BROADENING OUR SUSTAINABLE DEVELOPMENT HORIZONS
SUMMARY REPORT OF ACHIEVEMENTS IN SUSTAINABLE DEVELOPMENT 2016
The year 2016 was an extremely busy one for the Montreal Port Authority (MPA) in terms of projects: the inauguration of Viau Terminal, the restoration of Alexandra Pier and the cruise terminal, the environmental impact study for the container terminal at Contrecoeur, electric shore power and the Trucking PORTal to name but a few.

As we continue to grow, sustainable development remains a value inherent to the mission of the MPA, and, as you will read in this report, 2016 was very successful year in this regard. We are an organization that is committed to protecting the environment, to our neighbouring communities and to our contribution to the economic growth of Montreal, Quebec and Canada. We are very proud to be broadening our horizons by striving for continued excellence with regard to these three pillars of sustainable development.

Sustainable development was in our DNA even before we adopted our first Sustainable Development Policy in 2010. We revised this policy in 2016 in order to adapt to the evolution of challenges in sustainable development and the expectations of stakeholders. This policy, based on six guiding principles, spells out a long tradition of actions and initiatives in the environmental, social and economic fields. In 2016, the MPA renewed its internal Sustainable Development Committee comprising 10 employees from a cross-section of departments. One of its key mandates is to submit proposals for actions and best practices that will contribute to more sustainable management or development of MPA activities.

I am proud to present on the following page our Sustainable Development Policy Statement, a synopsis of our commitment to put sustainable development at the heart of our projects and operations.

I wish you good reading.

Sylvie Vachon
President and Chief Executive Officer
Montreal Port Authority
Sustainable development is at the heart of our activities

“The Montreal Port Authority is committed to fulfilling its mission by continuously working to maximize the economic, social and environmental benefits of its activities through effective governance.

Our commitment to take concrete and lasting sustainable development measures is set out in a policy where involvement, cooperation and accountability serve as our guiding principles.

Our priority is to reduce the environmental footprint of our activities through responsible consumption and by efficiently managing our environmental heritage. We adopt working practices that respect the environment and use technologies that improve performance and reduce impacts.

Our objective is to assume a leadership role alongside our stakeholders and within the maritime industry in general to secure their buy-in with regards to sustainable development principles. We want to contribute to the conservation of our cultural heritage, promote education related to maritime careers and support socioeconomic and environmental projects in the community.

Within our organization, we want to provide a stimulating work environment based on collaboration where our employees can develop their sense of responsibility and commitment while ensuring the security and safety of our operations.

We believe that by building long-term relationships, maintaining constructive dialogue and taking concrete action in sustainable development, our port is more efficient, secure and environmentally friendly, and better integrated into the city, in harmony with communities and the environment.”
GUIDING PRINCIPLES OF THE MPA’S SUSTAINABLE DEVELOPMENT POLICY

1. Ensure the responsible management of our organization
2. Contribute to the prosperity of society
3. Provide a stimulating work environment
4. Reduce our environmental footprint
5. Ensure that safety and security remain core operating values
6. Ensure the Port of Montreal’s economic mission
NEW APPROACH

The MPA’s five-year Sustainable Development Action Plan concluded in 2015. For the sake of continuous improvement, the MPA has transitioned to a “three-year” action plan for the period 2016-2018. The goal is to increase agility in order to meet objectives. The MPA will draw its inspiration from international accountability standards—notably the guidelines of the Global Reporting Initiative (GRI-G4)—that it will progressively integrate into its sustainable development annual reports. GRI helps organizations better communicate the impacts of their activities on critical sustainable development issues. In a manner of speaking, it is a key tool to promote change, highlighting the most important elements for organizations and their stakeholders.

It this context, the MPA conducted a study in 2016 to better understand the sustainable development issues that internal and external stakeholders deem to be the most important.

This materiality analysis was carried out by means of a confidential survey in which 54 people participated: members of the internal Sustainable Development Committee, members of the MPA’s Management and Interdepartmental Committee, and members of the Good Neighbour Committee. The latter, formed by the MPA in 2014, brings together stakeholders from neighbouring communities, non-governmental organizations dedicated to environmental protection, and private enterprises such as tenants and suppliers.
TEN HIGHEST-PRIORITY CHALLENGES ACCORDING TO OUR STAKEHOLDERS

1. Prevention of leaks and spills
2. Organizational probity, ethics and integrity
3. Occupational health and safety
4. Water pollution
5. Quality of services
6. Regulatory conformity
7. Maritime connectivity and intermodality
8. Transportation security
9. Waste and dangerous goods management
10. Economic performance
Among the 31 sustainable development issues identified, the 10 highest-priority challenges according to our internal and external stakeholders are as follows and presented in the matrix below:

Among the top-10 challenges identified by stakeholders, four are classified as environmental, three as social, and three as economic, indicating a strong equality among the three pillars of sustainable development.
THE MPA’S THREE-YEAR SUSTAINABLE DEVELOPMENT ACTION PLAN FOR 2016-2018 IS BASED ON FIVE ORIENATIONS, SIX OBJECTIVES, 21 TARGETS AND 24 PERFORMANCE INDICATORS.
FIVE ORIENTATIONS OF THE MPA’S THREE-YEAR PLAN

1. Improve air and water quality
2. Enhance the MPA’s service offer
3. Ensure the responsible management of MPA infrastructures and resources
4. Offer a mobilizing and safe working environment
5. Forge long-term harmonious relationships with our stakeholders
MAINT ACHIEVEMENTS IN 2016

• 12% reduction in greenhouse gas (GHG) emissions per tonne of cargo handled linked to the MPA’s own operations over the past four years. 33% reduction in the MPA’s own GHG emissions per tonne of cargo handled since 2007.

• Launch of a new Trucking PORTal in October. This tool posts in real time traffic-related wait times on port territory so that truckers can make informed choices about their travels on the port, better plan their route to terminals, avoid congestion and save time, all of which will ultimately reduce GHG emissions on port territory and in the surrounding area related to trucking. Using a combination of RFID (radio-frequency identification) technology and licence plate readers, this data-capture system provides a snapshot of all trucks entering the port at its common-entry truck portal, moving along the port road and into and out of container terminals, and exiting the port, as well as traffic flows and congestion points, measuring the total truck processing time within port territory.

The information is sent to drivers by means of a mobile application that they download on their mobile device (from the Apple App Store or Google Play Store), or directly on their computer (from www.portmtltrucks.com). The MPA already has recorded some 10,000 visits per month on the Trucking PORTal web and mobile applications.

• Launch of a pilot project to convert one salt-spreading vehicle and three trucks, including one with an aerial bucket, through technology that shuts down engines when the vehicles are stationary, thus eliminating the idle time and GHG emissions while still providing electric power to equipment, including the HVAC (heating, ventilation and air-conditioning) system.
• Continuation of projects to provide electric shore power service. This technology allows ships to shut down their marine diesel engines while docked and connect to the electrical grid supplied by renewable energy resources. In 2016, the MPA set up on-dock power supply stations at Berths 25, 27, 29 and M2 for ships that spend the winter in the port. To ensure an adequate power supply for cruise ships, Hydro-Québec installed a new 25 kV line to supply the new substation at the port’s cruise terminal at Alexandra Pier. The use of shore power is expected to reduce GHGs from wintering ships and cruise vessels by about 2,800 tonnes annually. The total cost of the projects is $11 million. The Government of Canada is providing up to $5 million. The Government of Quebec and the MPA are each providing $3 million.

• Addition of seven new hydrodynamic separators on port territory to treat stormwater. This specialized piece of equipment removes free oil and total suspended solids from stormwater run-off, thereby treating pollution at its source.

• Hosted the Initiatives for the Future of Great Rivers (IFGR) group for a working session that addressed challenges of the world’s great rivers. It included two local components: adaptive management strategies within the plan to regulate water flows in the St. Lawrence River, and best practices in city-port relations related to the MPA’s Contrecoeur Port Terminal Expansion Project. The sessions provided a multidisciplinary and international perspective on the St. Lawrence River.

• Member of Green Marine, the voluntary environmental certification program for the North American maritime industry. In 2015 (results published in 2016), the MPA had the second-best result among member ports of Green Marine. The results are available at the following link: https://www.green-marine.org/wp-content/uploads/2016/05/Results_2015.pdf
ENHANCE THE MPA’S SERVICE OFFER

OBJECTIVE
To be an agile and competitive port that ensures its role as an economic driver by innovating, improving and diversifying its service offer.

MAIN ACHIEVEMENTS IN 2016

• Investment of $112 million in port facilities.

• Economic impact of the Port of Montreal: 16,000 direct, indirect and induced jobs and $2.1 billion in economic spinoffs annually.

• Additional economic impact from the new Viau Terminal, at term: 2,500 direct, indirect and induced jobs and $340 million in economic spinoffs annually.

• Improved truck fluidity and goods mobility in the port through the launch of the new Trucking PORTal. The MPA is one of the first port authorities in the world to offer its road transport partners an advanced real-time information system on truck traffic on its territory, resulting in savings and reducing lost time for truckers and trucking companies.

• Partnership with ETS (École de technologie supérieure) in 2016 under the banner “Smart Port Challenge” whereby students in the operations and logistics engineering program were challenged to submit innovative solutions to modelling the flow of truck traffic on port territory.

• Participation in the 3rd edition of the InnoBahn Ubisoft event presented by the Board of Trade of Metropolitan Montreal. Information and information technology start-up companies were challenged to provide concrete innovative solutions to reduce unproductive travel and GHG emissions associated with transporting containers by truck at the port. Start-up Element AI was chosen to develop a predictive model of truck waiting times at the port that will eventually be part of the Trucking PORTal.
Conducted a satisfaction survey with freight forwarders, exporters and importers in Montreal, Toronto, Detroit and Chicago to identify the most appreciated features of MPA services and measure the overall rate of satisfaction of port users. The survey revealed that 98% of respondents are satisfied with the services provided by the Port of Montreal, including 54% who are very satisfied. The survey will be used to establish performance indicators and measure the rate of satisfaction of port users in the coming years so that the MPA can enhance its global service offer to continuously meet the needs expressed by these clients.
ENSURE THE RESPONSIBLE MANAGEMENT OF MPA INFRASTRUCTURES AND RESOURCES

OBJECTIVE
To be an innovative port by adopting new technologies to reduce the environmental footprint of our activities and by encouraging the beneficial reuse of materials in our infrastructures.

MAIN ACHIEVEMENTS IN 2016

- Continued an innovative soil recovery and reuse project as part of the Viau container terminal redevelopment. A large, mobile plant mixed excavated soil with cement powder to strengthen the soil and improve its load-bearing capacity. The soil was then redeposited at the bottom of excavated areas to create a sub-base stable enough to support container-handling activity. The process facilitated the reuse of 44,000 tonnes of soil with poor geotechnical quality that otherwise would have been removed and transported to landfill sites. The solidification process also eliminated the need to purchase and deliver high-quality backfill material to create the solid base. This approach saved more than 170 tonnes of GHG emissions. The land reuse project won awards from the Association québécoise des transports (2014), the American Concrete Institute (2015) and the Canadian International Freight Forwarders Association (2015).

- Reused crushed concrete and excavated soils as additional backfill during the restoration of Alexandra Pier and the cruise terminal. Steel reinforcing bars (rebar) and asphalt were also recycled.

- Used biodegradable synthetic oil in equipment during work to upgrade Alexandra Pier to prevent water contamination in the St. Lawrence River in the event of a spill.

- Reduced electricity consumption by 1.33% compared with 2015.

- Used composite railway ties, a recycled material, at the new Viau Terminal.

- Achieved energy savings during renovations to the Cité-du-Havre head office building by choosing LED bulbs and neon lighting instead of incandescent bulbs, replacing windows with better-performing materials and insulating exterior walls.
• Recycled/reclaimed, as part of our program to maximize materials recycling:
  - 950 kilograms of alkaline batteries
  - 460 kilograms of lead-acid batteries
  - 280 kilograms of ballasts without PBCs
  - 60 kilograms of ballasts containing PBCs
  - 235 litres of waste paint
  - 410 litres of paint thinners
  - 99 kilograms of aerosols
  - 11,000 litres of waste oil
  - 6,250 kilograms of oil filters, soiled absorbent material, soiled rags, waste air filters
  - 7,831 litres of oily water
  - 59,751 kilograms of metal
  - 820 litres of fire extinguisher residues (foam)
  - 540 kilograms of fluorescent tubes
  - 1,090 kilograms of sump residues
  - 5,386 litres of glycol
  - 14.6 tonnes of paper
  - 8.4 tonnes of cardboard

• As part of our disposal of goods policy, we gave more than 100 items (furniture and other office equipment, vehicles, communication devices, etc.) to community organizations in 2016.
OFFER A MOBILIZING AND SAFE WORKING ENVIRONMENT

OBJECTIVE
To be a responsible port by placing a great deal of importance on the health and safety of employees. To maintain a harmonious work environment by encouraging employee development, involvement and engagement.

MAIN ACHIEVEMENTS IN 2016

- Conducted a Mobilization and Engagement Study with MPA employees. The results show that the vast majority of employees are committed to the organization. Following the results of the study, the MPA has established an action plan to maintain and increase employee engagement in which it has organized numerous events including quarterly coffee-talks with executives to share information, workshops on customer service, and seminars. It has also launched an internal communications plan to keep employees better informed.

- Launched a new “Bravo!” appreciation program to recognize employees for their efforts on behalf of the MPA. Peers nominate their fellow employees.

- Launched a new Intranet site that is designed to accelerate access to information and be more user friendly. We also began to implement an integrated document management system that will better manage documents and facilitate information sharing and collaboration among employees.

- Modernization of MPA facilities at the Cité-du-Havre headquarters has created a new organization of workspaces that promote collaboration among employees.

- Ongoing application of the risk prevention program. In 2016, the total number of days lost due to work accidents totalled 319, down 48% from the previous year. Also in 2016, 17 accident and/or property damage investigations were carried out, compared with 23 in 2015.
FORGE LONG-TERM HARMONIOUS RELATIONSHIPS WITH OUR STAKEHOLDERS

OBJECTIVE
To be a respectful, attentive port by properly informing the public and neighbouring communities about our activities or projects and by taking concrete action to minimize the impact of our operations.

MAIN ACHIEVEMENTS IN 2016

• Increased the number of subscribers on all MPA social media platforms combined — Twitter, Facebook, LinkedIn, Instagram and YouTube — to more than 20,000, up from 9,000 the previous year, following the consolidation of our presence on social media.

• Welcomed some 2,700 neighbours during the annual Port in the City Day on September 10. Participants enjoyed an hour-long cruise aboard AML’s *Cavalier Maxim* where they were able to discover the port and its activities. MPA executives gave the guided tours, explaining how port facilities operate and the impact of port operations on the economy.

• The Good Neighbour Committee, formed at the end of 2014 and comprising 17 members representing citizens and various organizations active near the port or on port territory, held two meetings in 2016 at which the MPA discussed its current projects, answered questions and collected comments.

• Continuation of regular communications with neighbours, most notably by means of our *Logbook* e-magazine (three issues in 2016), direct mail, and emails to lists of members of who sign up to be Neighbours of the Port. There are now some 1,700 people on the Neighbours of the Port subscriber mailing list, up by more than 1,000 people from the previous year.

• Continuation of regular communications with stakeholders in the Alexandra Pier and cruise terminal restoration project, the Viau container terminal development project and the Contrecoeur Port Terminal Expansion Project. Most notably, the MPA held numerous meetings with Contrecoeur stakeholders and sent communications to Alexandra Pier stakeholders. It sent direct mail to 10,250 neighbours about the Viau Terminal project and another 6,000 neighbours regarding the Alexandra Pier project.
• Implemented mitigation measures to limit the impact of the restoration of Alexandra Pier with regard to dust, traffic, noise, etc. Notably, a ship served as a visual and sound barrier. Hoarding or temporary board fence was installed to close off the site and, at the same time, explain the project in words and images to passersby. We carefully managed nighttime lighting to reduce undesirable effects on the surrounding neighbourhoods. Worksite access was controlled in order to reduce the impact on Old Port and City of Montreal summertime activities. Demolition work was carried out during the winter in order to minimize the impact on the neighbouring district. Trucking of material to and from the worksite was done outside of rush hours.

• Ongoing support of organizations and events that contribute to the vitality of neighbourhoods that are adjacent to port facilities. The MPA’s Community Investment Policy supports socioeconomic development, education related to marine-industry careers, and the environment. The MPA supported Vélopuosse pedicabs, ÉcoMaris, the Samajam school retention program, the seasonal Village au Pied-du-Courant, heritage cruises offered as part of the Vague estivale 2016, family festivals in Mercier-Est and Hochelaga-Maisonneuve, the Défi kayak Desgagnés challenge benefiting Young Musicians of the World, the Maison des Enfants de l’Île de Montréal, L’Antre-Jeunes de Mercier-Est, as well as the Colonie des grèves and the Centre d’action bénévole de Contrecoeur in Contrecoeur.

• Welcomed stakeholders, political decision-makers and associations to the port, and participated in numerous conferences that allowed us to present the Port of Montreal externally. All told, the MPA presented the port and its activities to some 9,000 people in 2016.

• Involvement in numerous business, transportation or logistics associations, notably within CargoM, the Logistics and Transportation Metropolitan Cluster of Montreal.

• Welcomed interns from numerous fields of expertise in various MPA teams.
The MPA is extremely proud to be able to count on numerous port partners who also demonstrate through their actions genuine concern with regards to operating in a spirit of sustainable development. Their achievements in 2016 contribute greatly to the positive results that we are presenting in this report.

**CanEst Transit**
- Obtained CIPRS and HACCP (Canadian Identity Preserved System and Hazard Analysis and Critical Control Point) certification from the Canadian Grain Commission. These certifications will allow CanEst to distinguish itself with regard to the total segregation service it offers for the products it handles.

**Logistec**
- Paved Tarte Pier by using roller-compacted concrete (RCC) to seal the surface as well as prevent bulk materials from seeping into the soil. Two hydrodynamic separators (stormceptors) were installed at the pier to capture suspended particles in the water network before release into the river.
- Installed electric recharging stations at Contrecoeur, which prompted three employees to acquire electric cars. Also at Contrecoeur, two new dust collectors were installed and the fuel and oil tanks systems were improved to exceed new requirements.
Maritime Employers Association
• In 2016, the MEA training centre provided more than 720 hours of training to its longshore employees on its heavy machinery simulator. The use of this proven technology allows the association to reduce its environmental footprint by considerably reducing fuel consumption. In its warehouse where various practical training is given, the MEA provided another 540 hours of training on its electric forklift truck.

Montreal East Terminal (Suncor)
• Developed new and more secure asphalt unloading ramps at Section 95-97.
• Began operating seamless magnetic drive pumps to prevent the possibility of leaks.

Montreal Gateway Terminals Partnership (MGTP)
• Proceeded with the electrification of two RTGs (rubber-tired gantry cranes) at Cast Terminal. Expected environmental benefits include the reduction of an estimated 475 tonnes of GHGs annually, improved air quality and less noise. MGTP is the first terminal in Canada to use this technology. The Quebec Ministry of Transport, Sustainable Mobility and Transport Electrification, provided a subsidy of $766,000 toward the project.
• Launched a pilot project to implement new Effenco “Active Stop-Start” technology on its shunters (yard trucks). The Quebec Ministry of Transport, Sustainable Mobility and Transport Electrification, provided a subsidy of $69,600 toward the project.

Norcan
• Replaced, as a precautionary measure to prevent hydrocarbon leaks, two pipeline sections under the railway tracks at Section 71. The work was complex due to the amount of rail traffic in this sector and was successfully completed thanks to careful planning and co-ordination among numerous players.

Suncor (Berths 109-110)
• Improved lighting to make its terminal more secure while taking into consideration the well-being of its neighbours.
• Initiated sound mapping of its port activities.
Teront
• Opted for and installed two electric post-Panamax dockside gantry cranes instead of diesel-powered cranes at Viau Terminal in order to limit GHG emissions. These highly efficient cranes decrease the amount of time that a ship needs to be at berth and also contribute to reducing GHG emissions.
• Received a subsidy from the Quebec Ministry of Transport, Sustainable Mobility and Transport Electrification, to begin installing in 2017 Effenco “Active Stop-Start” technology on five pieces of yard equipment.

Valero
• Added, as a precautionary measure, two new protection devices to its petroleum equipment at Sections 105-106. These devices protect the installations from water hammer in case of an immediate loading interruption. In such an event, the discharge lines on these devices safely redirect hydrocarbons to a large emergency reservoir that can handle the liquid and divert its course to avoid overpressure of the system and a potential spill. This is an additional measure to increase operational safety. The vapour emitted during the filling of the emergency reservoir is directed to an activated carbon filter that reduces the amount of contaminants in air emissions.

Viterra
• Continued its investment program at its grain terminal. It invested $5 million to improve its dust management equipment and forecasts investments of an additional $15 million in its facilities in 2017-2019.
CONCLUSION: 2016 WAS A GOOD YEAR FOR SUSTAINABLE DEVELOPMENT

There were more than 170 actions/achievements in sustainable development completed by the MPA in 2016. All three of the environmental, social and economic pillars were well represented. These actions/achievements clearly show the commitment of the MPA and its employees towards integrating sustainable development into projects as well as the daily operations of the Port of Montreal.

While 2016 was a transition year with respect to the previous five-year Sustainable Development Action Plan, most of the annual targets were reached while the actions that are underway and that are to come have been aligned in order to also meet the targets of the three-year plan to the end of 2018.

While expectations of internal and external stakeholders are clearly reflected in the MPA’s three-year Sustainable Development Action Plan for 2016-2018, objectives and targets will be progressively added to the plan, in particular those dealing with issues related to the prevention of leaks and spills, organizational probity, ethics and integrity, regulatory conformity and transportation security.