompson, Manitoba, by 10 years, and we have invested approximately \$950 million in our Copper Cliff South Mine Project in Sudbury, which began operations in August.

As we accelerate our transformation, one thing that will not change is our obsession with safety. At Vale, Life Matters Most, and we continue to introduce new safety initiatives to mitigate risk and ensure we live up to this core value. This includes our recently launched Leadership in the Field, which, as its name suggests, ensures our leaders spend more time supporting and mentoring frontline employees in their work areas.

Our transformation reflects the fact that the world itself is changing — and that we need to change with it. Global adoption of electric vehicles (EVs) and renewable energy is rising, and demand for our metals is rising in tandem. But it is not enough to mine critical minerals like nickel, copper, and cobalt, we must mine them in innovative ways, ensuring we meet our emission targets and help our customers meet their targets. That is why we are transitioning to low-carbon alternatives to power our operations wherever possible.

Leveraging new technologies is not only critical to our ability to adapt to a low-carbon world, it is vital to our future. As our mines go deeper and we

operate in increasingly remote areas, it is incumbent upon us to maintain and increase efficiency and productivity while ensuring we always mine safely and responsibly.

Our transformation also encompasses who we are and who we aspire to be as a business. This includes establishing a work environment that is diverse, inclusive, and respectful of all. Over the past year, we have advanced workstreams focused on language, facilities, recruitment, training, and education of our employees to build a more diverse and inclusive culture.


In all my years in mining, I have never seen a deeper commitment to diversity, equity, and inclusion. We are making significant progress but there is still much to do. Building a diverse and inclusive culture is similar to building a strong safety and health culture: it requires constant diligence, continuous learning, regular communication, and leadership by example.

Transformation is vital to the future of our business. And I believe that future is extremely bright. Our business is underpinned by outstanding assets, people, and community relationships. We are transforming Base Metals as the world itself transforms in pursuit of a low-carbon future in which our metals will play a central role. While we are in the early stages of our transformation, we are all on the same page at Vale, striving to achieve our purpose to improve life and transform the future, together.

**Alfredo Santana**  
Chief Operating Officer, North Atlantic Operations and Asian Refineries



## Vale's 2030 Global Sustainability Commitments:

 **33%**  
Reduce greenhouse gas emissions by 33%

 **100%**  
self-generation of clean energy

 **10%**  
Reduce new water collection by 10%

 **x2**  
Double female participation in our workforce

# A message from Nadeem Khan

I returned to Port Colborne as Manager of the Refinery in July of this year and it was, in many ways, like coming home. I began my career with Vale here in Port Colborne and it feels great to be returning to the team here.



Our Port Colborne Team is driven and guided by our purpose and values, especially that life matters most. There is nothing more important to us than ensuring our employees go home safely after each and every shift. It is equally important to us that we operate safely within our local community. To do that, we use Vale's Production System, a management model designed to manage risk and improve operating efficiency.

With our purpose, values and production system in place, our team of approximately 160 local employees are strongly positioned to deliver the critical minerals in high demand for Canada's green economy. At our Port

Colborne Refinery we produce cobalt, precious and platinum group metals that are used in electric cars, mobile phones and many other high tech applications.

It is also important to us that we give back to the community while we produce these critically important minerals. Earlier this year we announced a \$1.25 million Community Improvement Fund for the City of Port Colborne. We're looking forward to seeing the economic development and community connectivity projects that will benefit from this funding coming to fruition in the next few years.

**Nadeem Khan**  
Manager, Port Colborne Refinery

## Safety Congratulations!

Safety is our number one priority at the Port Colborne Refinery. Congratulations to the team for its fourth year without a Lost Time Injury!



Over the last 12 years, Vale has contributed:

**\$5.9B**

in capital investments, and

**\$22.5B**

in operating expenditures to support its operations in Ontario.



**\$28.4B**

In total investment

**\$36.1B**

GDP direct and indirect contribution to Ontario



Vale directly employed

**4,420**

people across Ontario



**\$2.3B**

in government revenue



# Safety



New bleach storage facility under construction

## Liquid chlorine bleach removal

Our work to permanently remove liquid chlorine from our operations began in 2020 and continued throughout 2021 and into this year. The transportation of liquid chlorine by rail was eliminated in 2020 to reduce risk to local communities. Since then we have used bleach directly from transport trailers as the short-term solution. This year we have worked on the long-term solution to install permanent bleach tanks. Construction has begun and is set to finish by the end of the year.

We have also looked into other areas of our refinery to find similar options of substitution to reduce risk within our refinery.

## Emergency Preparedness

After months of planning, Vale conducted a full-scale emergency preparedness drill in partnership with the City of Port Colborne's Fire Services on October 20th. The drill simulated the release of a hazardous material into the air, which could impact the community. The drill was a great success and offered some opportunities for improvement as well.

Information about the drill was distributed to the community prior to it taking place and the public was invited to learn more about it at an Open House at our Training Centre on October 19th of this year. The Open House also offered an opportunity to learn about Vale's E2 plan, which outlines the prevention of a release and response for hazardous materials such as chlorine, sulphur dioxide and hydrochloric acid. **For more information, please visit our website here.**

In the unlikely event of a hazardous material release from Vale's Port Colborne Refinery, please do the following:

## How to ACT in an emergency

If you hear the Vale emergency signal (a repeated blast of the air horn) be sure to ACT accordingly:

**A** Always go indoors



**C** Close all doors and windows



**T** Turn off furnace, air conditioners or other air intakes



Do not use the telephone unless you require immediate emergency assistance. Stay tuned to your local radio or television for information updates. Remain inside until an "all clear message" is broadcast and the air horn is stopped. **Vale is committed to the safety of its employees and its neighbours.**



Vale conducted a full-scale emergency preparedness drill in partnership with the City of Port Colborne's Fire Services on October 20th.





## Open House

Dozens of local residents came to Vale's open house to learn more about our refinery operations

## Community

The Open House was very well attended this year with many local residents and community stakeholders stopping in to chat with Vale employees about our operations and initiatives. We heard from residents that they would like to do plant tours, so we'll bring that to the community at our Open House next year.







In July of this year, Vale announced a Community Improvement Fund for the City of Port Colborne as part of our Community Based Risk Assessment Action Plan. The funds will be applied

to a number of economic development and community connectivity projects in the City.

The projects including naming rights to the Port Colborne Waterfront Centre for 15 years, Nickel Beach

improvements, Lockview Park Redevelopment, a new Welland Street trail connecting Nickel Beach to Port Colborne's downtown and sponsorship of the Canal Day Marine Heritage Festival for the next 15 years.

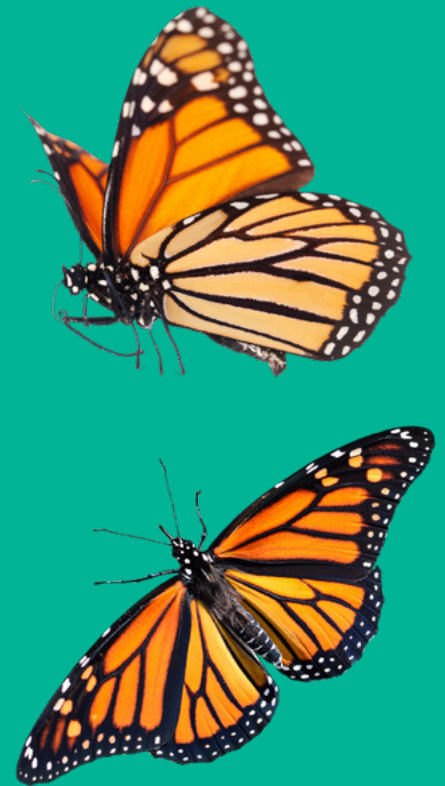
## Environment

All of the process emissions from the refinery are treated prior to release, primarily via wet scrubbers. These emissions continue to be well below air quality guidelines.



Process water as well as surface contact water and groundwater are treated at the facility's Effluent Treatment Plant before being discharged to Lake Erie. There were no exceedances of effluent quality criteria in 2022.

Vale continues to execute the Port Colborne Community Action Plan as part of the Community Based Risk Assessment. All of the residential properties identified to be remediated have now been completed. Ecological studies are continuing.



## Contact Us:

If you have questions or concerns about Vale's Port Colborne Operations, please contact our Community Concerns Line at: 289-478-VALE (8253) or you can email us at [ontario.operations@vale.com](mailto:ontario.operations@vale.com).

For greater anonymity, you may also contact Vale's Whistleblower channel through this link [here](#).

We want to hear from you! Scan this QR code to provide feedback about our operations and how you would like to receive information from us.

