

# Algoma Central Corporation Announces The Next Generation of Great Lakes Bulk Carrier

## LAUNCHING A NEW ERA IN ENVIRONMENTAL EFFICIENCY

Consistent with our commitment to environmental sustainability, Algoma will be introducing a series of new vessels to our existing dry-bulk fleet starting in 2013.

The new vessels – called the Equinox Class – will include both self-unloaders and gearless bulk carriers. Developed by Algoma together with a team of world class vessel designers, architects, and engineers; these state-of-the-art vessels represent the next generation of Great Lakes bulk carriers.

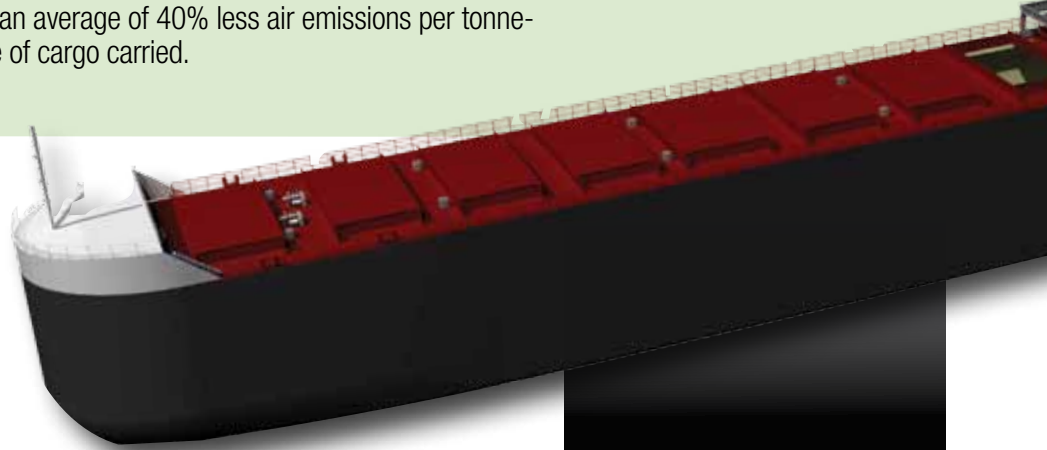
These new vessels will significantly reduce the environmental footprint of our Great Lakes dry-bulk fleet.

To learn more about Algoma's Equinox Class vessels and watch an instructional video, please visit [www.algonet.com](http://www.algonet.com)



The new face of responsible marine transportation

The **Equinox Class** design balances hull form, power and speed with cargo-carrying capability for optimal performance and environmental efficiency. The new ships will emit an average of 40% less air emissions per tonne-kilometre of cargo carried.



The new vessels will use about 25% less fuel than existing bulk carriers.

## New vessel environmental features

### **1** Optimized hull form

The optimized high displacement hull form minimizes resistance and ensures maximum efficiency and performance of the optimized propeller. Combined with an energy-recovering rudder, these features produce more speed with less power, which translates into superior fuel efficiency and reduced emissions.

### **2** Advanced Tier II compliant engines

The state-of-the-art electronically controlled engines will generate significantly lower levels of exhaust emissions. Combined with other efficiency gains, air emissions will be reduced by about 40% per tonne-km compared to existing vessels.

### **3** Energy-efficient ships

Heat from exhaust gas emissions will be recovered, reducing the requirement for thermal oil heating. Energy-efficient lighting will be installed wherever possible. The heated fuel oil tanks are grouped together and separated from the ship's hull for safety and to avoid heat loss. Underwater "hard coatings" on the hull will reduce friction and power requirements, maximizing efficiency.

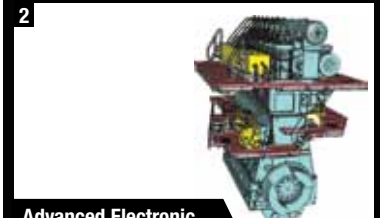
### **4** Exhaust scrubbers

The new engines will be capable of burning low-sulphur fuels but are designed to use residual fuels in combination with scrubbers. Scrubbers remove almost 100% of the sulphur content from the exhaust and 80% of particulate-matter emissions. However, marine engine exhaust scrubber technology is still in development. Once available, we will have the necessary room to install scrubber equipment.

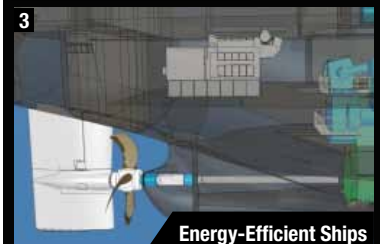
Smoother surfaces could reduce power requirements by an additional 5%.



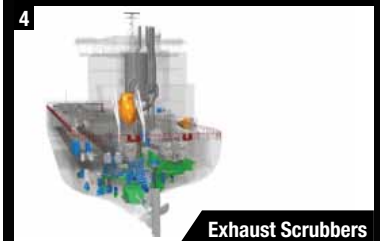
Optimized Hull Form



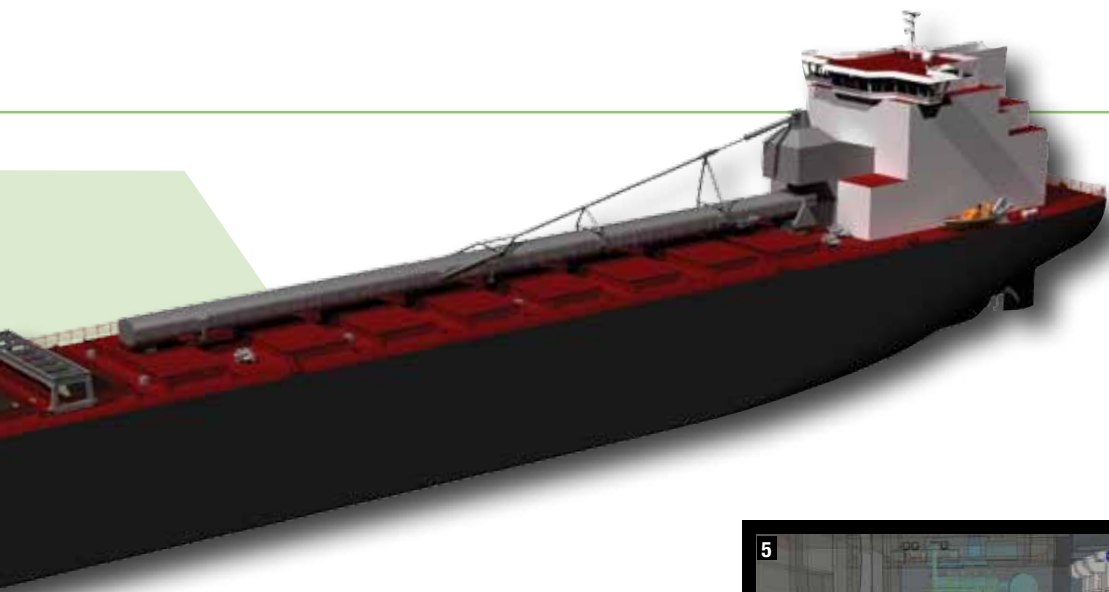
Advanced Electronic Engines



Energy-Efficient Ships



Exhaust Scrubbers



The new vessels will be able to carry more cargo at increased speeds while using less energy.

**5 Ballast water**

The design allows space for the installation of future ballast water treatment solutions. Tank design and coatings maximize ballast flow and minimize the build-up of sediment in the tanks.

**6 Residue minimizing cargo holds**

The cargo holds are designed to minimize cargo accumulation and facilitate cleaning. All hopper slopes are lined and any exposed steel is coated with impact and abrasion-resistant epoxy.

**7 Cargo spillage control**

An enclosed self-unloading boom and variable-speed discharge belt system will help to control cargo spillage and residues on the ship and minimize discharges to the environment.

**8 Dedicated wash water holding tanks**

All ships have dedicated wash water holding tanks to control wash water discharges in environmentally sensitive areas. Even deck run-off can be captured and directed to these wash water tanks.

**9 Advanced wastewater management technology**

■ **Integrated bilge water management system**

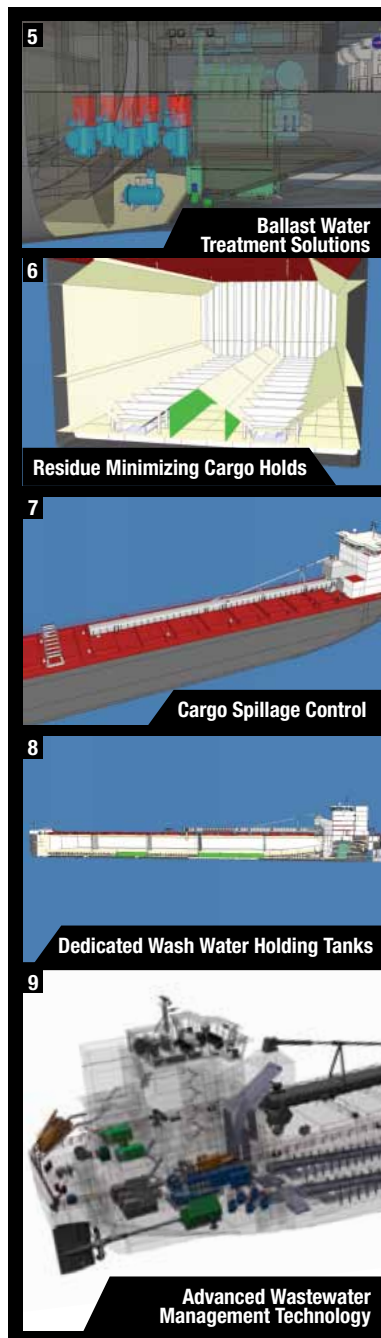
The bilge water management system is designed to reduce oily residues at source. It features mechanical seals on all pumps and engineered drainage systems to capture potential leakage. Any oily residues that do occur will be treated with a high-efficiency Oily Water Separator.

■ **Water-lubricated stern and rudder bearings**

Stern and rudder bearings are lubricated with water to eliminate oil leakage from these sources.

■ **Water-saving sewage systems**

State-of-the-art sewage treatment units treat both black and grey water to the latest standards with minimal water consumption. Vacuum toilets consume 90% less water than conventional flushing toilets. Storage tanks for treated wastes are available for use in environmentally sensitive areas.



Automated cargo hold washing equipment will minimize water use.



### Safety and habitability

The new vessels feature an ergonomically designed bridge layout and enhanced visibility from all points. **10** All bridge systems can be monitored by one person. Monitors are capable of multiple displays. Low-light and thermal-imaging cameras will be used to improve safety in low visibility situations.

Noise and vibration levels are substantially less than those of today's typical Great Lakes vessel. To further enhance the comfort of crew members, individual cabins will have broadband internet access and satellite television. **11**

### Other features:

- Double-hull construction, with oil storage tanks separated from the shell by cofferdams.
- Land-based remote monitoring of vessel position and conditions, and equipment performance.
- Mooring winches located on both sides of the unloading boom slewing trunnion, for operational control on either side of the vessel to improve visibility and safety.
- Fully enclosed freefall lifeboat system allowing safer evacuation for the crew regardless of list and sea condition. **12**

### Official Green Passport

The Green Passport for ships is a document that lists all materials known to be potentially hazardous used in the construction of the ship, its equipment and systems. A Green Passport will be prepared for each ship and will accompany it throughout its operating life. This will help ensure the safety of all workers on the vessels and those involved in dismantling the vessel at the end of its life.

Algoma Central Corporation is currently planning the integration of these next-generation vessels into our fleet beginning in 2013.



Ergonomic Bridge Design



Habitability and Comfort



Freefall Lifeboat



**Algoma Central Corporation**  
63 Church Street, St. Catharines, Ontario L2R 3C4  
(905) 687 - 7888 [www.algonet.com](http://www.algonet.com)

