

# **GREENTECH 2016**

MAPPING THE FUTURE OF SUSTAINABLE SHIPPING

OFFICIAL PROGRAM

QUEBEC CITY MAY 30 - JUNE 1

# A RETURN TO HOME PORT AND EYE ON THE FUTURE

It is my great pleasure to welcome you to Quebec City for our 9th annual conference. Although this year's theme of "Mapping the Future of Sustainable Shipping" is oriented towards what lies ahead, GreenTech 2016 will also permit us to take a look at our voyage to date. Green Marine has significantly evolved since its inception in the St. Lawrence and Great Lakes region: the environmental program has a much wider geographical scope, more performance indicators, and has tripled its membership within nine years.

None of this would have been possible without the vision of great leaders within our industry. They understood the importance of their companies engaging in a process of continual improvement in terms of their environmental performance to maintain social licence.

We, therefore, look forward to paying tribute to Green Marine's initial co-chairs at GreenTech 2016, where the environmental program officially began. Clearly reflecting Green Marine's steady progress, our annual conference always sets an ambitious course and this year's edition promises to be stellar. More than 30 speakers have agreed to come and share their expertise to permit all of us to deepen our knowledge on a large number of environmental aspects touching the maritime industry.

Among this year's topics: social acceptability. A prominent place will be given to this inevitable aspect of any industrial development. We will also discuss the essential co-existence between ships and marine life, as well as the advantages of certain marine fuels, and the benefits of sustainable development.

As for the symposium's organization, we're sticking with a tried-and-true formula that has become familiar to many regular conference delegates and has proven successful in previous years. We'll hold plenary sessions on subjects deemed of interest and importance to all, followed by parallel sessions that will each be targeted to a more specific audience – namely, for ports and terminals, or for ship owners and operators.

Progress is often synonymous with technological advances. A lot of that innovation will be displayed and explained at our annual trade show. A total of 17 exhibitors will be present to showcase their products and services that have been developed specifically to help our maritime industry participants to reduce their environmental footprint.

At the time of my writing this message, GreenTech has already promised to be a great success and I would like to convey my thank you in advance to all of our sponsors that make this event possible every year.

Have a great conference!

David Bolduc

Green Marine

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**Executive Director** 

# SCHEDULE TUESDAY MAY 31

7:30	REGISTRATION & BREAKFAST [La Grande Place]		
8:40	WELCOMING ADDRESS [Palais Room] - RÉGIS LABEAUME, Mayor, Quebec City		
8:50	OPENING SESSION [Palais Room] - MARIO GIRARD, CEO, Québec Port Authority - LOUIS-MARIE BEAULIEU, President & CEO, Desgagnés - JEAN D'AMOUR, Quebec Minister of Maritime Affairs		
10:00	COFFEE BREAK & EXHIBITION VISIT [La Grande Place]	ÊRES	
10:30	<ul> <li>THE FINANCIAL BENEFITS OF BEING ENERGY EFFICIENT [St-Louis Room]</li> <li>Sustainable vessel selection: a financial perspective <ul> <li>KRIS FUMBERGER, RightShip</li> </ul> </li> <li>Performance Engineering – Operational Analysis for Performance Improvements <ul> <li>NICHOLAS FRIEDEN, Carnival Cruise Line</li> </ul> </li> <li>Monitoring fuel consumption &amp; power to evaluate fuel additive efficiency on a tug vessel <ul> <li>CHARLES MASSICOTTE, OpDAQ and GUY HAMEL, Ocean</li> </ul> </li> </ul>	<ul> <li>DRY BULK HANDLING AND SOCIAL LICENCE TO OPERATE [Palais Room]</li> <li>Social acceptability: how to avoid public fog and storms? <ul> <li>JULIE BOUDREAU, Transfert Environment and Society</li> </ul> </li> <li>A contemporary approach to social responsibility <ul> <li>GASTON DÉRY, QSL</li> </ul> </li> <li>Overcoming the environmental challenges of bulk material handling operations <ul> <li>SARAH GARZA, Port of Corpus Christi</li> </ul> </li> </ul>	
12:00	LUNCH [Kent Room]		
1:15	Tribute to one of Green Marine's founding co-chairs LAURENCE G. PATHY, Fednav [Palais Room]		
1:30	<ul> <li>MAPPING THE FUTURE OF SUSTAINABLE SHIPPING [Palais Room]</li> <li>A plenary session featuring perspectives from different stakeholders: a shipping company, ports sector, environmental group, and classification society</li> <li>MODERATOR : ROBERT LEWIS-MANNING, Chamber of Shipping of British Columbia</li> <li>CHRISTINA WOLFE, Environmental Defense Fund</li> <li>FER VAN DE LAAR, World Ports Climate Initiative - International Association of Ports &amp; Harbors</li> <li>ANTHONY TEO, DNV-GL</li> <li>MARC GAGNON, Fednav Limited</li> <li>NICOLE LEGAULT, Transports Canada</li> </ul>		
3:15	COFFEE BREAK, EXHIBITION VISIT & SHUTTLE TO THE PORT OF QUÉBEC CRUISE [La Grande Place]		
4:00	PORT OF QUEBEC CRUISE TOUR Sponsored by Croisières AML		
5:30	CERTIFICATION DINNER [Port of Québec Cruise Terminal]		

# WEDNESDAY JUNE 1

7:30	BREAKFAST [La Grande Place]		
8:15	MORNING ADDRESS AND SIGNING OF A MEMORANDUM OF UNDERSTANDING BETWEEN GREEN MARINE AND RIGHTSHIP [Palais Room]		
8:30	<ul> <li>MARINE FUELS OF THE FUTURE [Palais Room]</li> <li>Marine fuels from forest biomass <ul> <li>AUREM LANGEVIN, Maritime Innovation</li> </ul> </li> <li>Ship Fuel Alternatives in the Canadian Eastern Arctic <ul> <li>ANDREW DUMBRILLE, WWF-Canada</li> </ul> </li> <li>ROPAX Ferry Business Case Returns &amp; Environmental Benefits <ul> <li>JOHN HATLEY, Wärtsilä North America</li> </ul> </li> </ul>	<ul> <li>ENVIRONMENTAL INITIATIVES AT LARGE PORTS [St-Louis Room]</li> <li>Port of Montreal Truck-related Greenhouse Gas Reduction Initiative         <ul> <li>DANIEL OLIVIER, Port of Montreal</li> </ul> </li> <li>Trash Free Waters Project: A Collaborative Stakeholder Approach to Waste and Litter Management         <ul> <li>AMELIA PELLEGRIN, Port of New Orleans</li> </ul> </li> <li>Port Canaveral : from rockets to water quality         <ul> <li>ROBERT MUSSER, Canaveral Port Authority</li> </ul> </li> </ul>	
10:00	COFFEE BREAK & EXHIBITION VISIT [La Grande Place]	FRASER SURREY OCKS n stevedoring	
10:30	<ul> <li>COHABITATION BETWEEN SHIPS AND MARINE LIFE [Palais Room]</li> <li>For a better cohabitation between ships and whales <ul> <li>VÉRONIQUE NOLET, ROMM and DANIEL CÔTÉ, Desgagnés</li> </ul> </li> <li>Reduced risk of whale-ship collisions in the St. Lawrence Estuary: <ul> <li>a collaboration between marine transportation, marine conservation</li> <li>and scientific research sectors</li> <li>GUY CANTIN, Fisheries and Oceans Canada</li> </ul> </li> <li>First description of the fish community inhabiting the fluvial St. Lawrence navigational channel <ul> <li>VÉRONIK DE LA CHENELIÈRE, Ministry of forests, wildlife and provincial parks of Quebec</li> </ul> </li> <li>Understanding and Mitigating Vessel Noise through BC's Underwater Listening Station <ul> <li>KRISTA TROUNCE, Vancouver Fraser Port Authority</li> </ul> </li> </ul>	<ul> <li>REDUCING THE ENVIRONMENTAL IMPACT OF PORT OPERATIONS [St-Louis Room]</li> <li>Sustainability Programming – opportunities at U.S. ports <ul> <li>HEATHER WOOD, Kennedy/Jenks Consultants</li> </ul> </li> <li>The CIP: promoting hemispheric collaboration on environmental protection <ul> <li>JORGE DURÁN, Inter-American Committee on Ports (CIP), Organization of American States</li> </ul> </li> <li>Reducing the environmental impact of Port operations – viewed from a risk management perspective <ul> <li>FRANÇOIS MORIN, AON Risk Solutions</li> </ul> </li> </ul>	
12:00	LUNCH [Kent Room]		
1:15	<ul> <li>ENVIRONMENTAL RISKS OF SHIPPING: FACTS AND COMMUNICATION [Palais Room]</li> <li>Presentations to be followed by a panel discussion.</li> <li>MODERATOR: JOHANNE GÉLINAS, Raymond Chabot Grant Thornton</li> <li>Characterization of Risk of Marine Shipping in Canadian Waters <ul> <li>RICHARD WIEFELSPUETT, Clear Seas Centre for Responsible Marine Shipping</li> </ul> </li> <li>Oil transportation on the St. Lawrence River: a positive communication experience <ul> <li>MARTIN LÉVESQUE, Valero Energy; SERGE LE GUELLEC, Transport Désgagnés</li> </ul> </li> <li>Maritime Information Bureau: better knowledge, better discussions <ul> <li>ARIANE CHARETTE, St. Lawrence Economic Development Council (SODES)</li> </ul> </li> </ul>		
3:00	CLOSING REMARKS [Palais Room]		
3:15	GRAB & GO SNACKS [La Grande Place]		

# THE PRESENTATIONS

# MAY 31

#### 8:40

#### WELCOMING ADDRESS

#### [Palais Room]

 RÉGIS LABEAUME Mayor, Quebec City

#### 8:50 - 10:00

#### OPENING SESSION: SUSTAINABILITY FROM THE TOP DOWN

#### [Salle Palais]

- MARIO GIRARD CEO, Québec Port Authority
- LOUIS-MARIE BEAULIEU President and CEO, Desgagnés Inc.
- JEAN D'AMOUR Quebec Minister of Maritime Affairs

#### 10:30 – 12:00

#### THE FINANCIAL BENEFITS OF BEING GREEN

#### [St-Louis Room]

 Sustainable vessel selection: a financial perspective KRIS FUMBERGER, RightShip

New research by the University of Manchester's Tyndall Centre for Climate Change Research shows that aggregate fuel savings of 5.2% to 8.6% can be achieved if a more efficient vessel is selected.

RightShip's Greenhouse Gas (GHG) Emissions Rating utilizes an A-G metric, with A representing the more efficient vessels. This research assessed the quantitative impact of 'no F and G' policies on the vessel selection data from five charterers that used RightShip's GHG Rating over a 12-month period. With fuel savings translating to GHG emission reductions and financial savings, more charterers are utilizing the GHG Rating as part of their vessel selection process.

With the current vessel oversupply resulting in reduced chartering rates, and a vessel's efficiency factored into the selection process for 20% of global shipped tonnage, ship owners can ill-afford to have their vessels overlooked for efficiency reasons.

 Performance engineering – operational analysis for performance improvements NICHOLAS FRIEDEN, Carnival Cruise Line

Efficiency is an important topic in today's marine industry, with a lot of attention being paid to improvement. Cruise ships in particular, as diverse and multifaceted marine platforms, have not only the traditional efficiency prospects of large oceangoing vessels, but also opportunities unique to their substantial number of passengers, guest services and crew. Carnival Cruise Line strives to continually improve efficiency through our Performance Engineering Program, while providing a fun and memorable cruise vacation!

#### Monitoring fuel consumption & power to evaluate fuel additive efficiency on a tug vessel CHARLES MASSICOTTE, OpDAQ Systems & GUY HAMEL, Ocean

Achieving efficiency through environmental awareness in the harbour towing sector involves innovative strategies, such as efficient transit speed, fleet renewal, good maintenance practices, and fuel combustion improvement. In 2012, Ocean decided to implement fuel additives to reduce the fuel consumption and maintenance costs of its vessels. Ocean tested four additives to assess whether their use led to a reduction in fuel consumption. Results indicated that one additive showed up to 5% fuel efficiency improvement. OpDAQ Systems will detail the process of developing adequate fuel consumption measurement protocols at sea to compensate for environmental variables and improve measurement precision over a range of engine loads.







## DRY BULK HANDLING AND SOCIAL LICENCE TO OPERATE

#### [Palais Room]

 Social acceptability: how to avoid public fog and storms

## JULIE BOUDREAU, Transfert Environment & Society

Social acceptability: how to avoid public fog and storms? Development projects and port operations have own their peculiarities, and every community has its own experiences and ways of interacting with the representatives of the local port authority. Some industrial and infrastructure projects, including expansions, are readily welcomed. Why is it then that other projects encounter difficulties when it comes to social acceptability? Why are port activities sometimes deemed to be a conflict of use? What avenues should be considered to facilitate a harmonious co-existence with area residents? Why don't traditional approaches in public relations work? What factors promote social acceptability? Concrete examples will be given to illustrate some of the pitfalls often encountered and to explain how a developer can navigate through fog or even a storm for a while before reaching a calmer atmosphere. The session aims to provide answers to key questions and propose strategic avenues to promote the social acceptability of port operations and development. The presentation will shed light on the mechanisms that exist within community relations to establish genuine dialogue among all relevant stakeholders.

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#### A contemporary approach to social responsibility GASTON DÉRY, QSL

QSL initiated a metamorphosis in its health, safety, security and environment (HSSE) approach a few years ago that is now at the heart of its operations. A social responsibility charter encompassing a sustainable development policy and the principles of social acceptability now binds QSL's social, economic and environmental commitments and operations.

What governance principles have been applied? How is the HSSE framework managed? What are the milestones? How is employee adherence promoted? What are the relationships that have been developed with various stakeholders? What are the customer perceptions? What have been the overall results?

QSL has established a vision that reflects its responsible corporate citizenry and can meet the challenges that lie ahead for the shipping industry. It also facilitates QSL playing an active role in the implementation of the Quebec Maritime Strategy.

#### Overcoming the environmental challenges of bulk material handling operations SARAH GARZA, Port of Corpus Christi

The Port of Corpus Christi operates a bulk terminal and this presentation will provide an outline of the environmental and operational challenges that the facility faces, including how PCCA worked collaboratively with its tenants to resolve these challenges, as well as the efforts PCCA made to earn back the confidence of its community and regulatory agencies. As a result of years of hard work, PCCA was recognized in November 2015 with an Environmental Stewardship award from a local environmental group.

#### 1:30 – 3:15

#### PLENARY SESSION: MAPPING THE FUTURE OF SUSTAINABLE SHIPPING [Palais Room]

Panelists will discuss their views and respond to questions on future advancements and challenges in sustainability for the marine transportation industry. How will technology increase efficiency? Can regulatory bodies and voluntary programs both boost progress? Given near-term economic influences and uncertainties, what do you predict?

#### MODERATOR : ROBERT LEWIS-MANNING, Chamber of Shipping of British Columbia

- CHRISTINA WOLFE
   Environmental Defense Fund
- FER VAN DE LAAR World Ports Climate Initiative International Association of Ports & Harbors
- ANTHONY TEO DNV-GL
- MARC GAGNON
   Fednav Limited
- NICOLE LEGAULT Transports Canada



#### GREENTECH 2016 | ENVIRONMENTAL CONFERENCE | May 30 - June 1, 2016 - QUEBEC CITY

# THE PRESENTATIONS JUNE 1

#### 8:30 – 10:00

#### MARINE FUELS OF THE FUTURE [Palais Room]

#### Marine fuels from forest biomass AUREM LANGEVIN, Maritime Innovation

The International Maritime Organization (IMO) has implemented regulations to reduce greenhouse gas emissions caused by maritime transport. The use of biofuels as an alternative to fossil fuels is one of the strategies to reduce the environmental impact of shipping. Among the different forest biomass conversion technologies, pyrolysis (decomposition using high temperatures) is one of the most promising methods for its energy recovery. This process extracts a type of oil (called bio-oil) that can serve as a partial or total fossil fuel substitute in diesel engines. In terms of technology, rapid pyrolysis has reached a level of maturity that permits considering its potential application on a semi-industrial and industrial scale. The research project conducted by Maritime Innovation and SEREX, in partnership with Groupe Océan, was done with the goal of developing a fuel consisting of diesel and biofuels derived from forest biomass that would satisfy the performance requirements of marine diesel engines. The presentation will report on the research project's main findings. It will highlight the results of the analyses and discuss the real potential of this fuel for ships.

# Ship fuel alternatives in the Canadian Eastern Arctic ANDREW DUMBRILLE, WWF-Canada

Most deep-sea shipping has traditionally operated on heavy fuel oil (HFO). HFO is a residual of the crude oil refining process. It contains numerous contaminants that can be introduced into the atmosphere when it is burned, and carry significant risks in the event of major accidental spills. These impacts and risks are especially present in the Arctic, where particulate emissions are a factor in exacerbating regional climatic changes, and where the cold waters and harsh conditions make any cleanup of spills particularly difficult. Alternative fuels, including distillates such as diesel and Liquefied Natural Gas (LNG), are hardly problem-free: they both produce greenhouse gas emissions from non-renewable resources and carry significant impacts during production, but the environmental impacts are comparatively lower, although the costs are also higher. WWF-Canada has commissioned a report looking into these fuel choices with the intention of stimulating discussion and dialogue about the trade-offs between the various costs of using these fuels to deliver social and economic benefits and, on the other hand, the environmental risks and impacts associated with these options. The presentation will focus on the report's findings and it is hoped lead to a discussion with operators and regulators on the need to transition away from HFO in the Arctic to cleaner alternatives.

#### ROPAX ferry business case returns & environmental benefits

#### JOHN HATLEY, Wärtsilä North America

This PowerPoint presentation reviews current energy highlights of North America's Shale Oil and Gas Nexus, and provides insights on traditional fuel risk comparisons going forward. A brief review of vessel Tier 3 compliance solution fundamentals for SOx scrubbers and NOx reducer technologies will be covered. These are then developed by an illustrative business case involving a Canadian RoPax Ferry and considering three competing fuel scenarios: heavy fuel oil, diesel, and LNG, compared on investment returns plus environmental benefits. The drivers and global players of the ongoing oil price shock are next described and the business case undergoes a stress test to determine the robustness or fragility of each scenario. A conclusion provides a fast-paced review of recent market signals to highlight what the future decade holds.

#### ENVIRONMENTAL INITIATIVES AT LARGE PORTS

[St-Louis Room]

Port of Montreal truck-related greenhouse gas reduction initiative

DANIEL OLIVIER, Montreal Port Authority

The objective is to reduce greenhouse gas emissions through route optimization methods. The Montreal Port Authority aims to achieve this by combining RFID (radio frequency identification), plate readers and Bluetooth technologies to monitor all truck transaction within port territory. This will facilitate the measuring of total truck processing times from entry to exit and relay wait times to truck drivers and dispatchers in real time. Trucker behaviour based on real-time traffic information should contribute to improved routing optimization, as well as to reduce truck idling and smooth out hourly peaks.



#### Trash free waters project: a collaborative stakeholder approach to waste and litter management AMELIA PELLECRIN, Part of New Orlean

AMELIA PELLEGRIN, Port of New Orleans

In collaboration with the U.S. EPA, port tenants and community stakeholders, Port NOLA is working to address the universal issue of trash, litter and debris and to prevent it from reaching waterways. This presentation will discuss the value of the stakeholder process in identifying solutions to aquatic debris, the lessons learned from the process, and the achieved outcomes. Results include not only reduced waste and debris in waterways, but also enhanced participation from terminal operators in environmental programs, and community credibility.

# Port Canaveral – From rockets to water quality ROBERT MUSSER, Canaveral Port Authority

Robert Musser is the Environmental Director at the Canaveral Port Authority, which is located in the space and military hub of Brevard County, Florida, adjacent to Cape Canaveral. Port Canaveral has a rich history with ties to NASA and the Kennedy Space Center since the inception of the U.S. space program. The second busiest cruise port in the world co-exists with the U.S. Navy and Air Force stations in a region boasting wildlife refuges, a national seashore, and one of the most biologically diverse estuarine lagoon systems in the United States. The expanding cargo port has positioned itself as an environmental leader among Florida's large deepwater seaports through innovative projects and programs, including the construction of regional stormwater treatment systems, inlet management and sand bypassing, a long-term water quality monitoring program, and sea turtle, manatee and whale protection and education programs. Whether you are ready for one small step or a giant leap, this informative and interactive presentation will help you land some unique and innovative ideas for your environmental programs.

#### 10:30 – 12:00

#### COHABITATION BETWEEN SHIPS AND MARINE LIFE [Palais Room]

For a better cohabitation between ships and whales VÉRONIQUE NOLET, ROMM & DANIEL CÔTÉ, Transport Desgagnés

Whales inhabiting the oceans move freely, regardless of borders. As a result, the risk of encounters between ships and whales may be relatively high in some strategic areas where concentrations of whales are higher because of abundant food resources or a migration corridor. To help the scientific community to better understand the frequency of marine mammals in some more remote or less frequented areas, Transport Desgagnés became involved in 2015 with the Marine Mammals Observation Network in a project that involves collecting data on whales encountered by its 18 vessels sailing in salt water. What lessons can we draw from this collaboration? What was the success of this exercise according to the navigating personnel? How did we go about capturing the interests of the officers? How can we improve this type of project to make it even more relevant to the scientific community? The answers to all these questions, and more...

#### Reduced risk of whale-ship collisions in the St. Lawrence Estuary: a collaboration among marine transportation, marine conservation and scientific research sectors

GUY CANTIN, Fisheries and Oceans Canada

The St. Lawrence Estuary is known for the diversity of whales that reside or migrate there to feed. The simultaneous presence of whales and ships leads to a risk of collisions that could result in marine mammal injuries or fatalities. This situation has challenged the marine industry, and the departments and agencies involved in marine transportation and marine conservation, to develop solutions. Collision risk reduction measures were tested using a computational model. Collision risk is calculated taking into account historical whale distributions, the known relationship between ship speed and probability of whale fatality in the event of a collision, and ship position and speed. Simulations supported the decision to implement voluntary measures applicable to ships sailing in the St. Lawrence Estuary. Specifically, these measures recommend that ships slow down at the head of the Laurentian Channel in Saguenay-St. Lawrence Marine Park off the coast of Tadoussac. Quebec. The measures also indicate an area to be avoided downstream of Les Escoumins, Quebec. Compliance with these measures has significantly reduced the risk of collision between ships and whales in the region since 2013. The combined expertise in the fields of marine transportation, marine conservation and scientific research has helped to develop effective measures to protect whales while taking safety and economic concerns into account.



# THE PRESENTATIONS JUNE 1 (CONTINUED)

#### 10:30 - 12:00

#### COHABITATION BETWEEN SHIPS AND MARINE LIFE (continued)

[Palais Room]

 First description of the fish community inhabiting the fluvial St. Lawrence navigational channel
 VÉRONIK DE LA CHENELIÈRE, Ministry of forests, wildlife and provincial parks of Quebec

Maritime transportation is a pivotal element of the Ouebec economy. The St. Lawrence navigation channel, where dredging began as early as 1844, today concentrates half of the river's flow and has long been regarded as a deserted area. This perception is partly explained by the difficulty of safely sampling this part of the river. The Lampsillis research ship, acquired by the Université du Québec à Trois-Rivières, permitted the Ministry responsible for wildlife in Quebec to explore a lengthy portion of the navigation channel to better understand its use and relevance to fish in the St. Lawrence River. The results indicate that the navigation channel is habitat frequented by a community of diverse fish (27 species) and distinct from other habitat within the river. Lake sturgeon, walleye, sauger and catfish - species of interest for the sport and commercial fisheries - are particularly widespread. The navigation channel and natural trenches are used by a number of species during their juvenile stage. In addition, sturgeons more than 30 years old were found primarily in natural trenches. This pioneering inventory of fish within the navigation channel underscores the importance of ensuring the harmonious coexistence of aquatic wildlife with maritime traffic. The goal is the sustainable development of fisheries in the St. Lawrence as well as the conservation of wildlife biodiversity and habitats within the context of the marine industry's sustainable development.

#### Understanding and Mitigating Vessel Noise through BC's Underwater Listening Station KRISTA TROUNCE, Vancouver Fraser Port Authority

An exciting new underwater listening station has been deployed in BC's Strait of Georgia beneath the inbound shipping lane en route to the Port of Vancouver. The Enhancing Cetacean Habitat and Observation (ECHO) Program, an initiative led by the Vancouver Fraser Port Authority, has worked in collaboration with Transport Canada, Oceans Networks Canada, and JASCO Applied Sciences to deploy a station that will provide vessel-specific underwater sound signatures through an automated reporting system. Engagement and participation from the Pacific Pilotage Authority, BC Coast Pilots, BC Ferries and other regional ship operators are pivotal to the successful collection of data from the station.

Deployed in September 2015, the sophisticated hydrophone listening station is able to measure and report on the underwater sound signatures of passing vessels, pairing this data with AIS to create vessel-specific reports on radiated underwater noise. This data will help scientists better comprehend noise created by different types of vessels, and how this sound affects marine life. The reports generated from the listening station will also enable vessel owners/operators to understand the vessel sound signatures of their fleet, and how their vessels compare to others in the same class. This important information can be used by the Vancouver Fraser Port Authority to help inform potential mitigation measures and incentives for vessel noise reduction.

This presentation will describe the installation of the listening station, how the measurement of vessel source levels is conducted and analyzed, and compare the measurement system to those used by ship classification societies to certify 'quiet' vessels. Results on sound signatures for various vessel classes will be presented, linking this information to other study results on the contribution of different vessel classes to overall underwater noise in the Salish Sea. Information on vessel noise reduction technology, design and maintenance will also be presented, to assist stakeholders in understanding how they may work towards reducing their underwater noise impacts.

#### REDUCING THE ENVIRONMENTAL IMPACT OF PORT OPERATIONS [St-Louis Room]

Sustainability Programming – opportunities at U.S. ports

HEATHER WOOD, Kennedy/Jenks Consultants

U.S. ports have a rich history of leading by example in the area of environmental stewardship. As stewards of tomorrow, ports look not only to conform to the laws and regulations that govern their industry, but to reach beyond compliance to seize opportunities that build better communities, increase the safety of their facilities and improve operational processes. Armed with that strategy and a drive for continual improvement, ports are looking to take sustainability and environmental stewardship to new levels.Sustainability means more than reducing environmental impacts. It means putting innovative programs and processes in place that collaboratively advance our vision into the future, marked by excellence in operations, fiscal responsibility, and steady growth. This presentation will focus on scalable strategies and innovative thoughts on how to structure a sustainability program and begin to create a culture of sustainability and stewardship in your organization.

#### The CIP: promoting hemispheric collaboration on environmental protection

JORGE DURÁN, Inter-American Committee on Ports, Organization of American States

The Inter-American Committee on Ports (CIP) of the Organization of American States (OAS) brings together the national port authorities of all 35 sovereign nations of the Americas. It promotes the development of competitive, sustainable and secure ports in the Western Hemisphere by actively facilitating cooperation between the highest governmental levels and the private sector. To date, CIP has more than 40 private sector firms and institutions as associate members. Its mission to promote sustainable port management practices, competitiveness and logistics always maintains the protection of the marine environment as an important priority. CIP also deals with legislative and regulatory changes, corporate social responsibilities, security concerns, onshore tourism and passengerrelated services, as well as gender equality matters. This presentation will convey examples of renewable energy sources used in ports, including emission reduction, and energy efficiency in container terminals



#### Reducing the environmental impact of port operations – viewed from a risk management perspective

FRANÇOIS MORIN, AON Risk Solutions

In this presentation, we will review the main risk management principles of risk identification, risk quantification and risk treatment in a port and marine context.

We will go over the various methodologies to identify risk, including the corporate risk mapping tool and process. An overview of the various risk categories, risk types and potential risk scenarios will also be done.

As for the quantification process, we will discuss the importance of the risk evaluation matrix, and the choice of the appropriate impact criteria and probability scale. Finally, we will review the various risk treatment options which can be implemented, from risk avoidance and risk acceptance to risk control and risk transfer solutions, including insurance. We will conclude by discussing the importance of embedding a sound risk management culture with the organization.

# solutions, including insurance. We will conclude by d importance of embedding a sound risk management the organization.



#### 1:15 – 3:00

#### PLENARY SESSION: ENVIRONMENTAL RISKS OF SHIPPING: FACTS AND COMMUNICATION

#### [Palais Room]

MODERATOR : JOHANNE GÉLINAS, Raymond Chabot Grant Thornton

#### Characterization of risk of marine shipping in Canadian waters

# DR. RICHARD WIEFELSPUETT, Clear Seas Centre for Responsible Marine Shipping

Marine shipping plays a critical role in the Canadian economy by transporting Canadian natural resources and products to market and international goods to Canadians. In recent years, a number of assessments have been performed to quantify the risks of marine shipping in specific regions of Canada. Clear Seas identified a need for a consensus report that builds upon these existing assessments to catalogue and differentiate among the main classes of measurable risk, and to make this key information more accessible for policymakers, Aboriginal people, the public, and other decision-makers. The presentation summarizes the results of a study commissioned by Clear Seas and is designed to support the development of expert consensus around the risks associated with marine shipping in general, as well as the risks associated with transportation of a wide range of ship types and cargoes as they pertain to specific geographies. Regions of focus include coastal British Columbia, the Great Lakes and St. Lawrence Seaway, coastal Newfoundland and Labrador, and the Maritime provinces, with reference to risks specific to Canadian regions north of 60°.

#### Oil transportation on the St. Lawrence River: a positive communication experience MARTIN LÉVESQUE, Valero Energy & SERGE LE GUELLEC, Transport Désgagnés

The transport of petroleum products on the St. Lawrence River raises many questions by waterfront communities. With the reversal of Enbridge's 9B pipeline, Valero Energy and Transport Desgagnés have initiated discussions with the communities concerned by this activity in order to respond to their concerns and demystify the roles and responsibilities of each one.

# Maritime Information Bureau: better knowledge, better discussions

#### ARIANE CHARETTE, St. Lawrence Economic Development Council (SODES)

Despite being at the base of Quebec's development and carrying the majority of the goods that we use every day, the maritime sector goes unrecognized. Media coverage of the marine industry is often negative and helps to disseminate certain falsehoods. Spills, super tankers, maritime incidents... In recent years, the Quebec maritime industry has been under the spotlight at times for the wrong reasons. In June 2015, a one-stop Maritime Information Bureau (MIB) was launched by SODES in collaboration with other maritime associations - born from these observations about misinformation, and a desire to set the record straight. Its mission? Facilitate the dissemination of relevant and factual information to the media, elected officials and the public about the marine industry in an effective manner. Specifically, MIB promotes the expertise of maritime industry stakeholders and, above all, corrects false information and eliminates myths by responding to questions directed to MIB, and by addressing misinformation. MIB's mission can be summarized in three words: disseminate, educate, act!

# THE EXHIBITORS





#### **EXHIBITORS**

#### DESCRIPTION



T E R R A G O N Technologies de l'environnement inc Environmental Technologies Inc. Terragon Environmental Technologies researches, develops, and commercializes technologies to enable off-grid sustainability. For the maritime market, this means enabling the zero-waste discharge vessel: a vessel that uses all its garbage, sludge, and waste water streams to produce energy and clean water for reuse by the vessel. Terragon provides these advanced technologies with exceptional environmental performance and matching economic benefits. The Micro Auto Gasification System (MAGS) is a unique appliance that converts garbage and oily sludge into energy, all while creating its own fuel and very clean emissions. The Wastewater Electrochemical Treatment Technology (WETT) is an advanced system that uses electrochemistry to clean water without the need for chemicals, biological treatment, and costly filters. The System for Total Environmental Protection (STEP) is the combination of both MAGS and WETT onboard a vesse, I thus enabling it to truly become a zero-waste discharge habitat.

Envirolin Canada Instributeur de Lubrifants Ecorresponsables Ecorrendur Lubricant distributor

ENVIROLIN, importer and distributor of biodegradable synthetic lubricants of the globally recognized European brand PANOLIN<sup>®</sup>. The wide range of eco-friendly products offered by PANOLIN<sup>®</sup> meet the specific needs of customers in the heavy machinery industry, maritime, exploration and oil platforms, forestry, railway, agriculture and hydropower; one ocean to the other.

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Hug Engineering's core business is the development, manufacturing, engineering, sales, and servicing of exhaust gas purification systems. The company has been providing standard as well as custom-made solutions to its customers for more than 30 years. As an innovation leader Hug Engineering has become one of the world's leaders in the area of soot reduction with diesel particle filters and catalytic exhaust after treatment for IMO 3 compliance for any type of ship ranging from inland water vessels, ferries, and tugboats to ocean going vessels and cruise ships

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#### EXHIBITORS

#### DESCRIPTION



Wajax is Canada's leading distributor and service provider of mobile equipment, industrial components and power systems. Our Power Systems division is one of the largest distributors of heavy-duty engines, transmissions and power generation systems. We provide generator sets, turn-key propulsion packages and customized power solutions needed to ensure reliable operations for our marine customers.



OpDAQ Systems specializes in ship-board performance monitoring systems and sea-trial monitoring services, helping ship operators to reduce fuel consumption by providing key performance indicators such as real-time fuel consumption, specific fuel consumption, fuel per nautical mile and engine power. Using state-of-the-art sensors OpDAQ assists its customers to get accurate performance.



Climate Smart Businesses Inc. is a Vancouver-based social enterprise that offers a comprehensive training program, certification and tools for enterprises to measure and profitably reduce their greenhouse gas (GHG) emissions. In partnership with transportation hubs (e.g., ports, airports), financial institutions and local governments, Climate Smart builds capacity within businesses by training up key staff to develop strategies to cut GHG emissions and associated energy, fuel and waste costs. The Climate Smart curriculum, advising support and top-rated software tool are based on the World Resource Institute's Greenhouse Gas Protocol Corporate Standard (GHGP), which is the internationally recognized accounting standard for greenhouse gas inventories. Climate Smart has also built out extensive datasets, case studies and analysis for community and corporate emission modelling – utilized by both partners and businesses to benchmark their progress amongst emission and cost-saving goals.



Industrial filtration specialists, Filtramax represents major manufacturers of filtration solutions in hydraulic and lube, process liquids and water, dust collection and compressed air. The company is the Canadian master distributor of MAHLE Industrial Filtration, manufacturer of customized, highly efficient filtration and separation systems for a wide variety of marine applications.



Cavotec is a global engineering group that enables industries worldwide to improve productivity, safety and sustainability. Their innovative shore-to-ship electrical power systems, automated mooring technology, MoorMaster™, and E-RTG systems (Electric Rubber Tire Gantry Crane) ensure safe, clean and efficient operations at ports all over the world.



Brüel and Kjaer is one of the world's largest environmental monitoring organizations. For decades, Brüel & Kjaer has supported various industries and organizations in growing their operations while responsibly managing their environmental impact. The company specializes in providing long-term, short-term, and portable monitoring of any application requiring unattended noise, vibration, or air quality measurement. Our organization provides a complete suite of hardware and software products, coupled with a range of superior managed services tailored to meet the client's operational needs and government compliance requirements. Brüel and Kjaer systems have been implemented at over 200 of the world's busiest airports, large-scale construction projects, major mining operations, and event venues globally.



For nearly 100 years, the National Research Council of Canada (NRC) has built a reputation as a results-focused R&D performer, capable of adapting to meet the most critical challenges. At the Ocean, Coastal, and River Engineering (OCRE) portfolio, we address engineering challenges in rivers, lakes and ocean environments. We work with industry to protect people, property, and infrastructure from severe weather events and other environmental risks. As commercial interest push farther north, we are uniquely positioned with world-leading expertise and cutting-edge technology advancement to be the authority on safely and sustainably adapting to new boundaries in harsh environments. We are transitioning industry-driven challenges into viable commercial solutions by adapting to the needs of your project. At NRC, we encourage a collaborative approach to our work, place value on input from industry stakeholders, and offer a scope of engineering expertise and suite of facilities you will not find anywhere else in the world.

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#### **EXHIBITORS**

#### DESCRIPTION



JASCO Applied Sciences provides consulting services and instrumentation for assessing and mitigating underwater noise. Since its origin in 1981, JASCO has been developing and implementing acoustic technologies ranging from advanced acoustic recorder design to complex acoustic modelling algorithms to comprehensive field monitoring and data analysis. JASCO provides services for all stages of environmental reviews and assessments of underwater noise. They work with the oil and gas, marine construction, energy, shipping, fisheries, and defence sectors providing: autonomous and real-time passive acoustic monitoring, Sound Source Verifications (SSVs) and Characterizations (SSCs), acoustic signal processing, interpretation, and reporting, and environmental impact assessment of underwater sound, to name a few.



Urgence Marine Inc. was founded in 1979 and has since played, an increasing role at the Port of Montreal and the St Lawrence River. The company, which has been granted operating permits by federal and provincial governments, has primarily focused its activities on mooring and unmooring services, hold cleaning, de-icing, spill clean-up, and waste removal and transport. The company has very specialized equipment, as well as trained personnel to meet and exceed the many government norms and standards, so as to be able to service clientele with the highest degree of efficiency.



For more than 25 years, SINTO has been designing, manufacturing and distributing high-quality lubricant products to maximize the performance, protection and durability of mechanical equipment and vehicles. SINTO's mission is to make its customers' equipment more efficient. The company's range of lubricants, greases, bearings, motor and recreational vehicle oils, degreasers, cleaners and anti-rust products all work to improve the environment performance of its clients. SINTO's marine division offers products and services tailored specifically to the requirements of marine equipment and include: the Cetane Booster energy efficiency program, gear lubrication program, technical services ,support, and relevant training.



Nimonik provides the most advanced solution for organizations that wish to take control of their auditing and EHS compliance processes. The majority of organizations, even those that are ISO 14001 and OHSAS 18001 certified, tend to under-perform in this area; pulling resources away from other tasks, which are more central to the business. Why? Because legislation and standards are complex, vast and ever-changing. Nimonik's mobile apps are currently being used in the mining, manufacturing, printing, and shipping industry. The services are used by internal and external auditors and managers to ensure health, safety, environment and quality compliance is met on a daily basis. Nimonik services can help companies to meet Green Marine requirements by providing the tools to determine regulatory compliance.



Wärtsilä is a global leader in complete lifecycle power solutions for the marine and energy markets. Wärtsilä supports its customers throughout the lifecycle of their installations by providing Engine Services, Reconditioning Services, Propulsion Services, Operation & Management, Automation Services, Ship Services and Training Services. Through innovative products and services, Wärtsilä sets out to be the most valued business partner of all its customers.



InnovMarine Inc. supplies innovative solutions for ship design, construction and operation with a mission to improve productivity and ecoefficiency of the maritime industry. InnovMarine is the Canadian representative for NAPA. ClassNK-NAPA GREEN offers ship owners, charterers and operators a comprehensive solution to reduce fuel costs and emissions. It is a total solution for planning, monitoring and follow-up of ship operations. It helps its users to realize operational savings through accurate voyage planning based on static, dynamic and adaptive trim optimization, voyage planning, weather routing, speed profile optimization and performance analysis – while never compromising safety.



Ducks Unlimited Canada (DUC) is the leader in wetland conservation. A registered charity, it partners with government, industry, non-profit organizations and landowners to conserve wetlands that are critical to waterfowl, wildlife and the environment.

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# SPECIAL EVENTS AND NETWORKING OPPORTUNITIES





#### THE PORT OF QUÉBEC, RIVERVIEW

- Cruise
- Departure from the Hilton Québec (shuttles) from 3:15 p.m.
- Boarding 3:45 p.m. Chouinard Pier
- Returning to Chouinard Pier 5:30 p.m.

Green Marine and Croisières AML have partnered to offer GreenTech 2016 attendees a short cruise on the St. Lawrence River. The excursion aboard the Louis-Jolliet will include a guided tour of the Port of Québec facilities.

The Louis-Jolliet will return to Chouinard Pier, which is near the Cruise Ship Terminal where the Certification Dinner will take place. Green Marine gratefully thanks Croisières AML for this sponsorship that will give GreenTech 2016 attendees the best possible view of beautiful Quebec City. That's to say from the waters of majestic St. Lawrence River!

#### Please do not forget your boarding pass, which you'll find in your conference kit. The pass is essential to board the vessel.



#### A TRIBUTE TO VISIONARIES

Green Marine was officially launched in Quebec City on October 23, 2007. The conference's return to la Vieille Capitale provides a great opportunity to look back at the origins of an initiative that now extends far beyond the St. Lawrence and Great Lakes.

The environmental program is the result of a consensus among several key players: both maritime associations and shipping companies realized that the industry's sustainability depended on its protection of the environment and having social acceptability.

Green Marine's founding participants took a leap of faith by entering a program that committed them to go beyond regulatory requirements in their environmental performance, verify and publish their results, and continually improve.

The initial Green Marine co-chairs, Laurence Pathy (Fednav), Gerry Carter (Canada Steamship Lines) and Collister "Terry" Johnson Jr. (the St. Lawrence Seaway Development Corporation), assumed a leadership role in encouraging their peers to support this voluntary and transparent initiative. Thus Green Marine has arranged this year's Certification Dinner to pay homage to them.

- Certification Dinner
- Ross-Gaudreault Cruise Ship Terminal, Port of Québec
- May 31 5:30 p.m.

# THE SPEAKERS



#### LOUIS-MARIE BEAULIEU, Groupe Desgagnés

Louis-Marie Beaulieu, a Fellow of the Chartered Professional Accountants. is the majority owner (94%) and Chairman of the Board and Chief Executive Officer of Groupe Desgagnés Inc., a company that manages several wholly owned subsidiaries related to various aspects of maritime transportation and heavy machinery operations. A native of Saint-Honoréde-Témiscouata, he completed his academic studies in accounting at the Université du Quebec à Rimouski and began his career as an auditor with Mallette, Benoit, Boulanger, Rondeau & Associés in Quebec City. In 1981, he became the comptroller at Groupe Desgagnés, where he was then appointed Chief Financial Officer from 1983 to 1987. At only 33 years of age, Mr. Beaulieu proceeded to acquire 80% of the company's shares. He is or has been a member of several associations and boards of directors and has won various awards throughout his career. He received the Joseph-Hode-Keyser award in 2001, the Award of Excellence among UQAR graduates in 2011, and the Diamond Jubilee Medal from Queen Elizabeth II in 2012. He was also inducted into le Cercle des Grands Bâtisseurs Maritimes (Ouebec's grand circle of maritime builders) in 2010, and the Académie des Grands Québécois (academy of grand Quebecers) in 2014.



#### JULIE BOUDREAU, Transfert Environment and Society

Ms. Julie Boudreau is Vice President Communications at Transfert Environment and Society. She has more than 10 years of experience in communications and public affairs. She acts as a consultant and a coach in communication with organizations in the sectors of energy, natural resources, transportation and land use. Prior joining Transfert Environnement et Société, Ms. Boudreau has been Director Public Affairs at Innergex Renewable Energy from 2006 to 2014. In this capacity, she was responsible for government relations, relations with communities, First Nations, interest groups and the media. In this role, she was responsible for social acceptability of wind farms projects, hydroelectric projects and solar farms. During her career, Ms. Boudreau has also been Executive Director of the Conseil régional de l'environnement de Chaudière-Appalaches, from 2003 to 2006. Ms. Boudreau holds a Master's degree in environment sciences from University of Sherbrooke and a bachelor's degree in geography-economics from Université du Québec à Rimouski.



#### GUY CANTIN, Fisheries and Oceans Canada

Guy Cantin is co-chair of a working group on maritime transportation and the protection of marine mammals called Groupe de travail sur le transport maritime et la protection des mammifères marins. The working group is committed to finding ways to reduce the risks incurred by marine mammals from maritime transportation within the St. Lawrence Estuary. Mr. Cantin has more than 16 years of experience in ocean conservation and a decade of researching marine environments. At Fisheries and Oceans Canada, he leads the team responsible for the planning and implementation of marine protected areas within Quebec. He holds an MSc in Oceanography and a BSc in Biology from the Université du Québec à Rimouski.



#### ARIANE CHARETTE, St. Lawrence Economic Development Council

Ariane Charette is responsible for communications at the St. Lawrence Economic Development Council, which is known in Quebec as SODES. She has been responsible for its Maritime Information Office since its launch in June 2015. Before joining SODES in February 2015, she was the communications consultant for a petroleum exploration company, the communications officer and coordinator at the St. Lawrence Shipoperators, as well as an editor at a communications agency. Already having earned a Bachelor's degree in International Studies and a Master's in Public Administration, she is most passionate about the field of communications when it comes to work and is currently pursuing a certificate of study in organizational communication.

#### DANIEL CÔTÉ, Transport Desgagnés

An engineer, chemist and MBA (Business Management) graduate (Université Laval), Daniel Côté has held various technical and management positions which have allowed him to get an overview of various business operating realities. An environmental consultant with Transports Desgagnés since 2009, he is mandated to ensure that the company meets its environmental obligations, in addition to being an involved environmentally-proactive player within the marine industry. He also chairs the Green Marine St. Lawrence Advisory Committee.





#### JEAN D'AMOUR, Minister for Maritime Affairs

In 2009, Jean D'Amour was elected as a Member of the Quebec National Assembly in the riding of Rivière-du-Loup, which became the electoral district of Rivière-du-Loup-Témiscouata in 2012. Serving as the mayor of Rivière-du-Loup from 1999 to 2007, he previously worked in communications and as political attaché and journalist. Starting in the spring of 2014, he served as the Quebec Minister of Transport delegated to establish a maritime strategy for the province, the Minister responsible for the Lower St. Lawrence and Gaspé/Îles-de-la-Madeleine regions, in addition to chairing the ministerial committee for the maritime strategy's implementation and being a member of the ministerial committee for the economy, creation of jobs and sustainable development. Since February 2016, he has served as Quebec's Minister of Maritime Affairs within the Ministry of Economy, a role that gives him more opportunity to advance a maritime strategy.



# VÉRONIK DE LA CHENELIÈRE, Ministry of forests, wildlife and provincial parks

Véronik de la Chenelière is a biologist and advisor to the scientific directorate on aquatic wildlife for the Ministry of forests, wildlife and provincial parks in Quebec. She has studied the St. Lawrence River's aquatic life for more than 20 years, joining the Ministry's scientific research team in 2014. The team is responsible for the conservation and development of freshwater fish native to Quebec, including species that migrate between fresh water and salt water.



#### GASTON DÉRY, QSL

Gaston Déry has charted a career roadmap that has the economic, social and environmental sectors all crossing paths. Mr. Déry has worked on various levels on national and international strategies. He is a very present actor within the maritime industry. He garnered Quebec's prestigious "Phénix de l'environnement" award in 2007 for his achievements towards protecting Île-aux-Pommes and having the value of this small natural island in the St. Lawrence Estuary recognized. He is also linked with various organizations in promoting the sustainable development/use of the St. Lawrence River. In fact, he is regarded as a key figure in achieving the sustainable development of Quebec, where the economic, social and environmental sectors are increasingly seen as having to properly intersect for more sustainable world development. Mr. Déry is currently a special advisor regarding social responsibility for QSL.



#### ANDREW DUMBRILLE, WWF-Canada

Ever since Andrew started the environment club at his high school in Ottawa 25 years ago, he has focused his work and volunteer life advocating for a greener planet. Trent University in Peterborough, Ontario, led Andrew to jobs with Greenpeace in Toronto and with the Taiga Rescue Network, an international environmental NGO working to protect the global boreal forest, based at the Arctic Circle in Jokkmokk, Sweden. After his time in Sweden, Andrew returned home to Ottawa for courses in conflict resolution, leading to coordinating climate change communications with Sierra Club of Canada and managing the Climate Action Network communications during the Montreal climate change conference. Andrew has been with WWF-Canada since 2006, first coordinating their climate change communications and then working on oceans policy. He now manages the national oceans governance program in Ottawa and leads WWF's Arctic shipping project.



#### JORGE DURÁN, Inter-American Committee on Ports, Organization of American States

For over 25 years, Jorge Durán has worked with the governments and private sector of the Americas in the design and implementation of development projects in Latin America and the Caribbean. Since 2003 Mr. Durán has served at the Organization of American States as Senior Advisor in Technology for Development, Senior Manager for Municipal Development and Capacity Building, in 2012 as Chief of the Office of Science, Technology and Innovation and, since 2013, as Chief of the Secretariat of the Inter-American Committee on Ports of the Executive Secretariat for Integral Development. He has been responsible for projects such as entrepreneurship strategies for maritime and port environmental protection programs, improved supply chain management logistics for increased competitiveness, micro business promotion through ICTs; online training; municipal development in e-government and cadastre; scientific journalism, and university curricular improvement. He also has a proven record of establishing successful strategic alliances with the private sector. Mr. Durán holds a Masters' degree in International Affairs and Science and Technology Policy from George Washington University and double BA in Psychology and Latin American Studies from the American University in Washington, DC, where he currently resides.



#### NICHOLAS FRIEDEN, Carnival Cruise Line

As Director, Fuel Budget and Management, Nick is responsible for setting and meeting the fuel budget for Carnival Cruise Line (CCL), the world's leading cruise line. Prior work experience includes developing and executing large energy efficiency and renewable energy projects for Chevron and five years of active duty as a US Coast Guard officer. He is a graduate of the University of California at Berkeley and Stanford University's Schools of Engineering (BS Mechanical Engineering and MS Energy). He is also a licensed professional engineer in California and Hawaii, and a Leadership in Energy & Environmental Design (LEED) accredited professional.



#### KRIS FUMBERGER, RightShip

With over 12 years of environmental sector experience, Kris joined RightShip in 2014 to develop and implement the Greenhouse Gas (GHG) Emissions Rating. RightShip's GHG Rating provides an industry framework for the instant comparison of the efficiency of more than 76,000 vessels and is increasingly a key factor in vessel selection. Kris also works with ports to provide the framework and tools to reward sustainable vessels. Prior to RightShip, Kris undertook strategic planning of essential water assets and has also worked as an Environmental Consultant for private industry and government agencies responsible for large scale environmental impact assessments. Kris has a Bachelor of Environmental Science and a Graduate Certificate in Management.



#### MARC GAGNON, Fednav Limited

Marc Gagnon has been Director, Government Affairs and Regulatory Compliance at Fednav Limited, in Montreal since 2008. He previously worked for 23 years as Executive Director of the St. Lawrence Economic Development Council (SODES), a Quebec City-based association that represents the St. Lawrence maritime community. He currently serves on the boards of Technopole Maritime, the St. Lawrence Shipoperators, and Cargo Montreal. He is also Chair of the Canadian Chamber of Commerce Transportation Committee. He holds a M.Sc. in Geography from Université de Montréal and a B.A. from Université Laval.



#### SARAH GARZA, Port of Corpus Christi

Sarah Garza has been working for the Port of Corpus Christi, managing environmental compliance, since 2002. Ms. Garza was promoted to Director of Environmental Planning and Compliance in 2015 when the environmental staff was moved from the Engineering Services Department into a new Environmental Planning and Compliance Department. Her department is responsible for ensuring overall compliance with applicable environmental rules and regulations, as well as ensuring the planning of port infrastructure and developments with environmental stewardship and sustainability components. This is done through tenant, industry and employee collaborations and the development of environmental strategies and policies led by Ms. Garza. She is responsible for the ongoing implementation of the port's Environmental Management System and the related ISO 14001 certification, the port's tenant audit program, strategic planning to "Be an Environmental Leader," and community outreach programs. Ms. Garza is also responsible for overseeing the assessment and remediation of affected port properties. Finally, Ms. Garza also participates in the International Maritime Organization Marine Environment Protection Committee. Prior to starting with the port, she worked as an environmental consultant and at the U.S. Fish and Wildlife Service. She graduated from Texas A&M – Corpus Christi with a Bachelor's of Science degree with marine emphasis.

#### JOHANNE GÉLINAS, Raymond Chabot Grant Thornton

Johanne Gélinas is a partner within the strategy and performance consulting group at Raymond Chabot Grant Thornton. Before joining the firm, she led the services group in sustainable development and climate change at Deloitte from 2007 to 2012. The Canadian Commissioner of the Environment and Sustainable Development from 2000 to 2007, she has also spent 10 years as commissioner of Ouebec's public consultation bureau for the environment (BAPE). Ms. Gélinas recently led the reflection and public consultation on a project's social acceptability on behalf of Quebec's Ministry of energy and natural resources. She is a certified Global Reporting Initiative (GRI) trainer, and certified corporate director. She has been teaching corporate responsibility at the Collège des administrateurs de sociétés since 2011. Ms. Gélinas chairs the board of directors for Protégez-Vous (Protect Yourself) magazine, and has a seat on the board for Espace Libre theatre. She has also chaired the board of Recyc-Québec. Ms. Gélinas was awarded the Reconnaissance (recognition) award from the Université du Québec à Montreal (UQAM) in 2009. She is also the recipient of the Quebec businesswomen's prize (le prix Femmes d'affaires du Québec) and the Excellence in Corporate Governance Award from Korn/Ferry International in 2012. Première magazine named her one of the top eight indisputable leaders in governance within Quebec.



#### MARIO GIRARD, Québec Port Authority

An experienced entrepreneur and manager, Mario Girard has been President and CEO of the Québec Port Authority (QPA) since January 2011. He was also a member of the OPA's Board of Directors from 2008 to 2010. As a prolific and creative business developer, he has extensive experience in business development both nationally and internationally. He was CEO of the Fondation de l'entrepreneurship from 2008 to 2011 and was founder and CEO of two IT companies, Nstein Technologies (2001-2007) and Gespro Technologies (1985–2001), both successful internationally. Mr. Girard is a member of the prestigious World Presidents' Organization, in addition to sitting on several boards for over 20 years for private, public and publicly traded organizations. He is currently the Chair of the Association of Canadian Port Authorities (ACPA), Vice-President of the St. Lawrence Economic Development Council (SODES), the Association Internationale Villes et Ports (AIVP) and the Festival d'été de Québec, and a board member for the Fondation Roméo Dallaire and the Conseil du patronal de Ouébec. Mr. Girard is also extensively involved in several groups that promote the local integration of the Port of Québec and maximize its economic, social and cultural impact. He pioneered the sustainable development approach that the OPA undertook in 2012.



#### GUY HAMEL, Ocean

Guy Hamel is the Assistant Director — New Construction for the tug company Ocean. He has been working for Ocean for the last 18 years. He is responsible for keeping a watchful eye on new technologies, and analyzing the merits of different solutions available on the market to determine if they are suitable for Ocean operations. Following his studies at the Institut Maritime de Rimouski, he obtained his bachelor degree in mechanical engineering from the Université du Québec à Chicoutimi. He held the positions of Chief Engineer on board tugs, Mechanical Superintendent, and ISO/ISM Internal Auditor. He is also currently supervising new buildings, and responsible for Hull & Machinery claims.



#### JOHN HATLEY, Wärtsilä

John Hatley PE, Americas VP Ship Power for Wärtsilä North America, has over 30 years of combined marine experience spanning business development, project management of domestic and overseas vessel construction, owner's representation, ship operations, and vessel design. Prior to joining Wärtsilä, he held positions with GE Transportation, Marine Industries Northwest, First American Bulk Carriers, John J. McMullen Architects, US Lines, and Trinidad Tankers. He is a licensed Chief Engineer with sea experience in global trades. He holds a BS degree from the USMMA Kings Point, an MSE from University of Michigan, and an MBA from the University of Washington.



#### RÉGIS LABEAUME, Mayor, Quebec City

Holder of a degree in sociology from Université Laval, Régis Labeaume was elected as 37th mayor of Québec City on December 2, 2007 and reelected in 2009 and 2013 at the head of a major team. Before being mayor, Régis Labeaume was head of the Fondation de l'entrepreneurship, an organization dedicated to promoting entrepreneurial culture in Québec. He worked for several years in the field of technological innovation in Québec's capital region and sat on the board of a number of high tech companies. From 2000 to 2003, he was the official representative of the Cité de l'optique. He sat on the board of directors of Innovatech Québec from 1997 to 2005 and Hydro-Québec from 2001 to 2006. He was also a board member of TSO, Inc. Furthermore, Mr. Labeaume is a graduate of the Collège des administrateurs de sociétés (CAS). Régis Labeaume was until recently co-owner of Réadaptation Québec inc., a physical rehabilitation company with close to 60 employees. He was founding president of Société minière Mazarin (1985-1993), president of the board of directors of Société Asbestos, president of the board of directors of Mines d'Amiante Bell (1992-1993) and also a consultant to foreign companies wanting to set up their business in Québec. From 1980 to 1985, he was a political advisor to Jean-François Bertrand who was Minister of Communications, Minister responsible for the Québec region and MNA for the riding of Vanier. Throughout his professional career, Régis Labeaume has been involved in the social and cultural life of Québec City and its metropolitan area. He was chair of the board of directors of the Centre d'information et de référence de la Capitale nationale, vice-president of the World Youth Congress and president of Constellation 2001 (a TV production company). He also sat on the boards of directors of the Canadian Council for Small Business and Entrepreneurship, the Fondation de l'Université Laval, the Pignon Bleu (organization supporting families and children in Québec City's lower town), the Québec City summer festival of which he was president in 2003 and 2004 and the Fernand-Dumont chair on culture. He was also a member of the boards of governors of the Regroupement des jeunes gens d'affaires du Québec, the Centre d'aide et d'action bénévole de Charlesbourg, the Boîte à sciences and the Jeunes entreprises du Québec métropolitain. He was also co-president of Centraide's campaign in the Québec City region in 2002, member of the board of directors of the Fondation du Musée national des beaux-arts and the Conseil de la famille et de l'enfance, and president of the Association de l'exploration minière du Québec. He also co-authored the book Les innovations dans le monde minier au Québec (innovations in Québec's mining sector) and the guide Comment acheter une PME (how to purchase a small- and medium-sized business).



#### AUREM LANGEVIN, Maritime Innovation

As a diesel mechanics and energy efficiency specialist, Aurem Langevin has been involved in many projects as a maritime expert and project manager. He is actively involved with Maritime Innovation in marine engineering research. His expertise is based on numerous years of experience in engineering and as the ship engineer on various types of vessels in Canada and South America. Mr. Langevin holds a Bachelor's degree in Electromechanical Engineering from the Université du Québec à Rimouski, as well as of a college diploma in marine mechanical engineering from the Institut maritime du Québec.



#### SERGE LE GUELLEC, Transport Desgagnés

Serge Le Guellec holds a Bachelor's degree in Mechanical Engineering (Royal Military College of Canada), a Master's of Science in Project Management (University of Hull, Ouebec, Canada) and a Master's in Aerospace Vehicle Design (Cranfield Institute of Technology, UK). A former uniformed member of the Canadian Forces, Mr. Le Guellec has worked in the defence, aerospace and maritime transportation industries, first in engineering specialist roles and later in his career in project/program management and senior management roles. As a result, he possesses a unique mix of experience in aerospace engineering, manufacturing, supply chain management, project/program management and, lastly, general management. As the President and General Manager of Transport Desgagnés inc., Mr. Le Guellec is responsible for the technical management of a varied fleet of tanker vessels, bulkers, general cargo/heavy lift and cargo/passenger vessels. The fleet operates on the Great Lakes, the St-Lawrence Seaway, the St-Lawrence River and Gulf, in the Atlantic Provinces, the U.S. East Coast and the Eastern Canadian Arctic. During winter months, a number of general cargo/heavy lift vessels trade in international waters. Given the unique breadth and complexity of Transport Desgagnés inc. operations, the need for a robust, proven Safety Management System (SMS) is paramount to ensure safety and the protection of the environment.

#### MARTIN LÉVESQUE, Valero



In January 2015, Martin Lévesque joined the management team at Valero Energy's headquarters in Montreal as Advisor, Government and Public Affairs. He has been entrusted with several mandates to develop communications and intervention strategies within both of these areas. His expertise is sought in dealing with all levels of government. His responsibilities also extend to various community relations. With a Bachelor's in Political Science from the Université de Montréal, he pursued his studies in Law with a second Bachelor's degree (also completed at the Université de Montréal). Mr. Lévesque has been a member of the Quebec Bar Association since 2007. Thanks to his training, he has developed a solid expertise in public affairs over the years in advising various Quebec government agencies and departments. He has also worked on the municipal level for the City of Montreal. While in private practice, he used his legal knowledge and skills to broaden everyone's rights.



# ROBERT LEWIS-MANNING, Chamber of Shipping of British Columbia

Robert is the President of the Chamber of Shipping representing marine industry interests in Canada. A former senior officer in the Royal Canadian Navy for twenty-four years, he was fortunate to serve in various sea-going and staff positions in Canada and abroad. He had several challenging policy and diplomatic positions in Europe while working for the North Atlantic Treaty Council in addition to global operational deployments to the Balkans and Afghanistan. After returning to Canada, Robert was very involved in maritime security planning associated with the 2010 Vancouver Winter Olympics and was the Captain of the frigate H.M.C.S VANCOUVER. Upon departing the Navy, Robert joined the Canadian Shipowners Association as the President, where he was instrumental in progressing the interests of Canadian ship owners and promoting short-sea-shipping. He is passionate about promoting solutions related to environmental stewardship. sustainability, and the innovation of technology in the transportation sector. He enjoys the tranquility of the outdoors including snowboarding, sailing, biking and hiking. Periodically, he can be found on the ice refereeing hockey.

#### CHARLES MASSICOTTE, OpDAQ

Charles Massicotte is the Co-Founder and President of OpDAQ Systems, a company which specializes in shipboard performance monitoring systems. He has more than 10 years of experience in developing monitoring technologies for the marine, energy production and general industry, working on projects with the Canadian Coast Guard, Bollinger Shipyards, E-Power, Ocean, Atlantic Towing and CSL. He also serves as the chair member for the Quebec marine cluster ACCORD and is a board member of Technopole Maritime du Québec. A registered professional electrical engineer, he holds a Bachelor's degree from the École de Technologie Supérieure.



#### FRANÇOIS MORIN, AON Risk Solutions

François is currently managing Aon's Eastern Canada Risk Control team. In this role, François is responsible for the planning and execution of the risk control activities of his team of engineers and other risk specialists involved in providing innovative and value-added risk solutions to Aon's client base. As part of his mandate, François coordinates and supports the development of various products and services offered, such as client Risk Mapping projects, Business Continuity and Crisis Management plans, which are essential parts of any Enterprise Risk Management program. Prior to Aon, François worked as plant manager and production manager in major manufacturing facilities. François holds a Bachelor's degree in Civil Engineering from the École Polytechnique de Montréal (1993), with a major in project management. He is also a Certified Risk Manager (CRM), and is currently in the process of obtaining his insurance broker license.



# VÉRONIQUE NOLET, Marine Mammal Observation Network

Véronique Nolet has been a marine biologist for the past 10 years since graduating from the Université du Québec à Rimouski. She worked for the not-for-profit Marine Mammal Observation Network for the major part of her career and played a leading role in producing A Mariner's Guide to Whales in the Northwest Atlantic, an educational and awareness tool developed in collaboration with the Shipping Federation of Canada and Dalhousie University. She now acts as Green Marine Project Manager – Marine Habitat and coordinates projects related to underwater noise and ship and whale collision risks.



#### ROBERT MUSSER, Canaveral Port Authority

Robert (Bob) Musser, Jr. returned to the Canaveral Port Authority on January 4, 2016, as the Director of Port Environmental. Most recently he served as the Environmental Projects Manager with Broward County's Port Everglades, where he began in 2010 overseeing all ecological functions and procedures associated with operations and planning at Port Everglades. His previous tenure with Port Canaveral was from 2007-2010 as the Director of Environmental Plans and Programs and, prior to that, he worked in the Environmental Department at the Tampa Port Authority (now Port Tampa Bay), leading that division before coming to the CPA. At Port Everglades, Bob served as a senior manager in Broward County's Seaport Engineering and Construction Division. He has more than 15 years of maritime experience and nearly 25 years combined in the environmental, marine science, environmental, engineering, and hazardous waste fields, built on a B.S. in Marine Science and a B.A. in Biology, as well as many additional certifications. He also chairs the Florida Ports Council Seaport Environmental Management Committee and is the Secretary of the Harbors and Navigation Committee at the American Association of Port Authorities.



#### DANIEL OLIVIER, Montreal Port Authority

Daniel Olivier obtained a Ph. D. in Economic Geography (Maritime Transport) from the University of Hong Kong in 2006. He has published on the topics of container ports, logistics, and Asian transnational firms in a number of academic journals. He authored the book Dynamics of Globalisation in the Container Port Industry: Asia Rising in 2010. He later obtained a certificate in supply chain management from Georgia Tech in 2011 and has been an active member of CILTNA since 2013. In 2012, Mr. Olivier joined the Port of Montreal Authority and is now director of Business Intelligence and Innovation. His mandate covers strategic planning, performance monitoring, research and analysis, as well as innovation and best practices.



#### AMELIA PELLEGRIN, Port of New Orleans

Amelia Pellegrin joined the Port of New Orleans in 2013 as the port's first Environmental Services Manager. In this new role, Ms. Pellegrin is leading the development of an ISO 14001 compliant Environmental Management System and managing all environmental compliance and sustainability initiatives for the port. Ms. Pellegrin brings 14 years of experience in environmental consulting for public agencies, non-profit program development, and sustainability solutions for government agencies. She has managed a variety of projects across the country, including clean energy installations, emissions inventories and carbon management strategies, and community master plans. Currently, she is a member of the EPA Ports Work Group federal advisory committee, and on the Board of Directors of the Traffic and Transportation Club of Greater New Orleans. Ms. Pellegrin is a certified planner, with a Bachelor of Science in Biology from Emory University and a Master's in City Planning and Environmental Policy from the Massachusetts Institute of Technology (MIT).



#### ANTHONY TEO, DNV-GL

Anthony has more than 18 years of maritime experience and 14 years of experience at DNV GL, including service as Fleet in Service Surveyor (Singapore), LNG Carrier New Building Field Project Manager (Korea) and Head of Department for Offshore New-Building and Conversion (Singapore). His current position with DNVGL is as Technology and LNG Business Development Manager, Maritime, based in Houston. His main responsibility is new technology for maritime application with a focus on energy efficiency, LNG as a marine fuel, and gas ships. He received a Naval Architecture (Honors) degree from the University on Strathclyde (Glasgow) in 1998.



#### KRISTA TROUNCE, Vancouver Fraser Port Authority

Krista Trounce is the Project Manager for the Enhancing Cetacean Habitat and Observation (ECHO) Program at the Vancouver Fraser Port Authority. The ECHO Program is a collaborative research and management initiative which aims to better understand and manage the potential threats to at-risk whale species from commercial vessel activities throughout the southern coast of British Columbia. Krista brings to the ECHO Program nearly 20 years of experience as an environmental engineer and project manager. Her background includes the investigation and remediation of contaminated sites, with a significant focus on human and ecological risk assessment from environmental contaminants. Krista has been applying her environmental experience and project management skills to the ECHO Program since May, 2015, and is excited to be advancing her knowledge of marine mammals and underwater noise through this amazing program. Krista holds a Bachelor's of Applied Science from the University of Waterloo and is a registered Professional Engineer through the Association of Professional Engineers and Geoscientists of British Columbia.



#### FER VAN DE LAAR, World Ports Climate Initiative -International Association of Port & Harbors

Fer van de Laar started his professional career as an officer in the Dutch merchant navy, reaching the rank of Captain; he also served in the Royal Netherlands Navy. In 1973, he joined the Health and Safety Executive in Rotterdam and in 1984 became the Chief Superintendent of Ports in the Netherlands. In the early 1990s, as an independent consultant, he was exposed to the commercial side of shipping and port operations. In 1994, he joined the Amsterdam Port Authority to become the Chief of the Safety and Environmental Department where he was responsible for Infrastructure Projects in the Port of Amsterdam, including the design of the larger sea locks. During the same period, he was appointed chairman of the Committee on Port Safety, Environment and Marine Operations of the International Association of Ports and Harbors (IAPH). In 2006, he was appointed as the Managing Director of IAPH, a position he still holds. He is responsible for liaisons with international organizations such as the International Maritime Organization, the International Labour Organization, the World Customs Organization, the World Trade Organization, World Bank and others. In November 2008, he was appointed the Director of the World Ports Climate Initiative. He is also the Administrator of the Environmental Ship Index.



#### RICHARD WIEFELSPUETT, Clear Seas

Richard Wiefelspuett is a marine technology expert with more than 30 years of global experience in the maritime sector. Before joining Clear Seas, Richard was an Associate Dean at BCIT's School of Transportation – Marine Campus in North Vancouver, B.C. Prior to that, Richard held senior management positions in Asia for a range of marine industries, including shipbuilding, equipment manufacturing and technical services. Before commencing on his international career path, Richard worked as a naval architect based in Victoria and Vancouver, B.C. Richard holds a PhD in Mechanical Engineering and a Master of Science in Shipbuilding and Offshore Engineering from RWTH Aachen University in Germany.



#### CHRISTINA WOLFE, Environmental Defense Fund

Christina Wolfe is Manager, Air Quality, Port and Freight Facilities at the Environmental Defense Fund (EDF). Chris has more than 10 years of experience in various scientific roles that include air quality, environmental studies, and toxicological assessment, in addition to six years of experience in business analysis and finance. Her current role with EDF includes evaluating environmental performance metrics for ports, and identifying opportunities for innovative partnerships that leverage grant funds for clean air projects in transportation and goods movement. Chris has technical expertise in air quality regulation for mobile and stationary sources (criteria pollutants and greenhouse gases), develops scientific and financial modeling tools, and works closely with diverse stakeholders on multiple projects designed to improve air quality. She has been involved in numerous successful environmental grant-funded projects at all project stages, including concept development, grant-writing, and project implementation. Chris holds a Master's degree in Biology from the State University of New York at Stony Brook, as well as Bachelor degrees in both Biology and Business Administration from the University of Washington.



#### HEATHER WOOD, Kennedy/Jenks Consultants

Heather Wood joined Kennedy/Jenks Consultants in June 2015 as their national Ports Market Sector Leader. With over 22 years of experience, Ms. Wood's focus is to grow Kennedy Jenks port and maritime markets nationwide and to establish a Virginia presence for the firm. Ms. Wood comes to Kennedy/Jenks from The Port of Virginia, the third largest container port complex on the U.S. East Coast, where she worked since 2001. Most recently for the port, she served as Director of Sustainability, and previously served as Vice President of Government Affairs, and Director of Environmental Affairs. As Director of Sustainability, Ms. Wood developed and directed sustainability strategy, policy, and programming for the port and was responsible for environmental performance, public outreach, and regulatory affairs related to port operations and the Virginia maritime industry. She served as the port's representative and consultant on international and national issues and policies related to sustainability, transportation, navigation, and environment. A nationally recognized sustainability executive in maritime transportation and the multi-modal logistics industry, Ms. Wood holds advanced degrees in maritime public policy and business administration. She has recently been re-appointed by Governor Terry McAuliffe to a fouryear term as Vice Chair of the Commonwealth of Virginia State Water Control Board, a position she's held since 2011.

# Save the date





# GOLD



# **SILVER**



# BRONZE

MEDIASEXCLUSIVE PACKAGESDECENTRYConstanting du<br/>CuébecRIGHTSHIPDECENTRYCOCENNCOCENN

# PARTICIPANTS

# PARTNERS

ABB Turbocharging

Britmar Power

Drew Marine

Eco-Forma Inc.

Envirolin Canada Environmental Solutions Inc.

Hermont Marine

InnovMarine Inc.

International Paint

Marine Clean Ltd.

**OpDAQ** Systems

Pronova Systems Inc.

**RBM HoldSolutions** 

**RSC Bio Solutions** 

Schneider Electric

S.I.G.E.I.M Inc. SINTO

**Techsol Marine** 

Thordon Bearings Inc.

True North Marine

Uson Marine AB

Wärtsilä Canada

VapCor Inc.

DNV-GL

Urgence Marine Inc.

Total Marine Solutions Inc.

& VETTING SERVICES

Lloyd's Register Marine North America

Canadian International Bureau of Shipping

MAPPING THE FUTURE OF SUSTAINABLE SHIPPING

American Bureau of Shipping

**RightShip Americas** 

Scott's Marine Interiors

Seagulf Marine Industries Inc.

SRA Information Technology

**Terragon Environmental Technologies** 

CLASS SOCIETIES, VERIFICATION

Jasco Applied Sciences

Marine and Offshore Canada

Moran Coastal & Ocean Resources, Inc.

Filtramax

GHGES

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Nimonik

Sanexen

Stantec

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Abate Energy Group

Bell Marine & Mill Supply

CR Ocean Engineering LLC

DSS Group of Companies

Ecospray Technologies S.R.L.

Conflow Technologies

American Chemical Technologies

INDUSTRY SERVICES, PRODUCTS

& TECHNOLOGY PROVIDERS

#### SHIP OWNERS

- Algoma Central Corporation
- Atlantic Towing Limited
- BC Ferries
- Canada Steamship Lines
- Canfornav
- Cogema
- Croisières AML
- CSL Americas
- CSL Australia
- CSL Europe
- CTMA Group
- Fednav Limited
- Desgagnés
- Lower Lakes Towing Limited
- Marine Atlantic Inc.
- McAsphalt Marine
- Transportation Ltd.
- McKeil Marine
- North Arm Transportation
- Ocean Group
- Oceanex
- Owen Sound Transportation Company
- Reformar
- Seaspan ULC
- Saam Smit Canada
- Société des Traversiers du Québec
- SVITZER Canada
- TBS Ship Management Inc.

# PORTS & 🕑

- Albany Port District Commission
- Bécancour Waterfront Industrial Park
- Canaveral Port Authority
- Cleveland-Cuyahoga County Port Authority
- Duluth Seaway Port Authority
- Greater Victoria Harbour Authority
- Halifax Port Authority
- Hamilton Port AuthorityIllinois International Port District
- Montréal Port Authority
- Nontreal Port Authority
   Nanaimo Port Authority
- Northwest Seaport Alliance
- Northwest Seaport Allar
   Oshawa Port Authority
- Port Everglades
- Port of Gulfport (MSPA)
- Port of Hueneme (Oxnard Harbor District)
- Port of Indiana Burns Harbor
- Port of Longview
- Port of Milwaukee
- Port of Monroe

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Port of New Orleans

- Port of Seattle
- Port of Valleyfield
- Port Alberni Port Authority
- Prince Rupert Port Authority
- Québec Port Authority
- Saint John Port authority, NB
- Saguenay Port Authority
- Sept-Îles Port Authority
- St. John's Port Authority, NL
- St. Lawrence Seaway Development Corporation
- St. Lawrence Seaway Management Corporation
- Thunder Bay Port Authority
- Toronto Port Authority
- Trois-Rivières Port Authority
- Vancouver Fraser Port Authority
- Windsor Port Authority

# TERMINALS & SHIPYARDS

- \_\_\_\_
- BC FerriesCeres Terminals Inc.
- DP World Prince Rupert
- Empire Stevedoring Company Limited (Montreal)
- Empire Stevedoring Company Limited (Montrea)
   Federal Marine Terminals
- Fraser Surrey Docks
- G3 Canada Limited (Ouébec)
- G3 Canada Limited (Trois-Rivières)
- GCT Global Container Terminals Inc.
- Groupe Desgagnés (Relais Nordik Sept-Îles)
- IOC (Iron Ore Company, Sept-Îles)
- Logistec Corporation
- Marine Atlantic Inc.
- McAsphalt Industries Limited
- Montreal Gateway Terminals Partnership
- Neptune Terminals
- Norcan Petroleum Group
- Northern Stevedoring
- Ocean Industries (shipyard)
- Pacific Coast Terminals
- Pinnacle Renewable Energy (Westview Terminal)
- Porlier Express
- QSL

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Valport

- Richardson International
- Ridley Terminals Inc.
- Rio Tinto Alcan (Port-Alfred)
- Seaspan ULC (shipyards)
- Squamish Terminals
- Sterling Marine Fuels (Windsor Terminal)

Westridge Terminal (Kinder Morgan Canada)

Termont Montreal

Valleytank

Tidal Coast Terminals Ltd.
Tymac Launch Service Ltd.

Westshore Terminals

Valero (Jean-Gauvin Refinery)

Yellowline Asphalt Products Ltd.

#### PARTNERS (CONTINUED)

# SUPPORTERS

#### SHIPPERS, LOGISTICS & SHIP MANAGERS

- Aluminerie Alouette
- K+S Windsor Salt Ltd.
- Quickload CEF
- V.Ships Canada Inc.

#### PILOTAGE

- Atlantic Pilotage Authority
- Corporation des pilotes du St-Laurent Central
- Corporation of Lower St. Lawrence Pilots
- Laurentian Pilotage Authority
- Pacific Pilotage Authority
- Puget Sound Pilots

#### **ENERGY COMPANIES**

- Gaz Metro
- Pacific Northwest LNG
- Stolt LNGaz

#### ENGINEERING AND ENVIRONMENTAL CONSULTING

- · Climate Smart Businesses Inc.
- Concept Naval
- EcoLogix Group
- Envirochem
- Glosten
- Groupe-Conseil Génipur inc.
- Hemmera
- Kennedy/Jenks Consultants
- Moffatt & Nichol
- Norda Stelo
- PESCA Environnement
- SNC-Lavalin Environment
- Ventus Development Services Inc.
- WSP Canada

# R&D, RESPONSE, TRAINING & COOPERATIVE

- Human Resources Sectorial Committee of the Maritime Industry (CSMOIM)
- Georgian College's Great Lakes International Marine
  Training Centre
- Marine Exchange of Puget Sound
- Maritime Innovation
- Western Canada Marine Response Corporation

#### GOVERNMENTS

- Environment Canada
- Fisheries and Oceans Canada
- Inter-American Committee on Ports of the Organization of American States
- Ministère de l'Énergie et des Ressources naturelles du Québec
- Ministère des Transports du Québec
- Ministère du Développement durable, de l'Environnement et de la Lutte aux Changements Climatiques du Québec
- Ministère des Forêts, de la Faune et des Parcs du Québec
- Ministry of Transportation of Ontario
- Puget Sound Clean Air Agency
- Transport Canada

#### MUNICIPALITIES

- Board of Harbor Commissioners of the City of Milwaukee
- City of Bécancour
- City of Calixa-Lavallée
- City of Contrecoeur
- City of Longueuil
- City of Matane
- City of Montréal
- City of Montréal-Est
- City of Port-Cartier
- City of Québec
- City of Saint-Amable
- City of Sept-Îles
- City of Varennes
- Communauté métropolitaine de Québec
  Great Lakes and St. Lawrence Cities Initiative
- Marguerite-D'Youville MRC

# ENVIRONMENTAL GROUPS AND NGOS

- Carbon War Room
- Ducks Unlimited Canada
- Environmental Defense Fund
- Georgia Strait Alliance
- Georgian Bay Forever
- International Secretariat for Water
- Les Amis de la vallée du Saint-Laurent
- Marine Mammals Observation Network (ROMM)
- Nature Conservancy of Canada
- Nature Québec
- One Drop
- Pacific Salmon Foundation
- Sedna Foundation
- Stratégies Saint-Laurent
- · World Wildlife Fund Canada

# RESEARCH, EDUCATION & CONSERVATION

- Center of Excellence for Marine Manufacturing & Technology
- Clear Seas
- CPEQ
- EcoMaris
- Great Lakes Maritime Research Institute
- INREST
- Northwest Community College
- Ocean Networks Canada
- PortTech Los Angeles
- Promotion Saguenay
- Seattle Aquarium
- Société de promotion économique de Rimouski
- St. Lawrence Global Observatory
- St. Lawrence River Institute of Environmental Sciences
- Technopole Maritime du Québec
- Vancouver Aquarium

# ASSOCIATION MEMBERS

American Association of Port Authorities

American Society of Naval Engineers

**Canadian Ferry Operators Association** 

Canadian Marine Pilots Association

Canadian Shipowners Association Chamber of Marine Commerce

Council of Marine Carriers

Association

American Great Lakes Ports Association

Association of Canadian Port Authorities

BC Marine Terminal Operators Association

Chamber of Shipping of British Columbia

**Ontario Marine Transportation Forum** 

U.S. Great Lakes Shipping Association

Shipping Federation of Canada

Washington Maritime Federation

St. Lawrence Shipoperators

International Ship-Owners Alliance of Canada

St. Lawrence Economic Development Council

North American Marine Environment Protection

# NOTES




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