

# 20

## SUSTAINABILITY REPORT



**YOUR** MARINE  
CARRIER OF CHOICE.™

# 21

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# ABOUT THIS REPORT

Algoma has published a report on its sustainability performance bi-annually since 2011, with the last report covering the 2018/2019 reporting years. This report summarizes our management approach and performance on environmental, safety and social issues and indicators for the 2020/2021 period. The contents of the report were guided by the Global Reporting Initiative (GRI) Sustainability Reporting Standards and Sustainability Accounting Standards Board (SASB).



# 2021 HIGHLIGHTS

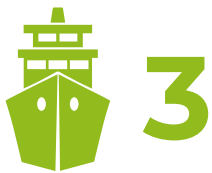
**NEW 2030 GHG REDUCTION  
TARGET**  
(2008 Baseline)

**40%↓**

**18%↓**

**GHG  
REDUCTION**

(Since 2008 Domestic Dry-Bulk Fleet)



**Vessels  
Participated in the  
MARS Underwater  
Noise Project**



**Lowest Number of Annual Lost  
Time Injuries in Our History**

**4.0/5**

**Green Marine  
Score**

We have been an active participant since joining the program in 2008 as a co-founder

**68%**

**Vessels Flying Gold  
Flags**

(Up from 49% in 2020)



**326**

**Whale  
Observations**

Provided to ROMM/Marine Mammal Observation Network since joining

**100%**

**Employees  
Vaccinated  
Against COVID-19**



**\$3M+**

**Invested in  
Shipboard  
Training**

**44**

**Employees Certified in Whale  
Observation Training**  
(ROMM/WWF)



**Over \$210K Donated to  
the United Way in 2020/2021**



**\$602K in  
Scholarships**

Provided to children of Algoma Employees to date



# MESSAGE FROM OUR PRESIDENT & CEO

I am pleased to share with you Algoma's latest sustainability report covering 2020 and 2021. Reflecting on our progress over the last two years brings me immense pride. We have surpassed great milestones and broken multiple records all while navigating challenges and adapting quickly to change brought forth by the global COVID-19 pandemic. This success is a direct result of the passion, dedication and teamwork of our people both ship and shore. Our seafarers adjusted their work rotations and went without shore leave to keep each other safe and essential supply chains moving, all while adhering to additional health and safety protocols. Ashore, our teams quickly implemented new technologies and were innovative in their work processes to successfully adapt to remote working environments.

Keeping our people safe is always Algoma's highest priority, and I am proud to share that in 2021 we achieved the lowest number of lost time injuries in our history - an important new benchmark on our road to zero injuries. This milestone is a reflection of our strong safety culture and values. It is also a motivator to remain vigilant and identify new means of protecting our employees.

Algoma recognizes our responsibility in addressing global climate change by reducing greenhouse gas emissions, and this is our most prominent environmental issue. We are committed to decarbonization and have set new more ambitious targets, however, this is a journey that cannot be taken alone. We have assembled an internal decarbonization team that is exploring ways to further reduce our GHGs and collaborating with key stakeholders. As we continue to do our part to accelerate the industry towards net-zero emissions, it is imperative that governments step up to do theirs and support the marine sector in the research, development and funding of new fuels and technologies to help us reach net-zero by 2050.

As an operator of closed loop scrubbers, we have noted with concern recent calls from certain groups to restrict the use of exhaust gas cleaning systems in Canadian waters. We provide information in this report on the benefits of scrubbers and the lack of credible evidence to support such restrictions, and ask that any new regulatory policy development is evidence-based and conducted in consultation with industry. Shipowners and their customers that invested in good faith in this approved technology should not be penalized.

Supporting our communities is a long-standing practice at Algoma, and I would like to commend our Community Involvement Committee and every other employee for their efforts in giving back during these unprecedented times. As a result of their passion and dedication to others, Algoma was awarded the United Way Days of Caring Award in 2021. We have also invested in our local community of Niagara by sponsoring the Canada Games and one of its 13 festivals celebrating the culture of each Canadian province and territory. Algoma will sponsor the festival for Newfoundland and Labrador - a province many of our employees call home.

I would like to personally thank every employee that contributed to keeping our essential industry in motion throughout the pandemic. As you read through this report, please take a moment to recognize and celebrate the efforts of our team members working to ensure a sustainable future at Algoma.

Gregg Ruhl



President & CEO



# WELCOME ABOARD

Algoma Central Corporation is a leading Canadian marine shipping company with headquarters in St. Catharines, Ontario. We own and operate the largest fleet of self-unloading and gearless dry-bulk carriers and product tanker vessels operating in the Great Lakes – St. Lawrence waterway.

Algoma also owns and operates, through international subsidiaries, self-unloading ocean-going vessels operating in international markets and has a 50% interest in NovaAlgoma, a diversified fleet of dry-bulk, cement carrier and short-sea vessels serving customers around the world.

Our vessels primarily carry bulk cargoes of raw materials such as iron ore, grain, salt, cement, gypsum, aggregates and petroleum products and we do this safely, reliably and efficiently. Marine transportation is recognized globally as the most environmentally efficient way of moving cargo.

**What we carry is more than just cargo; we carry essential goods that will become a part of our everyday lives. We transport cargo that feeds us, keeps our roads safe, helps build our communities and moves us forward.**



## IRON ORE

Used in the production of steel



## GRAIN

70% of our total agricultural shipments is wheat



## CONSTRUCTION

Stone, aggregates, slag, gypsum, cement and steel used in construction and road work



## SALT

Road salt to keep icy roads safe in the winter



## OIL

Used for heating homes in the winter



## JET FUEL

Used for the aviation industry



## GASOLINE

Used for road transportation

# FACTS & FIGURES

Algoma has been renewing its domestic Canadian fleet over the last decade, taking delivery of ten new Equinox Class dry-bulk lakes vessels to date, with one additional vessel under construction. Our company has also experienced several changes since the last sustainability report:

- » During the COVID-19 pandemic, marine shipping was deemed an essential service and we adapted our working environments to keep our operations running smoothly and all employees safe.
- » We retired the Algoma Enterprise and the Algoma Spirit and took delivery of two new Equinox Class lakes vessels, the Algoma Intrepid in 2020 and the Captain Henry Jackman in 2021.
- » NovaAlgoma Short Sea Carriers took delivery of three newly constructed mini-bulkers for operations in Europe.
- » NovaAlgoma Cement Carriers Limited doubled its investment in JT Cement AS by acquiring an additional 25% of its share equity bringing ownership in the specialized cement shipping company to 50%, with our partner Erik Thun AB of Sweden.

## OUR HISTORY

Marine transportation is a vital component of the North American supply chain and Algoma has proudly been a part of this critical industry for well over a century. We have a rich history, dating back to 1899 in Sault Ste. Marie, Ontario, where the company started as the Algoma Central Railway company. In 1900 the company purchased four steam vessels to be used for freight and passenger service in connection with the company's railway, and the Algoma Central fleet was born.

To learn more about our history [click here](#).

Our domestic dry-bulk fleet consists of 11 self-unloaders and 8 gearless bulkers serving a variety of customers in the Great Lakes - St. Lawrence Seaway region.

19

Our product tanker fleet comprises 7 Canadian flag ice-class tanker vessels operating on the Great Lakes - St. Lawrence Seaway and the east coast of Canada.

7

Our ocean self-unloader fleet consists of 8 vessels that participate in the world's largest Self-Unloader Pool as well as 1 additional joint venture vessel.

8

Our global short sea fleet has interests in 29 cement carriers, 3 of which operate domestically in Canada, and 16 mini-bulkers.

45

Since 2010, we have introduced 10 new build vessels to our domestic dry-bulk fleet, with one additional vessel under construction.

10

# GOVERNANCE

Strong corporate governance is a key foundation of a sustainable business and is one of our core practices at Algoma. As a Canadian reporting issuer listed on the Toronto Stock Exchange ("TSX"), we comply with Canadian governance requirements and maintain a series of corporate policies and guidelines that are consistent with public company standards.

## GOVERNANCE

Our nine person Board of Directors oversees company management and convenes the following committees:

- » Executive Committee
- » Audit Committee
- » Environmental, Health, and Safety Committee
- » Corporate Governance Committee
- » Investment Committee

Sustainability governance is the responsibility of Algoma's senior management and is overseen by the Environmental, Health and Safety Committee of the Board of Directors, whose chairperson is an active member of the environmental community. Algoma senior management meets semi-annually with the committee to present company performance and plans related to environmental and health and safety issues.

## ETHICS & COMPLIANCE

All employees, officers and directors of the company are required to confirm their commitment to Algoma's Code of Conduct annually and are expected to act in alignment with the company's core values.

The Code of Conduct includes:

- » Commitments to compliance with all laws, regulations and policies that apply to the company and its employees
- » Guidance on Confidentiality of Information and Conflicts of Interest
- » Commitments related to Respect in the Workplace
- » Guidance on Fair Dealing
- » Prohibition on Bribery
- » Commitment to compliance with Anti-Money Laundering Laws

The company provides for confidential reporting of known or suspected breaches of the Code of Conduct or other concerns through good faith reporting to the Vice-President, Human Resources, or ClearView Connects which allows for anonymous reporting. ClearView is also used to report matters relating to, for example, environmental concerns; accounting, auditing, and other financial matters; and issues of respect, violence or harassment in the workplace. ClearView reports can be made via the following methods:

1. Online through its secure and confidential reporting website, [www.clearviewconnects.com](http://www.clearviewconnects.com)
2. By telephone at 1-866-846-7659
3. By mail through the confidential P.O. Box at:

**ClearView Connects**  
P.O. Box 11017  
Toronto ON M1E 1N0

For more information regarding Algoma's governance related policies, please visit [www.algonet.com](http://www.algonet.com).

## VISION & VALUES

Our vision, **Your Marine Carrier of Choice™**, is intended to be inclusive of all of Algoma's stakeholders: we want employees to choose to work for Algoma, customers to choose us as their preferred carrier, suppliers to choose to do business with Algoma, investors to choose to buy Algoma shares, banks as lenders, partners to launch joint ventures with us, and ultimately, society to choose the marine mode of transportation as the most sustainable way to ship goods.

The vision guides our employees, and is supported by the company's core values of **Integrity, Sustainability, Teamwork, Ownership and Passion**. These values are the principles to which employees can refer back when conducting their day-to-day activities and business operations.







# SUSTAINABILITY

Sustainability is one of our core values at Algoma. While there are many ways to define sustainability, its meaning for us can be summarized as: we believe in our people, we care for our planet and we work to ensure the prosperity of our stakeholders.

## STRATEGY REVIEW & UPDATE

Algoma's Senior Management team together with key departmental employees conducted a review of our Sustainability Strategy in 2021. We identified emerging trends and top priorities within our own industry, but also looked beyond to insights from global thought leaders. This holistic picture allowed us to consider how we can create value for our stakeholders while recognizing our role in progressing domestic and global sustainability priorities in the future.

Our updated Sustainability Strategy highlights six focus areas along with identified priorities under each, and now includes a greater focus on decarbonization and the innovation that will accompany this most important effort. At least one project has been assigned internally to each priority item to ensure the progression of our sustainability goals. As always, the core practices that form the basis of our approach to sustainability remain at the heart of the strategy.

## STAKEHOLDER ENGAGEMENT

Algoma works to engage our stakeholders in a variety of ways to collect valuable feedback that helps inform business decisions. The status of marine industry issues is monitored through, for example, committee participation at the Chamber of Marine Commerce, Green Marine and the International Chamber of Shipping, and attendance at the Canadian Marine Advisory Council, the International Maritime Organization (IMO) and other industry meetings. We

regularly engage with customers (including through a bi-annual survey) and collaborate and work on a regular basis with government agencies and policy makers. We stay informed on the needs of the communities we operate in through our ongoing support of the United Way. We also keep open communication with our employees through a variety of channels, such as conference calls, internal company newsletters, video messaging, the Algoma App, and other informal means of communication.

In 2022 we plan to review and expand our stakeholder engagement plan to improve our understanding of stakeholder expectations in today's highly connected and rapidly changing environment.

### STAKEHOLDERS:

- Employees
- Customers
- Shareholders
- Industry organizations (Unions, CMC, ICS)
- Global shipping organizations (IMO)
- Governments
- Classification societies
- Suppliers and contractors
- Lenders
- Non-governmental organizations
- Academic and thought leaders
- Policy makers



# SUSTAINABILITY STRATEGY 2022

Our updated strategy below includes priorities that address each of the three sustainability pillars of People, Planet and Prosperity through six focus areas. These focus areas along with our core practices guide our sustainability actions as we move forward.



While the United Nations Sustainable Development Goals (SDGs) are primarily applied at the country level, Algoma is committed to supporting the IMO's efforts to further the 2030 Agenda. Priorities identified in our strategy are aligned with a number of UN SDGs and their corresponding indicators and targets, most applicably the ones below:







**SAFETY IS FIRST, PERIOD.**





# PROTECTING OUR PEOPLE

## COVID-19 TASK FORCE

The Algoma COVID-19 Task Force was created in response to the COVID-19 pandemic in March 2020 and is still active as of the writing of this report. The team comprises leaders from all departments with a mission to protect the health and safety of our employees and minimize the impact of the pandemic on our customers.

Algoma is a member of the Chamber of Marine Commerce's Trusted Partners, through which the Task Force shared COVID safety information from medical experts and practices and learnings with industry organizations such as unions, contractors, regulatory bodies and other ship owners. This allowed Algoma and the industry as a whole to effectively mitigate external interactions with our vessels, having them serve as safe "bubbles" for our crews until more information about the virus and vaccines became available. The Task Force also kept open and consistent communication with crew members about the rapidly changing COVID situation through: training videos; regular conference calls;

additional outreach in existing communication tools (for example our Bear Facts newsletter); a newly developed app; and a dedicated email inbox through which employees could provide feedback and raise any questions or concerns.

Due to our unique workforce operations, collaborating with industry groups to advocate for and raise awareness of issues we faced together was key in protecting our seafarers. The vaccination system set in place by Government left remote workers and the essential supply chains they support vulnerable by not accounting for the transient nature of a career at sea. By calling attention to this and looking for more timely solutions, Algoma shipboard and shoreside teams worked creatively to have vaccine clinics brought on board vessels (read more about this in the Health & Well-Being section of this report). We are proud to report that 100% of Algoma employees are now safely vaccinated.



**100%**  
**OF ALGOMA**  
**EMPLOYEES WERE**  
**VACCINATED IN 2021.**



# THE ROAD TO ZERO INJURIES

Ensuring every employee working on board or ashore returns home safely is our most important responsibility. We believe that zero workplace lost-time injuries can be achieved and we continue to enhance our worker safety practices and programs with this goal in mind. We also believe in looking out for the safety of all those around us in addition to ourselves and encourage employees and contractors to embody our safety values in their day-to-day lives, beyond the workplace.

## SAFETY MANAGEMENT

The underlying foundation of our safety culture is our Safety Management System (SMS), which has been certified to the global marine industry's International Safety Management Code and the International OHSAS 45001 Occupational Health and Safety Assessment Series standard for several years. These standards are designed to help organizations improve employee safety, reduce workplace risks and create safer working conditions through implementation of systematic risk assessment and management procedures. We have put many measures in place to keep our crews safe, including the tools below, and our safety team continually promotes the use of these and other tools.

## SAFETY TRAINING

Safety training, drills and exercises that prepare employees to confidently prevent, mitigate and respond to hazards and incidents in our daily operations are a critically important component of our safety management culture. While scenarios such as vessel groundings, fires, pollution and serious medical emergencies are rare, it is crucial that our employees are trained and prepared to keep themselves and their crew members safe should such an event occur. The company's Marine Emergency Response Plan is practiced through scheduled drills on board and followed by a critique to review the effectiveness of both crew and shoreside response and promote continuous improvement.

Algoma ensures that safety training meets all regulatory requirements and industry standards, and we often go above and beyond these requirements to protect our people. For example, Algoma supports Marine Medic certification courses for those who wish to obtain this higher level of learning, and professional development of our piloting officers is promoted through advanced ship handling training.





## SAFETY IN PARTNERSHIPS

We collaborate on safety and have close working relationships with our customers, contractors and suppliers as we work together towards zero incidents. All contractors must acknowledge and follow our Contractor Management Process and we often share information and best practices in support of our collective efforts. Safety is a team effort and we value this collaboration.

We proactively work to instill these safety values in the next generation of seafarers before they even begin their careers on the water. Since 2008 we have partnered with marine schools across Canada to educate students with real-life examples of hazards and incidents so they are better prepared to take care of themselves and their fellow crew members when they leave the classroom. Students receive this training regardless of whether or not they pursue a career with Algoma because we are passionate about ensuring that all seafarers get home safely.

Algoma partnered with Georgian College in 2016 to assist in re-establishment of a Marine Emergency Duties training facility in Ontario. Since then, almost 3,000 students, either enrolled in marine programs at the college or working mariners who require certification or refresher training, have come through its doors. This training is mandatory for anyone working on a ship in Canada and had been unavailable in the province since 2013.

## OFF THE JOB SAFETY

Algoma has been striving to extend our safety programs beyond our work spaces and into employees' day-to-day lives since 2015. Statistics show that over 80% of safety incidents occur at home, therefore promoting safety values to our activities outside of work is very

important. 'Off-the-job' safety topics are increasingly discussed by onboard Safety Management Committees during monthly meetings. Ashore, a 'safety short' covering a variety of hazards outside of the workplace and suggested mitigating practices are discussed at our weekly Operations meeting. We encourage our crew members to share their experiences and live our safety values to protect themselves and those around them at all times.

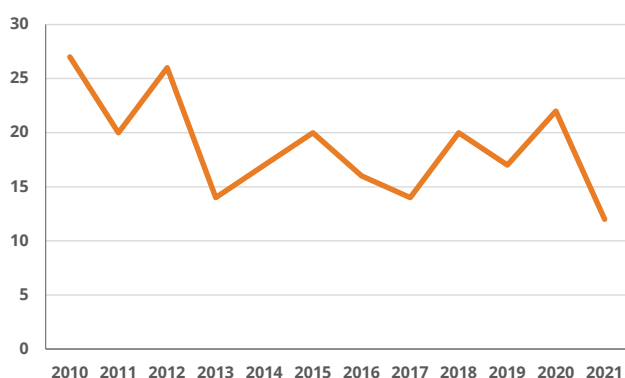
## LOST TIME INJURIES

**In 2021, Algoma set a new safety benchmark with twelve lost time injuries, the lowest annual number reported in our history.**

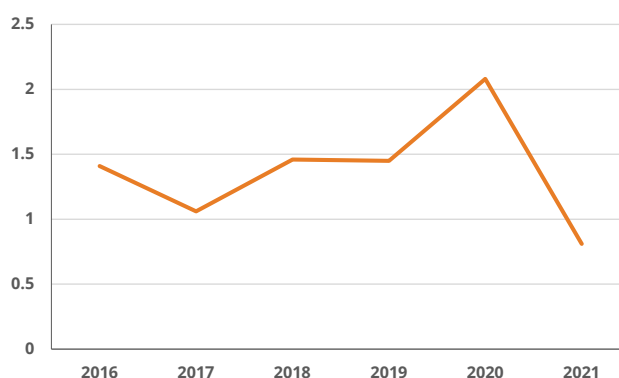
This significant achievement was a direct result of the hard work, vigilance and teamwork demonstrated by our shipboard and shoreside staff.

There was heavy focus in 2021 on extensive root cause analysis to explore factors specific to recurring incidents and then implementing strategies to avoid them – an example being hand and finger injuries. A slight upwards trend had been identified in this category, and root causes were determined to be linked to the complacency that can occur when an employee has repeated a task so many times that it becomes habitual. To address this, our team went “back to basics” and launched safety campaigns that increased awareness and communication around the importance of proper personal protective equipment. Galley staff were also asked for their input on different types of gloves to best suit their needs. As a result of these efforts, we achieved a 38% reduction in hand and finger injuries in 2021 compared to 2020.

**LOST TIME INJURIES\***



**LOST TIME INJURY FREQUENCY (PER 200,000 PERSON HRS)\***



*\*Consolidated domestic and ocean fleets*

## A FOLLOW-UP ON SAFETY IN MOORING LINE OPERATIONS

Mooring is one of the most dangerous operations crews conduct on board marine vessels. In our last report, we shared actions Algoma was taking to improve safety in mooring line operations. These action items included:

1. Conducting Safety Stand Down meetings on every vessel to discuss our mooring safety program, hazards and control measures, and to review each mooring-related incident that has occurred on an Algoma vessel in the last ten years;
2. In-depth reviews of mooring and line-handling operations, particularly in non-standard situations and ports, to develop and implement additional safety measures;
3. Inclusion of awareness training at Annual Officers Meetings, with a focus on mooring safety, situational awareness, hazard identification and risk tolerance;
4. Identification and clear labelling of snap-back zones on each vessel.

We have continued with these efforts throughout this reporting period, and additionally invested in replacing all mooring ropes in our Domestic Dry Bulk fleet in Spring 2021. The replacement included a total of 203 ropes specifically designed to resist from snapping back should a break occur.

## SAFETY PERFORMANCE SUMMARY

GOALS	PROGRESS
Continuous improvement in Safety Management System and culture	<ul style="list-style-type: none"> <li>Developed and communicated new safety goals &amp; targets for 2022               <ul style="list-style-type: none"> <li>Reduce LTIs by 2% compared to the last 5 years' average</li> <li>Reduce TRIR by 2% compared to the last 5 years' average</li> <li>Reduce hand and finger injuries by 2% compared to 2021</li> </ul> </li> <li>Developed new safety KPIs and began additional tracking in 2021 (see performance table at the end of this report)</li> </ul>
Reduce Lost Time Injuries (LTI's) with a goal of zero	<ul style="list-style-type: none"> <li>12 LTIs occurred in 2021, representing a 45% improvement over 2020</li> </ul>
Reduce Lost Time Injury Frequency (LTIF) (per 200,000 hours)	<ul style="list-style-type: none"> <li>LTIF decreased from 2.08 in 2020 to 0.81 in 2021 (61% improvement)</li> </ul>
Reduce Total Recordable Incident Rate (TRIR)	<ul style="list-style-type: none"> <li>TRIR decreased from 9.6 in 2020 to 6.3 in 2021 (34% improvement)</li> </ul>
Improve Line Handling Safety	<ul style="list-style-type: none"> <li>Enhanced training and awareness and marking of snap-back zones completed in 2019</li> <li>Replacement of mooring lines to 'non snap-back' synthetic mooring lines across the domestic dry bulk fleet in 2021</li> <li>Continuous evaluation of ongoing training and awareness programs</li> </ul>
Improve risk management through increasing the number of Hazard IDs (POINTS cards) completed	<ul style="list-style-type: none"> <li>Increased Hazard IDs from an average of 4082 during the first two years of the program (2014/2015) to an average of 8007 in 2020/2021 (96% increase)</li> </ul>
Reduce hand and finger injuries by 5% in 2021 from 2020	<ul style="list-style-type: none"> <li>Hand and finger injuries reduced from 39 in 2020 to 24 in 2021 (38% decrease)</li> </ul>





ALGOMA INTREPID  
TORONTO  
IMO 9773387



# ENVIRONMENT

Algoma is committed to minimizing impacts to water, air and land from our operations. Management of environmental issues is guided by our ISO 14001 certified environmental management system and fundamental commitments to environmental protection, compliance and continual improvement.

## TAKING ACTION ON CLIMATE CHANGE

### CARBON REDUCTION TARGETS

Marine shipping transports 90% of world trade and is a vital part of the global economy. It is also the most environmentally efficient way by far of transporting cargo. Carbon emissions from global marine transport could grow significantly due to increased trade, therefore the IMO set a target to reduce emissions 50% by 2050.

As the IMO now considers setting a strengthened goal of net-zero greenhouse gas (GHG) emissions by 2050, individual shipping companies such as Algoma are continuing work on this most urgent issue, reducing emissions in the short term while also considering what options are or will be available to ultimately decarbonize. To facilitate this process, we convened a Decarbonization Team in 2021 and are actively monitoring developments and evaluating future direction for alternative fuels and new propulsion systems.

We have also set a new GHG reduction target. In 2015 Algoma declared a target of a 25% reduction in carbon intensity for our fleet by 2025 (baseline 2008). We are making good progress towards reaching this goal, but believe it is important to reach further and align with IMO's ambitious carbon reduction plans. Our revised targets:

**40%**

**REDUCTION IN  
INTENSITY BY 2030**

**NET-ZERO**

**GHG EMISSIONS  
BY 2050**

### IMO SHORT-TERM MEASURES

The IMO has implemented a new and expanded suite of GHG regulatory measures, including mandatory ship efficiency ratings set to take effect in 2023. Algoma is committed to reducing emissions and is evaluating performance against these measures.

We note however that the IMO's efficiency design index is not suitable for ships in the Great Lakes domestic trade, as it is based on a dataset of ocean-going vessels. Laker vessels are designed and constructed very differently to optimize efficiency, given the restrictive nature of the locks and rivers that they must navigate, and cannot be compared to ships in international trade.

Our domestic vessels are also disadvantaged by the IMO's Carbon Intensity Indicator (CII). Lakes vessels make many short trips and spend relatively more time in port or manoeuvring through canals or rivers than trans-ocean vessels. Ships engaged in short sea voyages will therefore register a CII worse than those that make long haul trips overseas, similar to the difference in efficiency of highway versus city driving.

Another limitation of the IMO's efficiency ratings is the lack of a correction factor for self-unloading vessels that use fuel to operate ship-based cargo discharging equipment. The resulting emissions are attributed to the vessel and negatively affect its efficiency (CII) rating. Algoma owns self-unloaders in both its domestic and international fleet, and these vessels will be unfairly penalized as a result of providing this valuable service at customer facilities that are not otherwise equipped with shore-side unloading infrastructure despite the fact the equipment actually reduces emissions versus other discharging alternatives.

As we move into mandatory efficiency ratings, it is important to recognize that reasonable reference lines and correction factors must be developed and adopted for ships engaging in certain types of operations and optimized for trading in a particular region (such as the Great Lakes and St. Lawrence Seaway) to provide a level playing field and to ensure that new, efficient vessels are not incorrectly characterized as substandard. In particular, a distinct regulatory framework must be developed for Canada's domestic fleet to ensure fair application of these improvement tools.

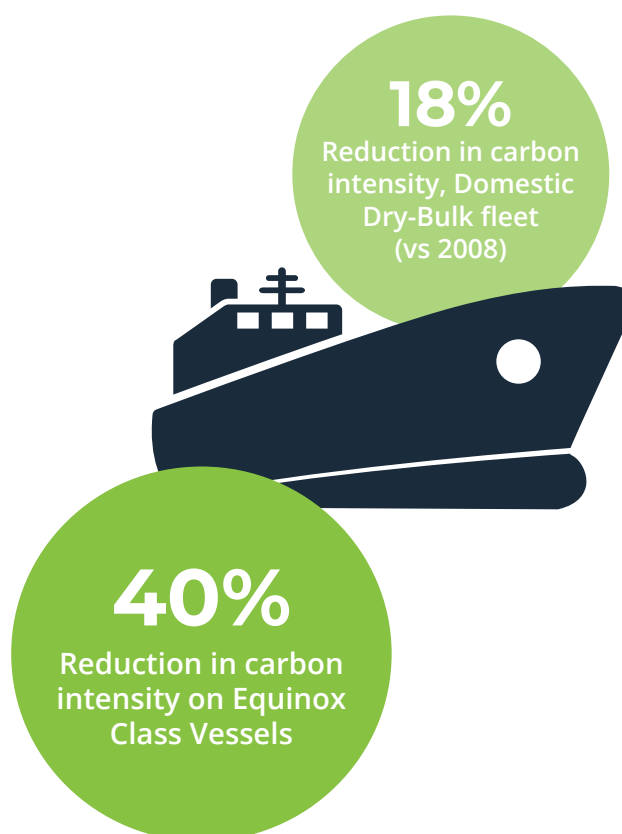
## REDUCING OUR GHG EMISSIONS

As Algoma considers how our longer term carbon reduction goals will be achieved, we are taking measures now to incrementally reduce greenhouse gas emissions.

Our new Equinox Class vessels were designed and constructed with energy efficiency improvements, achieving close to a 40% improvement in carbon intensity when compared to the ships they have replaced. Further to the gains related to our new vessels, we have implemented additional technical and operational measures to reduce fuel consumption across our fleet, including:

- » Ship Energy Efficiency Management Plans (SEEMPs) on all vessels that will be upgraded in line with new IMO standards in 2022;
- » Evaluation of the Energy Efficiency Existing Ship Indicator (EEXI) and Carbon Intensity Indicator (CII) for each vessel as per IMO regulations, and associated improvement plans;
- » Upgrades to performance monitoring and control systems;
- » Fuel consumption trials to validate performance and identify the most fuel efficient speeds;
- » Improvements in monitoring and analysis to identify the most efficient propeller pitch and engine operation/performance;
- » Installation of propulsion optimization technology FuelOpt on nine vessels;
- » Condition based maintenance for improved reliability and efficiency;
- » New hull coatings;
- » Vessel energy audits.

In 2021 we trialled the propulsion optimization technology FuelOpt on the Algoma Conveyor. FuelOpt reduces fuel consumption by automatically and dynamically monitoring and controlling the vessels' propulsion power in real time, thereby optimizing energy efficiency. The results indicated that FuelOpt provided a 10% reduction in fuel consumption when the vessel was operating at full away speed. Fuel savings may be less when operating at slower speeds, however on the basis of these favourable results it was decided to install this system on an additional eight vessels in early 2022.



## PARTNERSHIPS & COLLABORATION

Longer term solutions to decarbonise the sector will require all stakeholders to work together collaboratively. Algoma is a founding member of the Blue Sky Maritime Coalition, a group that aims to accelerate the North American maritime industry's pathway to net zero GHG emissions by jointly developing and executing a road map to a commercially viable logistics value chain.

Algoma also engages regularly at the International Chamber of Shipping, which is at the forefront of the global maritime industry's efforts on GHG reduction, through various committees and at the board of directors level.

Along with these collaborations, governments must provide funding for research and development into alternative fuels and infrastructure that will be required to facilitate this transition. Alternative energy sources must be developed and implemented along with the necessary regulatory framework and supply chains.



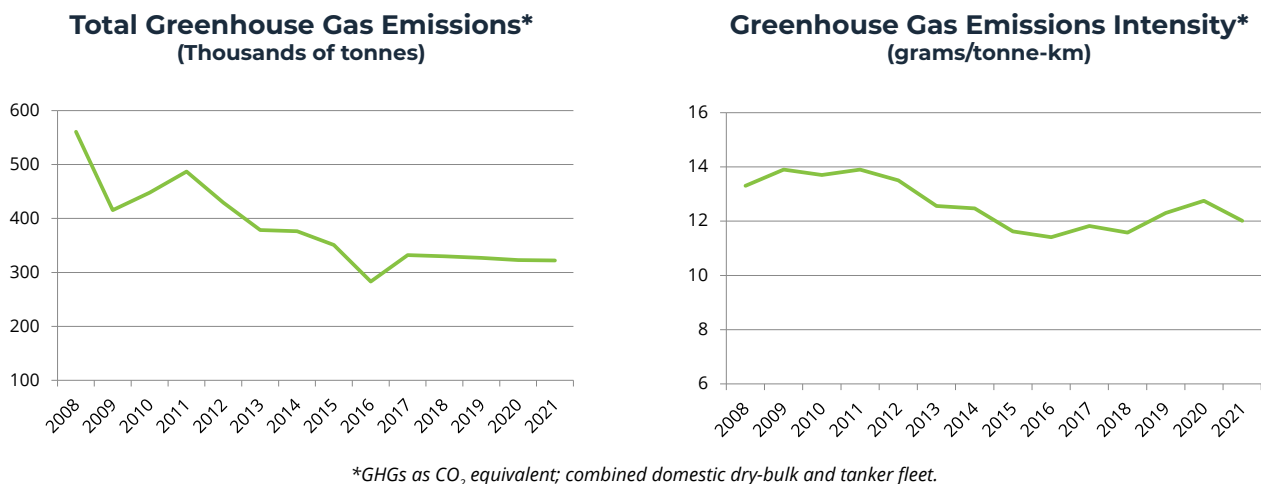


## GHG PERFORMANCE

Total and intensity-based GHG emissions for our domestic fleet are presented below. Our international ocean fleet came under Algoma operations management more recently – see their emissions data in the performance chart at the end of this report.

As shown below, annual total GHG emissions for the domestic fleet have declined significantly (by 46%) since 2008. While the number of ships that we operate has also declined (by 26%), the rate of emissions reduction has been greater. Newer more efficient vessels are able to carry more cargo while consuming less fuel, resulting in an overall reduction in GHGs emitted.

The GHG intensity (GHGs emitted per tonne of cargo carried one kilometre) of our fleet has also seen a fairly consistent downward trend since 2008, although did increase slightly during the last three years. The observed increase was due primarily to changing market conditions affecting our product tanker fleet. The domestic dry-bulk fleet in particular however, has achieved a reduction of 18% since 2008. This is primarily a result of fleet renewal along with other equipment and operational improvements.



## EFFICIENCY OF MARINE TRANSPORTATION

It is well known that ships are the most fuel efficient way to move goods with the least amount of carbon emissions, therefore increasing coastal and inland shipping can be part of the solution for climate change. In particular, short sea shipping, whereby cargoes are moved via inland and coastal waterways, is more carbon efficient than other land-based transport modes such as rail or truck. When considering national strategies to reduce overall transport emissions, marine shipping can facilitate an overall reduction. Further information on the efficiency of marine transport can be found [here](#).



## MINIMIZING OUR FOOTPRINT

Algoma is committed to resource conservation and waste reduction and has programs in place to eliminate or reduce waste at source or divert it from landfill.

### WASTE REDUCTION

Multi-stream waste stations including recycling and organics have been in place on the majority of our domestic vessels since 2011. Crew members are encouraged to segregate their waste wherever possible so it can be recycled or composted ashore. In some cases, recycling is not feasible, for instance on more remote trading routes where such facilities are not provided or where the carbon emissions to pick up the recyclables would outweigh the resource conservation benefits.

Our Purchasing team is always considering new ways to reduce waste whether at source or through unique methods of diversion. We have eliminated many single use products from vessels, encourage the use of reusable items, and work with suppliers to consolidate shipments and reduce packaging. For example, single use dinnerware or utensils are not used on board and crew members are supplied with reusable cups and mugs. Through our Gold Flag program, crew members are awarded “Bear Bucks” which can be used to redeem a number of Algoma branded items from the “Bear Store” including reusable items such as water bottles and insulated drink containers.

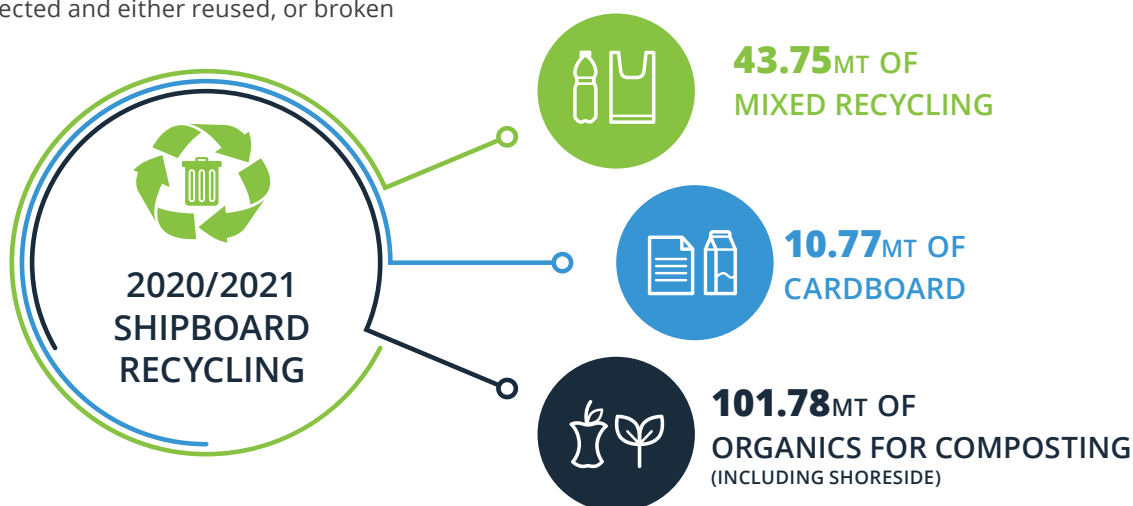
One unique method of diversion in addition to regular recycling and composting is our Pallet Recycling program. Pallets used to deliver shipments are retrieved off the vessel and taken to a local company where the pallets are inspected and either reused, or broken

apart and repurposed. In 2021 we conducted a waste survey where each vessel reported their waste diversion and disposal practices based on unique factors of the ship and its trading route, and suggested improvements to existing programs. We plan to use this valuable information to inform improvements to our shipboard waste programs.

Similar to our vessels, there are three-stream waste systems in place at Algoma’s head office in St. Catharines including containers for landfill, mixed recycling and organics.

Our mixed recycling is compiled with the other tenants in the building for pickup, however composting through a private contractor is unique to Algoma. A benefit of this service is the ability for single use coffee cups to be properly broken down and composted diverting this single use item from landfill.

**Due to these ongoing efforts both shipboard and shoreside, Algoma has continued to hold a Gold Certification level in the Niagara Region’s Rethink Your Waste program. Read more about the requirements of this achievement [here](#).**

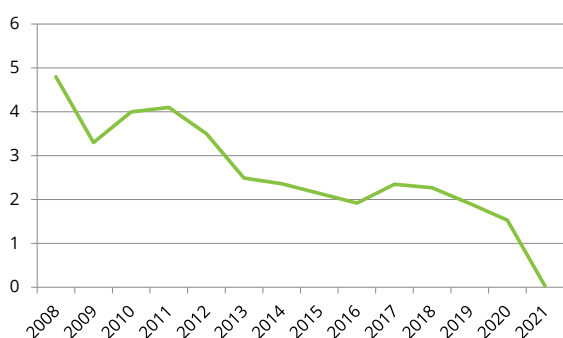


## REDUCING SULPHUR EMISSIONS

On January 1, 2020 the global cap of 0.5% sulphur in marine fuels came into effect, reduced from the previous maximum of 3.5%. This was in addition to the existing fuel sulphur limit of 0.1% in Emission Control Areas, in North America and the Baltic and North Seas. As an alternative to using low sulphur fuels, the use of technologies on board ships to achieve an equivalent reduction in sulphur oxide (SOx) emissions is allowed.

As a result, sulphur oxide emissions from our vessels and the global shipping fleet have been reduced significantly. Algoma's vessels meet or exceed the global SOx emission standard primarily through the use of low sulphur fuels. Exhaust gas cleaning systems are used on a portion of our domestic fleet, which allows these ships to meet the most stringent limit of 0.1% fuel sulphur equivalent through the use of an approved technology.

**Algoma's Sulphur Oxide Emissions (SOx)**  
(Thousands of tonnes)



## INVESTING IN SCRUBBERS

Algoma's new Equinox Class lakes vessels are equipped with closed loop exhaust gas cleaning systems, also known as scrubbers. In addition, two of our domestic flagged vessels are fitted with hybrid systems capable of operating in either open or closed loop mode.

Exhaust gas scrubbing is a proven technology that provides an environmentally and commercially responsible way to reduce sulphur emissions and meet Emission Control Area SOx limits. The SOx removal when using a scrubber is at least equivalent to and in many cases significantly better than if using compliant low-sulphur fuels. Studies also indicate that, depending on engine and scrubber type and mode of operation, scrubbers achieve a reduction in particulate matter and nitrogen oxide (NOx) emissions.

**Emissions testing conducted on the Algoma Equinox in 2017 demonstrated a 98.3% removal of SOx, 43% removal of total suspended particulate matter and 7% removal of NOx.**

Despite being an IMO approved alternative method of compliance since 2009, certain global and Canadian ports have however imposed restrictions on open loop scrubbers. Although Algoma mainly operates closed-loop scrubbers, we are concerned that these types of actions are unnecessary, particularly in connection with closed loop scrubber operation, and will eliminate a viable and beneficial option of emission control for shipowners and their customers. The use of scrubbers reduces the cost to move goods and prevents cargo from shifting to more GHG intense land-based modes of transport while at the same time reducing harmful air emissions. Many shipowners made the decision in good faith to invest significant capital in this technology based on IMO and government approvals and the environmental benefits of scrubbers, and should not now be penalized by a change in policy.

Exhaust emissions and discharges to water from Algoma's scrubbers meet all IMO approval, monitoring and emissions requirements with continuous monitoring and logging in approved tamper-proof devices. Despite some claims suggesting that emissions of air pollutants, such as black carbon, particulate matter and GHGs are greater when using heavy fuel oil with a scrubber compared to when using a more refined fuel such as marine diesel oil, several studies have shown the opposite. See the next page for more information.

## BENEFITS OF EXHAUST GAS SCRUBBERS

1

**Sulphur Oxides - SO<sub>x</sub> reductions resulting from consumption of heavy fuel oil (HFO) with an exhaust gas scrubber are at least as much as when using an ECA compliant fuel.**

The primary function of scrubbers is the reduction of SO<sub>x</sub> in exhaust gases. Scrubbers are highly effective at performing this function with 99% SO<sub>2</sub> reduction. The resultant level of SO<sub>2</sub> emissions from 2.0% sulphur content fuel (typical of the Great Lakes) in combination with a scrubber is below SO<sub>2</sub> emissions from even an Emission Control Area (ECA) compliant fuel (i.e. a 0.1% sulphur fuel).

2

**Black Carbon - Scrubbers remove up to 50%.**

Black carbon, a component of PM, is of concern related to climate change, particularly in the Arctic. A 2017 report found the specific mass of Black Carbon to be reduced with a scrubber by between 20% and 50% depending on engine type and instrumentation/measurement method used. An IMO study also ranked scrubbing as a better method of black carbon removal than switching to distillate fuels.

3

**Particulate Matter - Use of a scrubber reduces PM emissions.**

Recent studies reported particle number reductions of 84 to 92% when using a scrubber. It is the number concentration of fine and ultra fine particles and not the mass emitted that is the best metric to assess toxicity and exposure risks from particulate matter. These fine and ultra fine particles are emitted in higher numbers in MGO exhaust.

4

**Greenhouse Gases - The extra GHG emissions generated to refine MDO are greater than those emitted to produce and run a scrubber**

A 2020 study compared the annual well-to-wake CO<sub>2</sub> emissions of five ship types using ECA compliant fuels versus use of an approved scrubber with higher sulphur fuel oils. Taking system production, installation, operation and scrubbing chemistry into account, scrubbers result in an annual CO<sub>2</sub> increase of up to 2%, whereas the likely increase in emissions at the refinery from ECA compliant fuel production is up to 9%, showing scrubbers to reduce overall CO<sub>2</sub> emissions by up to 7%.

## THE SCRUBBER WASHWATER DEBATE

Unlike with open loop scrubbing, only a small volume of washwater (termed 'bleed-off') is generated from a closed loop scrubber. This bleed-off is cleaned on board in an approved treatment plant, is continuously monitored for quality and is only discharged overboard if it meets the IMO limits for the regulated parameters (pH, polycyclic hydrocarbons, turbidity and temperature). On-board washwater treatment is very effective at removing contaminants, and the resulting residue is then properly discharged ashore at licensed waste management facilities. Discharge water from closed loop scrubbers has a neutral pH and does not contribute to acidification of waterways.

Recent claims suggesting that discharge from closed loop scrubbers is harmful to the marine environment appear to be based on a lack of technical understanding regarding this technology. A recent scientific study concluded that discharges from these scrubbers would not cause harmful effects to the marine environment. This study was conducted by a well respected research institute using scrubber discharge water to test the effect on marine organisms, in conjunction with application of IMO recognized hydrodynamic and chemical modelling. It is vitally important that any new government policy related to the use of scrubbers is based on accurate evidence-based decisions to ensure effective and balanced regulation.

## PRESERVING MARINE BIODIVERSITY



### AQUATIC INVASIVE SPECIES

Algoma has installed eight ballast water treatment systems, five in our international fleet and three in our domestic fleet, in efforts to mitigate AIS risk.



### MARINE PLASTICS

Algoma has restricted the use of single use plastic water bottles on board for a number of years, and officially took the IMPAsave pledge in 2021 to eliminate them entirely. Read more about IMPAsave [here](#).



### MARINE MAMMALS

Algoma continues to make efforts to protect marine mammals inhabiting the lower St. Lawrence River and East Coast of North America, including the critically endangered North Atlantic Right Whales.

## AQUATIC INVASIVE SPECIES

Algoma vessels comply with all ballast water and biofouling management requirements and best practices in our efforts to mitigate impact related to aquatic invasive species. To date we have installed ballast water treatment systems on eight vessels, five within our ocean-going international fleet and three on vessels that operate within our domestic Great Lakes – St. Lawrence fleet.

As we proceed with fitting our fleet with ballast water treatment systems, we recognize that there will be challenges in treating the waters in some ports. The IMO has recognized this as well and is actively working to develop guidelines to assist shipowners and their administrations to navigate this complexity.

Ballast water treatment systems represent a very significant financial investment, particularly for our lakes vessels with large ballast volumes and extremely high flow rates, and it is important that any management measure provides the intended benefit in a consistent and cost effective manner. Algoma looks forward to continuing collaboration with Transport Canada and US regulatory agencies to develop clear guidelines and procedures for managing the treatment of certain port waters that will challenge the capability of approved treatment systems.

## MARINE PLASTICS

Plastic pollution, particularly in marine environments, is a significant issue that continues to increase in awareness around the world. Plastic waste breaks down into micro-plastics that can be extremely harmful for sea life with microscopic pieces beginning to be found in humans as well. While the majority of plastic waste enters waterways through land sources, the marine industry has made strides to eliminate any negative impact it may have in this area. There are mandatory prohibitions on the discharge of plastic waste on the high seas enforced by the IMO, and for many years, the discharge of any waste on the Great Lakes has been illegal.

Algoma is committed to full compliance with these prohibitions, and to reducing plastics brought on board. All waste materials are sorted through multi-stream waste systems and disposed of ashore, or incinerated on board where appropriate and where recycling is not possible. To reduce at source, our purchasing team works to consolidate shipments where possible and has removed a number of single use items. Read more in the Waste Reduction section of this report.

**impasave**  
People, Planet, Profit, Purpose



## MARINE MAMMALS

### WHALE OBSERVATION REPORTING

The North Atlantic Right Whales remain the most endangered of all large whales, with a remaining population of approximately 350, reduced from an estimate of 400 in 2019. The continuing decline of the overall population is thought to be related to a below average birth rate, with only 57 new calves born since 2017.

In recent years, the government of Canada has implemented protection measures for this species in an effort to mitigate the risks related to ship strikes and fishing gear entanglement. These measures appear to be successful as there were significantly reduced whale deaths observed in 2020 and 2021. Zero deaths were recorded in Canadian coastal waters; however, four deaths occurred in US waters along the Atlantic east coast, two of which are believed to be related to vessel strikes.

Our vessels that operate in these areas follow all recommended and regulatory measures designed to reduce ship strikes, including adhering to the voluntary seasonal slow-down through the Cabot Strait. Our crews also participate in the Réseau d'Observation de Mammifères Marins (ROMM)/Marine Mammal Observation Network (MMON) to compile observation data on a number of species. As of the end of 2021, over 320 observations had been made since the beginning of our partnership in 2018.

In 2021, Algoma also worked with ROMM/MMON and WWF to roll out a new virtual training module to our bridge crew members, providing them more effective tools and support to properly identify different species and report their location to researchers. Feedback has been positive, and over 40 employees have successfully been certified in the new module.

### UNDERWATER NOISE

Marine vessels' contribution to underwater radiated noise continues to be researched. Commercial shipping has been identified as one of the main sources of anthropogenic underwater noise along with seismic exploration and military and commercial sonars. Low frequency sounds produced by propeller cavitation and onboard machinery can reach marine mammals at vast depths and distances underwater, impairing their ability to communicate, find food, navigate, avoid danger, and reproduce.

Algoma is actively supporting research on underwater noise by partnering with the MARS (Marine Acoustic Research Station) Project – a world-class research station located in the St. Lawrence Seaway near Rimouski managed by the Institut des Sciences de la Mer and Innovation Maritime. The goal of this research is to measure underwater noise being emitted from vessels passing through the station, and identify sources on the vessel to assess and develop mitigation strategies. Algoma is one of five industry partners to provide financial and in-kind contributions to the project and participates as a steering committee member. Three Algoma vessels transited the station in late 2021 when it became operational. We are making plans to conduct expanded monitoring in 2022, including on-board noise measurements.

Noise reducing measures implemented on our new vessels include the use of vibration compensators, resilient mounting of equipment and acoustic insulation. We will have the opportunity to evaluate the impact of these measures in 2022 and 2023 through our participation in and support of the MARS program.



# PROTECTING MARINE ECOSYSTEMS

## SPILL PREVENTION & RESPONSE

The global marine industry as a whole has made great strides in not only reducing the risk of major spills but also in recognizing and mitigating minor operational discharges. Algoma is no exception - our crews and shoreside support teams work diligently to ensure the highest standards of spill prevention and response. Procedures in place include:

- » Strict fuelling and liquid cargo procedures;
- » Comprehensive spill response plans and procedures;
- » Emergency response contracts in all operational regions in case of any incidents;
- » Water lubricated stern tubes on all new vessels and several retrofits on older vessels;
- » Environmentally preferable/fully biodegradable lubricants in other underwater equipment;
- » Integrated bilge water treatment systems to reduce bilge water at source;
- » All petroleum tanker vessels are double-hulled and subject to rigorous internal and external oversight;
- » Regular equipment inspection and preventive maintenance to inspect for leaks and drips.

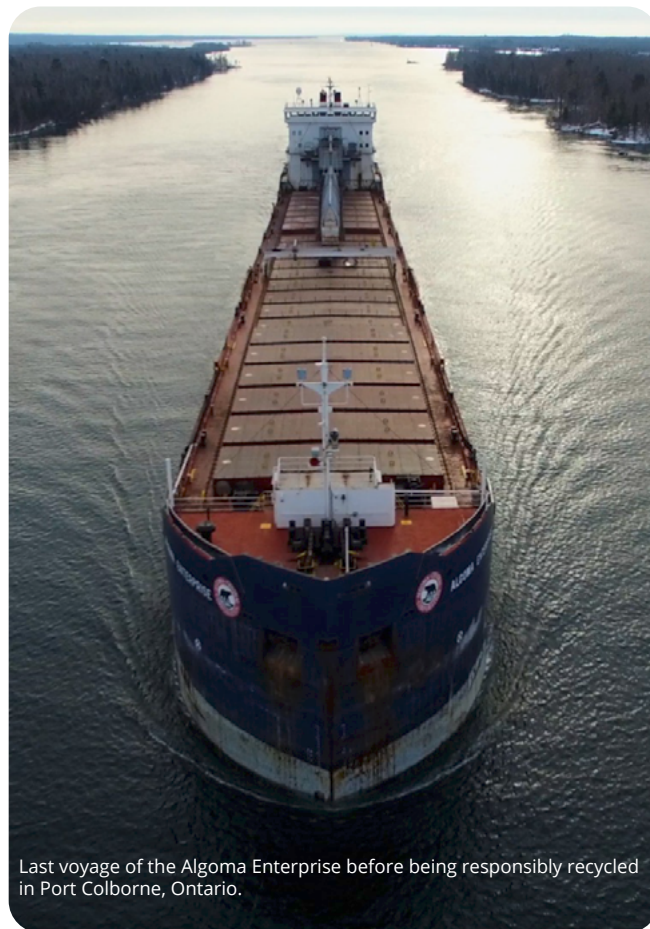
Despite our diligent efforts, an incident involving release of untreated bilge water into Lake Ontario occurred in 2017. The circumstances that caused this release were unique and unintentional and Algoma immediately responded and reported the incident to all required parties. The occurrence resulted in a significant fine and application of a United States Coast Guard court mandated Environmental Compliance Plan to eight of Algoma's Great Lakes vessels. Algoma accepted responsibility for the accident and view the implementation of additional best practices as mandated by the USCG as an opportunity to strengthen our already robust environmental management system.

## RESPONSIBLE SHIP RECYCLING

As Algoma continues to welcome new builds to upgrade our fleet, we have recycled a number of older vessels in recent years. We are committed to ensuring these end-of-life vessels are recycled only at responsible ship recycling facilities where the dismantling and recycling processes will not pose any unnecessary risks to human

health, safety or the environment. Vessels are recycled at facilities aligned with our Ship Recycling Policy in Aliaga, Turkey or Ontario, Canada. Responsible practices outlined in our policy include:

- » An Inventory of Hazardous Materials is prepared for each vessel and provided to the recycling facility.
- » Algoma will enter into recycling contracts only with facilities that commit to recycling operations in adherence with the Basel Convention, European Directives (where applicable) and the principles of the IMO Hong Kong Convention for the Safe and Environmentally Sound Recycling of Ships (2009).
- » Algoma will verify that proper procedures are followed by the ship recycling facility through periodic assessment by Algoma or an external third party.



Last voyage of the Algoma Enterprise before being responsibly recycled in Port Colborne, Ontario.

## GREEN MARINE

Algoma was a co-founder of the Green Marine voluntary environmental improvement program in 2008 and remains a very active participant. The program continuously challenges participants to go above and beyond regulatory requirements and helps to inform environmental priorities for our sustainability strategy and management programs. Algoma employees participate in stakeholder working groups that examine and evaluate performance criteria to ensure continual improvement and explore new and emerging industry issues. In 2021, Algoma scored an average of 4 out of a possible 5. Read more about the Green Marine Program [here](#).

GREEN MARINE ISSUE	LEVEL ACHIEVED BY ALGOMA, 2021
Aquatic Invasive Species	4
Pollutant Air Emissions (SOx and PM)	4
Pollutant Air Emissions (NOx)	3
Pollutant Air Emissions (GHGs)	4
Oily Discharges	5
Garbage Management	4
Underwater Noise	4
Ship Recycling	4



## ENVIRONMENTAL PERFORMANCE SUMMARY

GOALS	PROGRESS
Reduce GHG Emissions: <ul style="list-style-type: none"> <li>2% annual average reduction</li> <li>40% reduction by 2030</li> <li>Net-zero by 2050</li> <li>2008 baseline</li> </ul>	<ul style="list-style-type: none"> <li>Combined domestic fleet (dry bulk &amp; tanker vessels) has reduced emissions by 14%</li> <li>Dry-bulk fleet only has reduced emissions by 18%, with an annual average reduction of 1.5%, or 21% in the last decade.</li> <li>Ship energy efficiency management plans (SEEMPs) implemented on all vessels; upgrading with SEEMP Part III in 2022</li> <li>Hull coating/propeller polishing R&amp;D project undertaken with Transport Canada in 2020/21</li> <li>Decarbonization team assembled in 2021</li> <li>Planning a biofuels trial in 2022.</li> </ul>
Reduce SOx Emissions	<ul style="list-style-type: none"> <li>Full compliance with IMO 2020 Sulphur Max achieved</li> <li>Invested in ten closed loop scrubbers to date</li> </ul>
Reduce AIS Risk	<ul style="list-style-type: none"> <li>Ballast water treatment systems installed on eight vessels (five ocean-going ships and three domestic vessels)</li> </ul>
Prevent Leaks and Spills	<ul style="list-style-type: none"> <li>On-going implementation of EALs</li> <li>Enhanced engine room housekeeping standards</li> <li>Developed ECP on-line training module to improve training and awareness</li> </ul>
Reduce Waste	<ul style="list-style-type: none"> <li>On-going waste reduction &amp; recycling programs ship and shore</li> <li>Joined IMPA Save Council for Maritime Supply Chain Sustainability in 2021</li> <li>Conducted shipboard waste survey in 2021</li> </ul>
Marine Mammal Protection	<ul style="list-style-type: none"> <li>Enhanced whale identification training completed by 44 crew members in 2021</li> <li>Financial and in-kind funding provided to the Marine Acoustic Research Station</li> <li>Underwater noise measurements conducted on three vessels in 2021</li> </ul>







# OPERATIONS EXCELLENCE

By aspiring to operations excellence, our best efforts are directed towards ensuring the health and safety of employees and contractors, avoiding incidents, maintaining company assets in optimal condition and safeguarding our customers' cargoes.

## ALGOMA CREWS STRIKE GOLD

Our Gold Flag program encourages and recognizes those vessels that achieve excellence in safety performance, incident reduction and provision of value for customers. The high standard for achieving the Gold Flag is, for a period of at least one year: no medical treatment above first aid required; no oil spill to water, land or deck, and; no ship, dock, cargo or bottom contact causing damage greater than \$10,000. This is a significant accomplishment, and highlights crews that are leaders in our fleet. In 2021, 68% of Algoma's vessels (including both domestic and ocean fleets) were proudly flying Gold Flags – up from 49% in 2020. A thank-you and congratulations to our crews for their dedicated efforts and continued improvement.

### VESSELS FLYING GOLD FLAGS IN 2021

1. Algoscotia (3 years)
2. Algoterra (2 years)
3. Algoma Compass (2 years)
4. Algoma Harvester (2 years)
5. Algoma Sault (2 years)
6. Algoma Integrity (3 years)
7. Algoma Victory
8. Algonova (3 years)
9. Algonorth (2 years)
10. Algoma Equinox (2 years)
11. Algoma Strongfield
12. NACC Quebec
13. Algoma Valour
14. Honourable Henry Jackman (2 years)
15. Algoma Hansa (2 years)
16. AlgoCanada
17. Algoma Conveyor
18. NACC Argonaut (2 years)
19. Bahama Spirit
20. Algosea (2 years)
21. Algoma Buffalo (2 years)
22. Radcliffe R. Latimer
23. Algoma Vision (3 years)
24. Algoma Valour

## VALUE FOR CUSTOMERS

The Algoma team is always looking for ways to improve our operations and fleet reliability in order to provide value for our customers. Some recent example are presented below.

### IMPROVEMENTS ON THE ALGOMA NIAGARA

The vessel's winches were upgraded to allow more versatility in how the vessel can secure in different ports, increasing its reliability and safety. Following the success on the Niagara, upgrades are planned for other vessels in the domestic self-unloader fleet.

### TANKER FLEET AVAILABILITY

Algoma's tanker fleet reached 99.1% availability for the 2021 season. This achievement was a result of the Operations team and crews identifying trends and root causes for out of service events and implementing innovative preventative strategies. For example, inert gas systems on our tanker vessels are now annually checked by makers, increasing the reliability of this equipment to nearly 100%.

### BEST PRACTICES & COLLABORATION

Information sharing between the cement carrying NACC fleet vessels has been encouraged by the Operations Department, leading to the development of cargo operational best practices applicable to any dock. Examples include: practices to optimize cargo discharge rates; maintenance routines to avoid premature breakdown and extend service intervals; and exchanging information on operating conditions at particular docks to better assist the customer with their operations.



## EXTENSION OF THE GREAT LAKES OPERATING SEASON

Algoma took on a leadership role in working with industry stakeholders to advocate for an extended operating season for the Welland Canal in response to milder winter weather conditions. As a result, the Canal stayed operational for an additional week at the end of 2020 and 2021 as part of a successful pilot program, reducing GHG's and truck and rail congestion by utilizing the Seaway and existing marine assets over a longer season. Algoma is lobbying for further pilot programs that will eventually lead to a fixed longer season for the entire Seaway.

## FLEET RENEWAL

Investing in eleven newly constructed Equinox Class ships for our domestic lakes fleet has greatly assisted in our overall sustainability efforts. These vessels demonstrate improved environmental performance and better safety, ergonomic and crew comfort innovations and features. Amongst their many improvements is better fuel efficiency and exhaust gas scrubbers to remove sulphur oxides from engine exhaust gases. As we continue to invest in fleet renewal, we take learnings from each new vessel and adjust our future designs for continuous improvement.

Most recently, we have taken delivery of the Captain Henry Jackman – a gearless bulk carrier design we refer to as Equinox 3.0. This vessel has a significantly improved deadweight over the original design, improving cargo capacity while reducing its GHG intensity. Feedback from both our crew and management produced many incremental improvements in the operation and maintenance of the ship. Even though the first generation of Equinox class gearless vessels has become a proven design, detailed analysis of operating information gathered from these ships allowed significant reductions in the size and capacities of much of the equipment fitted, producing more energy savings.

Looking to the near future, Algoma has another addition to our fleet on the horizon. The Algoma Bear, an Equinox 2.0 self-unloader, has been undergoing the same detailed review and promises to deliver similar results. Construction is planned to begin in December 2022 and the Algoma Bear should enter service in Canada near the opening of the 2024 shipping season.



In October 2021, the new Captain Henry Jackman broke the record for most grain cargo loaded into a single vessel in the history of the Port of Thunder Bay at 31,143 MT. This achievement also established the benchmark for the amount of cargo Algoma has loaded in a single trip, demonstrating the capabilities of the improved Equinox 3.0 design.

### AVERAGE FLEET AGE (DOMESTIC DRY-BULK)

**20** 2021

vs.

**36** 2012



SINCE 2013 WE HAVE INTRODUCED **10** NEWBUILD VESSELS TO THE DOMESTIC DRY-BULK FLEET. THESE NEW VESSELS ARE PROVIDING REAL GHG REDUCTIONS WITH THE BEST TECHNOLOGIES NOW, AS WE CONSIDER THE FUTURE AVAILABILITY AND COMMERCIAL VIABILITY OF ALTERNATIVE FUELS.







# POWERED BY OUR PEOPLE

Our people are the driving force behind Algoma's success and this was made even more evident during the COVID-19 pandemic.

## THANK YOU

The COVID-19 pandemic was challenging for everyone, but we are especially proud of our seafarers who faced frequently changing requirements, pre-joining and screening processes, not being able to be home to support family and friends and extended shore leave restrictions to keep themselves and their crew members safe. Despite these challenges, our resilient team ensured that cargoes were delivered to keep essential supply chains moving with minimal vessel delays and downtime.

Our teams ashore were also required to adapt to rapidly changing work environments. With school and child care facilities closed, many balanced competing responsibilities while working at home. When staff did have the opportunity to come together in the office with lifted provincial restrictions, it was on a rotational basis with safety precautions in place such as social distancing, meeting room capacities, mask and sanitation requirements.

Algoma's shipboard and shoreside employees around the world made us proud with their strength, teamwork, and passion that keeps us moving forward together. A sincere thank you to our staff and their families.

## VACCINATIONS

Since the start of the pandemic our priority has been to keep our people protected from the COVID-19 virus. Algoma acted ahead of the Canadian government to implement a vaccination policy, and once vaccines became more readily available, all efforts were made to support employees in receiving their required doses. Algoma worked persistently together with industry and government partners to advocate for accessible vaccines for seafarers, and where there were gaps in the system that was rolled out provincially, shipboard and shoreside teams stepped up to fill them.

Algoma was able to arrange for onboard vaccination clinics in the port of Quebec as well as various shoreside locations throughout the Great Lakes, both in Canada and

the United States. Recognition is given to Algoma's Health and Wellness team for arranging and coordinating crew vaccination efforts, as well as a number of crew members that were helpful in seeking out vaccination opportunities in local ports.





# HEALTH & WELLNESS

## ENSURING A HEALTHY & SUSTAINABLE WORKFORCE

Long-standing policies in place at Algoma include those to ensure fair and equitable treatment of all employees, respect of diversity in the hiring process and a workplace free from discrimination or harassment. Click [here](#) for more information on these and other company policies.

With COVID restrictions in place to keep everyone safe, it was more important than ever during the pandemic to offer employees resources to support them and their families whether at work or at home. Some examples:

- » We increased communication and awareness surrounding our existing Employee and Family Assistance Program (EFAP) – a program that all employees and their immediate family members have access to at no cost and which offers confidential support in a range of areas including mental health and well-being, addiction counselling, workplace challenges and relationship management.
- » We continued to support employees who were unable to perform their regular duties due to an ailment through our comprehensive Return to Work Program that supports employees in returning to work safely. Shipboard and shoreside management work closely with medical professionals and the affected employee to determine capabilities, and review options to offer modified work.
- » Our Health and Wellness team launched a virtual health care program that allows crew to get in touch with a shoreside representative if a health issue arises on board. To help lessen the burden of shore leave restrictions, delivery of prescriptions to our domestic vessels was also provided – these services remain in place.
- » Shore leave restrictions complicated employees' ability to get out and vote during the Canadian federal election. To ensure our employees' right to vote, our Fleet Personnel team arranged for the delivery of mail-in ballots to our vessels.
- » Algoma's purchasing department introduced a COVID Snacks and Sundries Program to supplement items employees would normally be able to depart the vessel to purchase during shore leave.

We continue to look for new and innovative ways to support the health and well-being of our employees, and we have made strides with the technological advancements for remote working that have resulted from the COVID-19 pandemic. As each of our vessels are a unique remote work environment, we are excited to continue exploring the potential for these methods to better serve our employees.

## ENSURING DIVERSITY & INCLUSION

Algoma's commitment to fair and equitable treatment and inclusion of all employees is reflected in our Employment Equity and Respect in the Workplace policies. These policies, along with our other existing practices and procedures, are being reviewed in depth to identify areas for improvement and to ensure compliance with newly introduced federal anti-harassment and violence legislation. These efforts will further foster an inclusive workplace culture where employees feel confident to bring their unique and valuable talents and perspectives to the table.

Read our full Employment Equity policy [here](#).



# EMPLOYEE ENGAGEMENT

## STAYING CONNECTED

During regular operations, the marine industry works to overcome unique challenges in staying connected with shipboard employees in remote areas, and this effort was heightened by the COVID-19 pandemic. With shore leave and onboard visitors restricted as well as our shore-based employees all working from home, we explored new and innovative ways to keep everyone connected.

More than ever, video was used as a primary communication tool to reach and engage Algoma's people. Our President and CEO regularly sent video messages directly to all employees containing company updates, information on changing and adapting COVID policies and procedures and information on mental health awareness. Employees also received video training from the head of our COVID Task Force that outlined and demonstrated the practices put in place on board and ashore in the office to keep everyone safe. Algoma used live video technology to adapt in-person staff meetings to virtual calls and increased them in frequency to ensure all employees were supported and kept up-to-date.

Employees were encouraged to submit photos and videos of their experiences working on board via a dedicated Algoma email inbox. Content directly from employees was shared in our company newsletter, the Bear Facts, and via our social channels. To view some of our public videos, you can visit our Vimeo page [here](#) or explore our social channels found on the last page of this report.

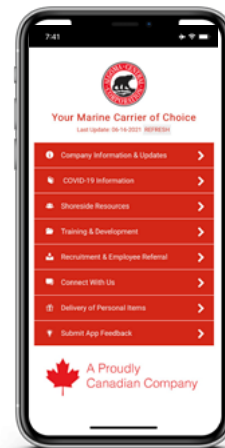
## THE ALGOMA APP

In 2020, we designed, developed and launched the Algoma App. Available to all employees, the app serves as a two-way communication hub to support and keep everyone connected whether on board or ashore. Employees can find regular company updates, COVID-19 and other health and safety information, training resources, employee directories, policies, social media posts and video messages from our President and CEO.

The app has been visited over 13,000 times since its launch, and is regularly updated and improved based on valuable user feedback. In addition to being an effective communication tool, our team has begun using this technology to streamline processes to better serve the needs of our employees.

Some newer features allow users to:

- » Submit documents and certificates to the employee portal;
- » Contact vessels and shoreside personnel directly from the app;
- » Access the Algoma Bear Store;
- » Explore employee referral opportunities;
- » Read our company newsletter, the Bear Facts;
- » Search Union contact information.



## NEXT STEPS

An employee engagement survey was conducted with our employees in 2020 and valuable employee feedback assessed and taken into consideration when re-developing and improving our employee engagement plan. Part of this plan includes a leadership team ship visit program to be rolled out once COVID restrictions on board are lifted, enhancements to our onboarding programs and further development of our employee recognition and rewards plan.

An internal communications plan focused on increasing the frequency in which we communicate with our employees. We have increased the frequency of our company 'Bear Facts' newsletter to monthly and have implemented a quarterly message from our President and CEO. We have received positive feedback thus far, and continue to look for new opportunities to communicate with our employees.

# TRAINING & DEVELOPMENT

Algoma's employees are our greatest asset, and we recognize investing in the professional development of our people as integral to our team's success.

## TRAINING OUR PEOPLE

Under normal operating conditions we would send our employees to different training facilities all over the world, however, the COVID-19 pandemic restricted international travel during the reporting period. To ensure our employees' professional development was not hindered, we pivoted to arrange a variety of training sessions domestically at marine colleges across the country for over 130 of Algoma's crew members. Some featured courses include: Bridge Resource Management; Mate School; Pilotage; Shiphandling; and Advanced Shiphandling.



Algoma also supports high performing employees in their career aspirations through internal professional development initiatives such as our Training Captain and Training Chief Engineer programs. Personnel are enrolled internally from existing officer positions, and external qualified candidates can be hired directly into the program as well. Length of training is dependent on previous experience and is evaluated on an individual basis to best serve the employee's specific development needs. The majority of external candidates participate in the program for approximately two years while internal candidates tend to complete the program in approximately one year. These initiatives have become

a strong tool to develop the next generation of highly qualified Captains and Chief Engineers. In 2021, six Captains and four Chief Engineers were promoted and welcomed to Algoma's shipboard management team.

Algoma is exploring new technologies to further enhance and modernize our internal training programs. We have developed and launched a limited introduction to an online training platform in 2021 and are currently considering expanding the content and reach of this training to include additional subject matter in the future.

## ALGOMA SCHOLARSHIPS

Algoma encourages continuing education and offers a number of scholarships to a variety of employee groups and their dependents:

- » During 2021, Engineering Officers came out of the workforce to attend an eight month semester at Georgian College to upgrade their certificate to either 2nd Motor or Chief Engineer with financial support from Algoma.
- » We continue to have scholarships in place for cadets in both nautical science and marine engineering programs at marine schools across Canada.
- » Financial assistance for post-secondary education is extended to dependents of permanent full-time employees who are entering their first year of school.



### MARINE EMERGENCIES DUTIES CENTRE

In 2016 Algoma committed \$1 million to the Algoma Central Corporation Marine Emergency Duties Foundation at Georgian College in Owen Sound, Ontario, to assist in providing this critical training to our seafarers.



## DEVELOPING THE NEXT GENERATION OF SEAFARERS

The Canadian marine industry continues to face a shortage of skilled seafarers due to a number of human resource challenges. The existing workforce is aging and nearing retirement, and there is a lack of awareness amongst younger generations of the opportunities available to them in a maritime career. The industry also continues to be heavily male dominated despite increasing numbers of women on board. We have a vested interest in overcoming these challenges to support the overall growth of the industry as well as Algoma's ability to secure diverse talent, and have a number of initiatives in place to assist in the recruitment, training and development of emerging seafarers.

Algoma continues to be highly engaged with all Canadian marine schools to support the success of cadets across the country, and we hope that Algoma will be their Marine Carrier of Choice upon graduation. We have remained in partnership through scholarships and funding, promoting their marine programs and ensuring their curriculum meets the current and future needs of the marine industry.

To connect students' classroom learning with practical hands-on experience, we offer cadet berths to those enrolled in marine engineering and nautical science programs across Canada. These work terms provide students the opportunity to test their skills and expand their knowledge through related work experience, allowing them to practice the latest approaches in their particular discipline. Working in Algoma's diverse fleet with vessels of varying types and ages provides students a competitive edge when entering the workforce, and our exceptional crews offer them the chance to start a rewarding career within a supportive and inclusive environment.

## RECRUITING THROUGH THE PANDEMIC

Algoma is very active in its recruitment efforts and adjusted to a virtual model in 2020 and 2021. We shared opportunities available with Algoma at online career fairs held by marine colleges, presented our company and work environment to marine cadets, and took to social media with a number of campaigns and incentives. We also launched a video recruitment campaign, "Why I Chose Algoma", where shipboard employees sent in videos sharing their personal experiences working for the

company and why they are proud to be part of the team. To explore these testimonials, see our Instagram page (@algomacentral) or view our latest video [here](#).

## ADDRESSING THE SEAFARER SHORTAGE

During the reporting period, a new avenue we explored to address the shortage of skilled seafarers domestically was the recruitment of foreign officers. Our intent was to increase and diversify the labour pool by sourcing qualified and experienced candidates from other countries and supporting them in the transition to working and living in Canada. We have had successes with senior engineering positions thus far, and as next steps, are beginning to focus on the recruitment of Ukrainian workers with a recent reciprocal agreement between Transport Canada and Ukrainian authorities.



**Algoma participates in and supports a variety of events at marine colleges that challenge and grow student knowledge and capabilities, such as:**

1. **Nova Scotia Community College (NSCC) Nautical Skills Competition:** Navigators and Engineers are teamed together to test their proficiencies where safety, regulatory knowledge and technical skills are demonstrated
2. **Annual Nautical Skills Competition: Master Mariners:** Open to all nautical science students at the Fisheries and Marine Institute of Memorial University, participants put their skills to the test in six challenging exercises





# COMMUNITY MATTERS

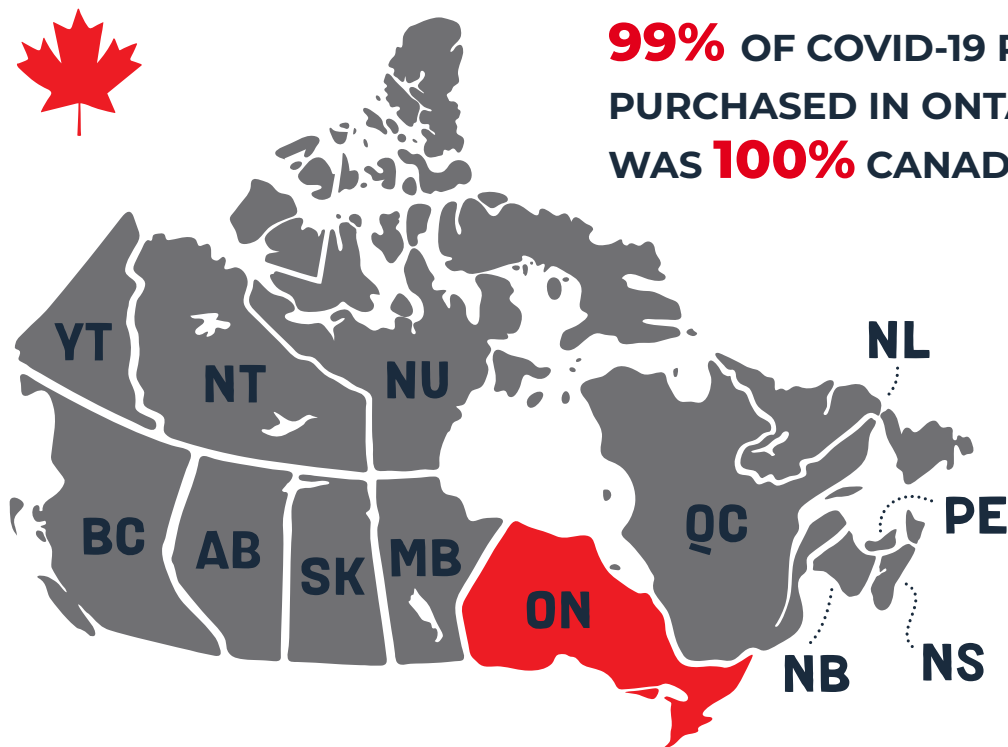




# SUPPORTING LOCAL

## INVESTING IN OUR COMMUNITIES

Algoma aims to invest in our communities by purchasing local supplies whenever we can, and this became even more important throughout the pandemic. We are pleased to support local Canadian businesses that pivoted to assist their communities during these unprecedented times, therefore we set a goal of purchasing 100% of our COVID personal protective equipment (PPE) from local vendors (we've defined local as Ontario – the location of our head office). We are proud to share that 99% of our COVID PPE was sourced from smaller, local businesses and 100% was Canadian. It is Algoma's goal to continue to look for other opportunities to source from our local communities wherever possible in the future.



### COVID-19 PPE

1. N95 Mks
2. Masks
3. Sanitizing Wipes
4. Rapid Tests
5. Hand Sanitizers



Your Marine Center of Choice

### COVID-19

TAKE STEPS TO  
PROTECT  
YOURSELF  
AND OTHERS

Important Measures	Keeping Safe
<ul style="list-style-type: none"> <li>Attendance of outside personnel is only permitted if it is essential.</li> <li>A rapid test (not a PCR) is required immediately upon boarding the vessel.</li> <li>Continue to access the Algoma App and use the crew document portal for submitting any booster documents.</li> </ul>	<div> <p><b>Wear a Mask</b> Face masks (N95 or similar) are to be worn at all times when inside. Eating or drinking are of course the exception.</p> </div> <div> <p><b>Physical Distance</b> Keep distanced at least 2 metres whenever possible. This is especially important when dining.</p> </div> <div> <p><b>Know the Signs</b> If you feel unwell or have any symptoms of concern, please don't take chances, go to your cabin and immediately report your symptoms to the Captain or Chief.</p> </div>

**EVERYONE PLAYS A ROLL IN STOPPING THE SPREAD.**

Questions? [corporate@algocentral.com](mailto:corporate@algocentral.com)



## COMMUNITY ENGAGEMENT

Community involvement is one of Algoma's core practices, and we are committed to being a good neighbour in all of the communities that we serve.

### GIVING BACK

Algoma's Community Involvement (CI) Committee, comprised of volunteers from various departments, was formed in 2018 to encourage and support employee engagement with our local communities and provide a connection between our shipboard and shoreside staff. The committee is always looking for new opportunities to get involved in community initiatives, but one of its main objectives is to facilitate Algoma's annual United Way campaign.

Algoma has been a proud supporter of United Way for decades through monetary donations and participation in various Days of Caring®. United Way provides a way for us to help strengthen the various communities of our employees and their families living across Canada by allowing for the distribution of our donation funds accordingly. Despite limitations and challenges to get involved in Days of Caring® brought forth by the COVID-19 Pandemic, our dedicated employees continued to step up during a time when our communities needed us most – with some added safety precautions.

How we continued to support our communities:

- » In 2020 \$100,670 was donated to the United Way, increasing to \$112,006 in 2021. This was made up of generous employee donations, fundraiser events and our company match.
- » Algoma employees volunteered at United Way's Backpacks for Kids event in both 2020 and 2021, assisting to fill backpacks with the necessary supplies to support children's success at school.
- » Algoma employees volunteered their time to support United Way's Welcome Home Kits initiative. These kits provide basic household supplies to individuals and families transitioning from shelters to permanent housing. They enable recipients to start their new lives with the materials required to cook and serve meals along with other essential items.
- » Throughout 2020 and 2021 Algoma held three food drives, contributing food and monetary donations to Community Care of St. Catharines and Thorold.

The teamwork and relationship building involved in supporting these initiatives promotes a positive working environment, strengthens camaraderie amongst our employees, and gives back to the communities in which we live.



### NIAGARA 2022 CANADA SUMMER GAMES

In 2021 Algoma announced our partnership with the Niagara 2022 Host Society of the Canada Games. As a proud Canadian company, we will be the presenting sponsor of one of the 13 For 13 Cultural festival events in August, 2022. This concert series will celebrate the cultural heritage and identities of Canada's 13 provinces and territories through entertainment, food, art and dance. Our sponsorship event will be celebrating the province of Newfoundland and Labrador, where many of our shipboard employees reside. We are also the naming sponsor of the 1,200 seat arena at the Canada Games Park and Walker Sports and Abilities Centre in Niagara. The Arena is now known as the Algoma Central Arena!





YOUR MARINE CARRIER OF CHOICE.™

# PROUD SPONSOR

NIAGARA  
2022



JEUX DU  
CANADA  
GAMES

Algoma would like to welcome the athletes of the 2022 Canada Summer Games to Niagara! We are proud to call Niagara home and look forward to watching our Canadian athletes compete. Best of luck, the Bear will be cheering for you!

[www.algonet.com](http://www.algonet.com)



@algomacentral



## PERFORMANCE METRICS

Indicator	Units	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
<b>ENVIRONMENT</b>															
Green Marine score <sup>1</sup>	1 (lowest) to 5 (highest)	2.6	3.3	3.3	4	4	4.3	4.3	4.4	4.3	4.2	4.3	4.2	4	4
GHG emissions <sup>1</sup>	Thousands of tonnes	561	416	448	487	430	378	376	351	283	324	314	311	303	302
	Grams / tonne-km	13.3	13.9	13.7	13.9	13.5	12.56	12.47	11.62	11.41	11.7	11.29	12.01	12.48	11.76
GHG emissions (ocean fleet)	Thousands of tonnes	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	140	155	153
SOx emissions <sup>1</sup>	Thousands of tonnes	4.8	3.3	4	4.1	3.5	2.49	2.36	2.14	1.92	2.35	2.27	1.91	1.53	0.03
	Grams / tonne-km	0.11	0.11	0.12	0.12	0.11	0.08	0.08	0.07	0.08	0.08	0.08	0.07	0.06	0.04
NOx emissions <sup>1</sup>	Thousands of tonnes	13.7	10.1	10.8	11.8	10.5	10.2	10.1	9.5	7.63	8.77	8.46	8.36	8.13	8.02
	Grams / tonne-km	0.32	0.34	0.33	0.34	0.33	0.34	0.34	0.31	0.31	0.32	0.3	0.32	0.33	0.31
Spills / leaks (<10 litres) <sup>2</sup>	Number	1	2	11	11	9	5	7	6	1	1	7	2	3	1
Spills / leaks (>10 litres)	Number	0	0	0	0	0	0	1	2	2	1	2	1	2	1
Recyclables <sup>9</sup>	Tonnes	N/A	N/A	99	133	143	127	156	132	85	84	80	91	77	74
Violations/fines	Number/ \$amount	0	0	1/32,000 <sup>3</sup>	0	2/83,000 <sup>4</sup>	0	0	1/5,000 <sup>5</sup>	0	2/19,600 <sup>6</sup>	0	0	0	1/500,000 <sup>7</sup>
Whale sightings reported	Number	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	99	150	36	41
<b>SAFETY</b>															
Lost time injuries	Number	57	40	27	20	26	14	17	20	16	14	20	17	22	12
Lost time injury frequency	LTIs / 200,000 hrs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.41	1.06	1.46	1.45	2.08	0.81
Fatalities	Number	1	0	0	0	0	0	0	0	0	0	1	0	0	0
Number of port state control detentions	Number	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1	1	1	1
Recordable work-related injuries	Number	264	175	148	187	189	121	156	156	94	83	130	112	101	93
	Total recordable cases x 100,000 / total hrs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.2	6.2	9.4	9.5	9.6	6.3
Total Recordable Incident Rate	200,000 / total hrs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.2	6.2	9.4	9.5	9.6	6.3
Modified duty cases	Number	-	-	-	60	79	44	54	40	19	27	31	29	33	25
<b>ECONOMIC</b>															
Revenue	\$ CAD (millions)	689	520	394	583	560	491	503	413	379	451	508	568	546	599
Net earnings	\$ CAD (millions)	41	39	19	69	44	42	53	26	33	56	51	24	46	82
Vessel availability (domestic fleet)	Percentage	-	-	97.7	97.2	97.1	97.2	96.2	94.5	97.6	95.2	99.02	94.72	98.18	98.8
Vessel availability (ocean fleet)	Percentage	-	-	-	-	-	-	-	-	-	-	-	-	-	99.2
Total distance travelled (domestic fleet)	Nautical Mile	-	-	-	-	-	-	-	-	-	-	-	-	-	1,044,048
Total distance travelled (ocean fleet)	Nautical Mile	-	-	-	-	-	-	-	-	-	-	-	-	-	794,706
<b>SOCIAL</b>															
Donations/sponsorships	\$ CAD	344,156	308,983	355,904	257,839	309,000	217,228	327,555	335,452	415,853	301,657	267,967	224,515	203,111	201,606
Total number of shipboard employees	Number	-	-	-	-	-	-	-	-	-	-	-	-	-	1283
Total number of shoreside employees	Number	-	-	-	-	-	-	-	-	-	-	-	-	-	160
Employees identifying as female	Percentage	-	-	-	-	-	-	-	-	-	-	-	-	-	9.6
<b>GOVERNANCE</b>															
Confidential hotline reports/number of corrective actions	Number	-	-	-	-	-	-	-	-	-	-	-	-	-	8/1 <sup>8</sup>

1 Domestic Dry Bulk and Product Tanker Fleets

2 Minor spills (<10L) includes any observed sheen on the water

3 Fine assessed against the vessel management firm Seaway Marine Transport related to delayed reporting of an equipment leak

4 Fine (\$75,000) levied against the vessel management firm Seaway Marine Transport related to a 2008 fatality. Fine (\$8,000) assessed by the USCG against the vessel management firm related to a 2011 inspection finding on the Honourable Henry Jackman

5 Fine levied for a 2014 spill of waste sludge (15 L) at a land-based transfer facility

6 Two Fines: (\$6,800) for a 2016 release of limestone cargo residue into water in unauthorized location; (\$12,800) for a 2015 spill (30 L) of fuel into water

7 Fine of \$500,000 levied by the US DO related to an accidental discharge of bilge water (approx 53MT) in Lake Ontario in 2017

8 All reports were investigated, one corrective action required

9 Recyclables, cardboard, organics, scrap wood





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