PARTNERING FOR A SUSTAINABLE FUTURE

REPORT ON THE PROGRESS MADE BY PARTICIPANTS OF THE GREEN MARINE ENVIRONMENTAL PROGRAM

2009-2010

GREEN MARINE / ALLIANCE VERTE

MAY 2010

A MESSAGE FROM GREEN MARINE'S CO-CHAIRS

Green Marine enjoyed a period of significant accomplishment in 2009-2010. Just two years after the launch of the *Environmental Program of the St. Lawrence-Great Lakes Maritime Industry*, the environmental performance of the participating companies has not only improved, but it continues to surpass regulatory compliance demands. The global average score of participants has risen from level 2 in 2008 to level 2.5 in 2009. The increase in global averages reflected in the 2009 results clearly illustrates the positive effects that a voluntary program with clear performance goals can produce. Action has been taken to significantly strengthen the credibility of the Green Marine program with a number of bold, innovative developments that have helped secure its role as the flagship environmental program in the North American maritime industry.

The program's transparency received a significant boost with the publication of the individual results attained by participants. This voluntary gesture by the shipping companies, ports, terminal facilities and the operators of the St. Lawrence Seaway that are part of this environmental program clearly demonstrate the depth of their commitment to the Green Marine initiative.

This move towards greater transparency was accompanied by the strengthening of the evaluation process through the implementation of an external verification program – carried out by an independent third party – for Green Marine shipowners. Green Marine now has a solid foundation on which to continue building and strengthening its Environmental Program in 2010-2011 and beyond, with initiatives that include the implementation of new performance indicators for ports and terminals, and the application of the external verification system to all participants. For a more complete review of these and other developments, we invite you to read Green Marine's annual report, which includes the results attained by participants, a presentation of Green Marine and its Environmental Program, a summary of the achievements of the past year, and a list of Green Marine's participants, partners and supporters.

We encourage you to follow our progress in the months and years ahead by visiting the Green Marine website at www.green-marine.org.

Green Marine's Co-Chairs,

Gerry Carter
Groupe CSL

Terry Johnson
Saint Lawrence Seaway Development Corporation

Laurence Pathy
Fednav

TABLE OF CONTENTS

A VOLUNTARY INITIATIVE WITH CONCRETE RESULTS

Green Marine is continuing with its mission of building strong relations with marine industry stakeholders in the St. Lawrence and Great Lakes in both Canada and the U.S. with the goal of improving the industry's environmental performance in a concrete and sustainable manner.

The cornerstone of the Green Marine initiative is the Environmental Program of the St. Lawrence and Great Lakes Maritime Industry. Companies participating in this program evaluate their performance in terms of seven priority environmental goals on a scale that ranges from regulatory compliance to levels that far exceed those demands.

PRIORITY ENVIRONMENTAL ISSUES

1. **Aquatic Invasive Species**
   Reduce the risk of introducing and propagating aquatic organisms and dangerous pathogens via ships' ballast water
2. **Air Emissions**
   Reduce emissions of sulphur oxide (SOx) and of nitrogen oxide (NOx)
3. **Greenhouse Gases**
   Reduce emissions of greenhouse gases (GHGs)
4. **Cargo Residues**
   Reduce discharges of cargo residues
5. **Oily Waters**
   Reduce the risk of discharging oily waters
6. **Conflicts of Use for Port and Terminals**
   Reduce the levels of noise, dust, odours and light to which individuals residing close to port installations are exposed.
7. **Environmental leadership**
   Encourage port administrations to play a leadership role with respect to their tenants and users in the adoption of best environmental practices.

Over the course of the next year, two other issues – **managing run-off waters and preventing spills** - will be added to the program in order to further reduce the marine industry's environmental footprint.

"Green Marine provides tangible evidence of the marine industry's determination to play a leadership role in minimizing its environmental footprint".

EVALUATION AND CERTIFICATION PROCESS

Each year, participants evaluate their environmental performance with the help of a self-evaluation guide. During the first year, companies receive a logo indicating that their certification is "in progress." Starting in their second year, performance results must be verified by an independent third party, and receive a "certified" logo. The results of the environmental performance of all companies involved are published in Green Marine's annual progress report, enabling the participants to publicize their involvement in the Green Marine initiative.

Green Marine participants also receive an annual certificate attesting to their participation in the Environmental Program. The certificates are presented during the annual Green Tech conference on green technologies for the maritime industry.

ACTION PLANS

Each of the priority environmental issues covered by the Green Marine Program is subject to an action plan that involves both collective and corporate actions.

CORPORATE ACTIONS

Green Marine requires that participants adopt best practices and new technologies that will have direct positive effects. Progress is evaluated with the help of performance indicators, which are defined on a scale ranging from one to five:

PERFORMANCE INDICATOR

LEVEL	PRIORITY ENVIRONMENTAL CRITERIA
1	Compliance with applicable regulations and adherence to Green Marine's guiding principles
2	Systematic use of a defined number of best practices
3	Integration of best practices into an adopted management plan and quantifiable understanding of environmental impact
4	Introduction of new technologies
5	Excellence and leadership

Only one level can be assigned for each indicator. Participants in the program must achieve all the goals of one level before progressing to the next level. The goal of the Green Marine Program is designed to encourage each participant to achieve improved results in a systematic fashion, moving from regulatory compliance – Level 1 – to Level 5, which represents excellence and leadership.

TRAINING, R&D AND ENVIRONMENTAL MANAGEMENT SYSTEMS

As part of the Green Marine philosophy of continuous improvement, participants commit to implementing an internal training process and actively support research and technological innovation in the field of environmental matters. Green Marine also encourages and supports the adoption of environmental management systems by participants.

Each year, Green Marine organizes an environmental conference on green technologies for marine transportation (Green Tech for Shipping), which focuses on environmental management, training and R&D. Since these subjects are key elements of the Green Marine program, all members are encouraged to actively participate in the conference.

A GROWING MEMBERSHIP

Participants of the Green Marine Program consist of Canadian and American companies active in the marine industry operating on the St. Lawrence and Great Lakes. These include:

- Domestic and international shipowners
- Ports and terminals
- Stevedoring companies
- St. Lawrence Seaway

GREEN MARINE PARTICIPANTS

1. Algoma Central Corporation
2. Bécancour Waterfront Industrial Park
3. Bunge Canada
4. Canfornav
5. Cleveland-Cuyahoga County Port Authority
6. Cogema
7. CSL Group
8. CTMA Group
9. Duluth Seaway Port Authority
10. Empire Stevedoring Company Limited
11. Federal Marine Terminals
12. Fednav Limited
13. Groupe Desgagnés
14. Hamilton Port Authority
15. Illinois International Port District
16. Les Élévateurs de Trois-Rivières
17. Logistec Corporation
18. Lower Lakes Towing Limited
19. McKeil Marine
20. Montreal Gateway Terminals Partnership
21. Montréal Port Authority
22. Ocean Group
23. Oceanex
24. Oshawa Harbour Commission
25. Porlier Express
26. Port of Milwaukee
27. Port of Valleyfield
28. Québec Port Authority
29. Reformar
30. Rigel Shipping Canada
31. Rio Tinto Alcan (Port Alfred terminal)
32. Saguenay Port Authority
33. Sept-Îles Port Authority
34. Société des Traversiers du Québec
35. Saint Lawrence Seaway Development Corporation
36. Seaway Marine Transport
37. St. Lawrence Seaway Management Corporation
38. Thunder Bay Port Authority
39. Toledo-Lucas County Port Authority
40. Toronto Port Authority
41. Trois-Rivières Port Authority
42. Upper Lakes Group
43. Ultramar (Lévis terminal)
44. Windsor Port Authority

"The initiative now comprises 44 participants, 29 partners and 28 supporters in both Canada and the United States".

Green Marine Partners are organizations with business links to the marine industry – including marine agents, shippers, suppliers, marine associations, research and development centres and others – all of whom actively promote the Green Marine Program to their clients. Partners are entitled to display the Green Marine logo, which shows their commitment to the Green Marine initiative.

GREEN MARINE PARTNERS

1. Aspin Kemp and Associates
2. Bell Marine & Mill Supply
3. Comité sectoriel de main-d'oeuvre de l'industrie maritime
4. Commonwealth Oil Corporation
5. Corporation des pilotes du Saint-Laurent Central
6. Corus International
7. Dessau-Soprin inc.
8. EcologiQ
9. Georgian College's Great Lakes International Marine Training Centre
10. Germanischer Lloyd
11. Hermont Marine
12. Innovation maritime
13. L.D.Technologies Inc.
14. Lloyd's Register North America
15. Magnus Chemicals Ltd.
16. Marine and Offshore Canada
17. Marine Clean Ltd.
18. Marine Recycling Corporation
19. McAsphalt Industries Limited
20. PESCA Environnement
21. Premier Environmental Services Inc.
22. Rightship Americas
23. S.I.G.E.I.M Inc.
24. SNC-Lavalin Environment
25. Urgence Marine Inc.
26. VapCor inc.
27. V.Ships Canada Inc.
28. Wärtsilä Canada
29. Westpier Marine & Industrial Supply Inc.

Green Marine also includes Supporters: governments, municipalities and environmental groups that share the same goals of sustainability and, in some cases, offer services that promote a cleaner environment:

GREEN MARINE SUPPORTERS

Governments

Environment Canada
Fisheries and Oceans Canada
Ministère des Ressources naturelles et de la Faune du Québec
Ministère des Transports du Québec
Ministère du Développement durable, de l'Environnement et des Parcs du Québec
Ministry of Transportation of Ontario
Transport Canada

Municipalities

Board of Harbor Commissioners of the City of Milwaukee
Communauté métropolitaine de Québec
Promotion Saguenay
Société de promotion économique de Rimouski
Ville de Bécancour
Ville de Matane
Ville de Port-Cartier
Ville de Québec
Ville de Sept-Îles

Environmental Groups

Comité ZIP Les Deux Rives
Comité ZIP du Lac Saint-Pierre
Comité ZIP Jacques-Cartier
Comité ZIP Saguenay
Comité ZIP Ville-Marie
Ducks Unlimited Canada
Great Lakes United
Les Amis de la vallée du Saint-Laurent
Nature Québec
Stratégies Saint-Laurent
World Wildlife Fund Canada
ZIP de Québec et Chaudière-Appalaches

A COMMITTED INDUSTRY

Concern for the environment is a key motivating factor for all Green Marine participants and plays a central role in their decision to adopt and follow the program's guiding principles:

- Demonstrate **corporate leadership** in the development and identification of best environmental practices from a sustainable development perspective
- Engage in responsible activities designed to **minimize environmental impacts**
- **Continuously improve** environmental performance
- Develop and promote **voluntary protection measures**
- **Integrate sustainable development practices** that are technically and financially achievable
- **Collaborate with governments and citizens' groups** in implementing the Environmental Program
- Actively participate in an **integrated management** approach for the St. Lawrence- Great Lakes maritime corridor, allowing for consultation with local, regional, national and international stakeholders.

"Going beyond regulatory compliance and achieving higher levels of environmental responsibility demand sustained effort and concrete action."

A STRUCTURED ORGANIZATION

GREEN MARINE MANAGEMENT CORPORATION

The Green Marine initiative is managed by the Green Marine Management Corporation (GMMC): nine Canadian and U.S. associations[1] that represent close to 500 companies working in the maritime sector:

- American Great Lakes Ports Association
- Association of Canadian Port Authorities
- Canadian Shipowners Association
- Chamber of Maritime Commerce
- Ontario Marine Forum
- Saint Lawrence Ship Operators
- Shipping Federation of Canada
- St. Lawrence Economic Development Council (SODES)
- United States Great Lakes Shipping Association

Green Marine Management Corporation currently employs two full-time staff members who are responsible for recruiting new members, supporting participants in the implementation of the environmental program, coordinating various committees, carrying out communications activities and managing the organization's finances.

GOVERNANCE BOARD

Corporate leadership is one of the key elements in Green Marine's success. The organization is headed by a Governance Board made up of the Presidents of companies that are participants of the Green Marine Program[2]. The Board includes Presidents of both Canadian and U.S. companies, thereby highlighting the bi-national nature of the Green Marine partnership. The Governance Board meets formally once every year, and its members have an opportunity to be actively involved in developing the Green Marine initiative, implementing the Environmental Program, and determining its strategic direction.

EXECUTIVE COMMITTEE

The Governance Board includes an Executive Committee composed of Green Marine's three co-Chairs, as well as the heads of several companies that have been active in the Green Marine initiative since its inception[3].

ENVIRONMENT COMMITTEES

Green Marine was founded in 2005 when the St. Lawrence and Great Lakes Environment Committees[4] joined forces to help identify the marine industry's priority environmental issues for the St. Lawrence and Great Lakes region and develop tools to enable the industry to improve its global environmental performance.

"The company CEO's are actively involved and determine the strategic orientations".

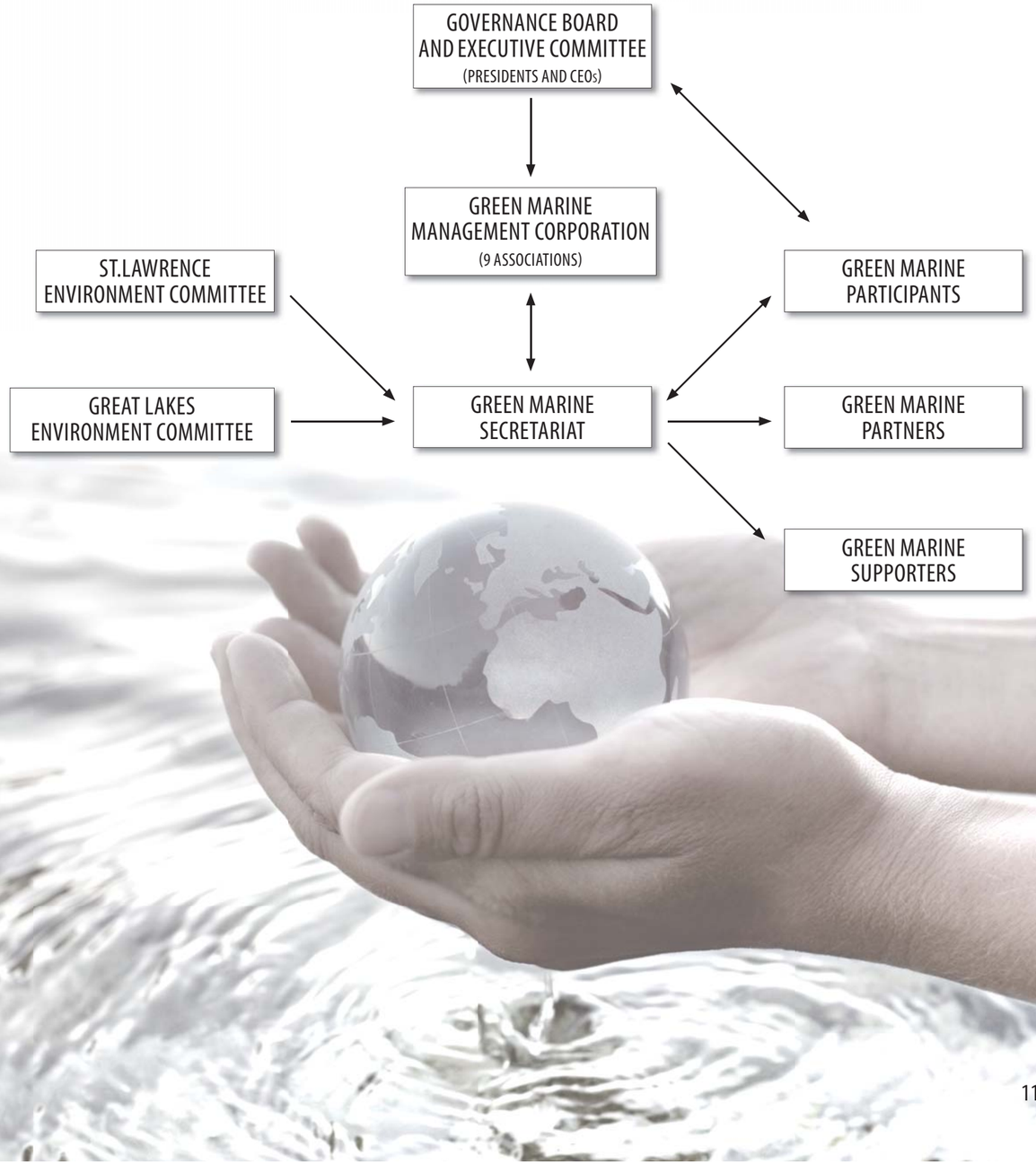
1 For details regarding the 9 associations, please see Annex A

2 For complete details regarding the structure of the Governance Council, see Annex B.

3 For complete details regarding the Executive Committee, see Annex B.

4 For complete details regarding the Environment Committees, see Annex C.

STRUCTURE OF GREEN MARINE



MILESTONES 2009-2010

May 2009

Association of Canadian Port Authorities

The Green Marine Management Corporation welcomes the Association of Canadian Port Authorities as a new member of its Board of Directors.

June to September 2009

Revision and Development of the Green Marine Program

Three technical committees revise problematic criteria for several performance indicators. New performance indicators are developed to measure the environmental leadership of port administrations, and the performance of ports and terminals with respect to managing run-off waters and preventing spills.

September 2009

Training in Environmental Port Management

Green Marine collaborates with le *Comité sectoriel de main-d'œuvre de l'industrie maritime* to offer a two-day training seminar on environmental port management in French in Montreal, Quebec, and Sept-Iles. (A translated version of the seminar is being planned for ports in the Great Lakes region.)

OCTOBER 2009

Introduction of a Members' section on the Green Marine website, where participants have access to a variety of templates (management plans, forms, inventories, etc.) that may help them meet some of the environmental program's requirements.

October to November 2009

Various Events

The Green Marine Environmental Program is presented at several events:

- World Maritime Day in New York (October 16)
- "Oceans Innovation" conference in Victoria (October 21)
- Oceans Sciences forum in Rimouski (November 11)

November 2009

Green Marine Magazine

In collaboration with Canadian Sailings, Green Marine publishes the first edition of a biannual magazine focusing on environmental issues affecting the maritime industry.

January 2010

Green Marine Executive Director Appointed

On January 22, 2010, David Bolduc is appointed Executive Director by the Board of Directors of Green Marine Management Corporation.

December to May 2010

Support to Participants

In order to assist participants in evaluating their environmental performance, the Green Marine Secretariat holds several information sessions to explain recent changes to the performance indicators.

February 2010

Publication of 2009 Self-Evaluation Guide

March 2010

Publication of Guide to Help Participants Prepare for the External Verification Process

Green Marine collaborates with Lloyd's Register Quality Assurance in producing a guide to help participants prepare for the first round of external verifications.

March 2010

Hiring of Program Coordinator

On March 21, Ms. Andrée-Anne Stewart joins the Green Marine Management Corporation as Program Coordinator.

April 2010

Participants Submit Self-Evaluation Reports

April to May 2010

External Verification of Shipowners

An auditor from Lloyd's Register Quality Assurance meets with 13 shipowners to validate the levels declared in their self-evaluations forms.

May 2010

Certification Ceremony and Publication of Individual Results

Participants are presented with their official certifications during the third annual Green Tech conference. The event also includes the presentation of the participants' individual results and the global results from the second self-evaluation year.

2009 RESULTS

Green Marine's Objectives

Throughout 2009, Green Marine worked towards fulfilling a variety of objectives to help build on the successes of the previous year and strengthen the transparency and credibility of the program's self-evaluation process by:

- Implementing an external verification process to verify the self-evaluations carried out by participants
- Publish the individual results of each participant
- Publishing the individual results of participant companies
- Updating the content of the Program and clarifying certain performance indicators.

The vast majority of these objectives were achieved, as explained more fully below.

External Verification

Following the pilot project undertaken with five volunteer companies in April and May 2009, Green Marine implemented an external verification process consisting of the following elements:

- Participants' results must be verified externally every two years;
- Participants may use either the services of Lloyds Register Quality Assurance (LRQA) or a Green Marine accredited auditor of their choice.
- The auditor must make an on-site visit to the participant's premises to verify documents. This may also include a visit to the participants' facilities if deemed necessary;
- Participants must assume all costs associated with the verification process.

This year's external verification process took place between April 1st (the deadline by which participants were required to submit their self-evaluation reports) and May 7, 2010. Thirteen shipowners were visited by an auditor from Lloyds Register Quality Assurance, while another three were granted an extension by the Green Marine Secretariat.

The vast majority of companies that underwent the external verification process found the experience to be extremely useful and positive. Indeed, their preliminary preparations and subsequent discussions with the auditor enabled them to better understand specific aspects of the environmental program's criteria, and to more precisely identify the measures they need to implement in order to further improve their environmental performance.

The introduction of an external verification process by an independent third party has considerably strengthened the credibility of the self-evaluation process. The external verification process will encompass all Green Marine Participants starting in 2010.

Publication of Individual Results

A key element of the Green Marine initiative is that Participants agree to publicly report their individual performance indicators. This is an unprecedented signal that not only enhances the Program's transparency and credibility, but also underlines the seriousness of the environmental commitment that Participants have made. These results are shared in a spirit of openness that is not meant to invite comparison among Participants. Although all Green Marine Participants have a common goal of improving their environmental performance, they each do so within the demands and unique conditions and circumstances of their own businesses. Green Marine has a highly diversified membership in terms of both activity and resources. Some participating companies, for example, have several hundred employees while others have fewer than five. This is the reason that the Program is designed to promote a process of continuous environmental improvement, with participants progressing at the pace that suits them best, rather than imposing a specific goal on all companies.

Nevertheless, the public sharing of results clearly serves as a strong incentive for Participants to continue improving their performance year after year. The results over the last two years illustrate the success of this plan. In 2008, 16 companies obtained Level 1, the lowest level of performance indicators. In 2009, only four companies had not progressed to Levels 2 to 5.

2009 Results - SHIPOWNERS

SHIPOWNERS	Invasive Species	Air Emissions (SOx)	Air Emissions (NOx)	Greenhouse Gases	Cargo Residues	Oily Water
* Algoma Tankers	3	4	3	3	na	4
* Canfornav	4	4	3	4	4	5
Cogema	na	2	2	2	na	na
* CSL Group	4	4	3	5	4	3
* Fednav	4	3	3	5	5	4
Groupe C.T.M.A.	2	2	2	2	na	na
* Groupe Desgagnés / Rigel	3	5	3	3	2	2
* Lower Lakes Towing	2	2	2	2	2	2
* McKeil Marine	2	5	3	2	2	2
* Oceanex	2	5	2	2	na	3
* Ocean Group	2	5	2	2	na	1
Reformar	2	2	2	2	2	2
* Seaway Marine Transport / Upper Lakes Group	3	4	3	3	3	3
* Société des Traversiers du Québec	na	5	3	3	na	1

* = Results confirmed by third-party external verification

na = not applicable

NOTES

Level 1 - Indicates regulatory compliance
Level 2 - Systematic use of a defined number of best practices
Level 3 - Integration of best practices into an adopted management plan and quantifiable understanding of environmental impact
Level 4 - Introduction of new technologies
Level 5 - Excellence and leadership

A particular level can only be attained if all the criteria of the previous levels have been fulfilled. This means, for example, that a Participant could invest in certain less-polluting equipment and perhaps still not attain a higher performance level under the Green Marine Program.

The results published reflect Participants' performance with respect to the performance indicators contained in the Green Marine Environmental Program. Green Marine does not claim to provide an exhaustive evaluation of a given company's environmental performance.

The term "na" (not applicable) appears in several places in the tables above and on the next page because of the high degree of operational diversity among Participants. The environmental issues covered by the Program do not necessarily apply to all Participants in the same way. For example, tug and ferry companies do not pump ballast water, container carriers do not have to treat their cargo residues and most ports do not have "conflict of use" issues if they are not located in an urban area.

2009 Results - PORTS AND TERMINALS

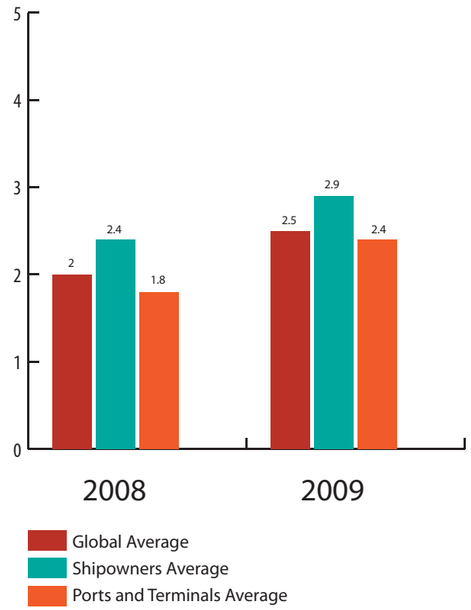
PORTS AND TERMINALS	Greenhouse Gases	Cargo Residues	Conflicts of Use	Environmental Leadership
Bécancour Waterfront Industrial Park	2	na	na	2
Bunge du Canada Limitée	4	2	3	na
Cleveland-Cuyahoga County Port Authority	1	na	na	2
Duluth Seaway Port Authority	2	na	2	1
Empire Stevedoring	4	na	3	na
Federal Marine Terminals	4	5	4	na
Hamilton Port Authority	3	na	2	2
Illinois International Port District	1	1	1	1
Les Élévateurs de Trois-Rivières	1	1	1	na
Logistec Corporation	4	4	2	na
Montréal Port Authority	4	2	5	4
Oshawa Port Authority	1	na	2	1
Porlier Express Inc.	1	2	na	na
Port of Milwaukee	1	na	1	na
Québec Port Authority	1	na	2	2
Rio Tinto Alcan	5	5	5	na
Saguenay Port Authority	2	na	na	2
Saint Lawrence Seaway Development Corporation	2	na	na	na
Sept-Îles Port Authority	3	na	2	3
Société du port de Valleyfield	2	na	na	2
Montreal Gateway Terminals	3	na	4	na
St. Lawrence Seaway Management Corporation	4	na	2	3
Thunder Bay Port Authority	1	na	na	3
Trois-Rivières Port Authority	2	na	2	3
Toledo-Lucas County Port Authority	1	na	na	1
Toronto Port Authority	1	1	1	2
Ultramar	5	na	3	na
Windsor Port Authority	2	na	na	2

na = not applicable

Global Results & Analysis

The bar charts below show the average levels attained by participants of the Green Marine Environmental Program, based on the data contained in the evaluations received for 2009. In 2009 (see Figure 1), participants received a global average of 2.5 for all issues combined, which is significantly higher than the global average of 2 that was recorded in 2008, Green Marine's first year of reporting. This increase is due primarily to the fact that Participants' had a better understanding of the best practices linked to Level 2, which enabled them to progress to this level in several different performance indicators. Ports and terminals were particularly successful in this area. Some Participants also achieved a higher level because certain requirements that they had to implement in 2008 were found to be non-applicable to them following a review of the Program in 2009.

Figure1
AVERAGE LEVELS ATTAINED
BY ALL GREEN MARINE PARTICIPANTS FOR 2008-2009



Figures 2 and 3 show significant progress in the results obtained for almost all performance indicators. The only exception is for cargo residues (ports and terminals), which underwent extensive modification between 2008 and 2009. The high levels that shipowners attained for reduction in SOx emissions is due in part to the fact that the majority of companies have completed an annual inventory of their SOx emissions (as required for Level 3) and also due to the fact that some rely exclusively on marine diesel (as required for Level 5).

The industry-wide results from 2009 results are extremely positive and encouraging. In fact, several Participants went even further in their environmental performance by implementing environmental initiatives that surpass the current demands of the Green Marine Program. The progress that Participants have made since 2008 clearly demonstrates the degree to which they have integrated a culture of continuous environmental improvement into their activities, and this may well represent Green Marine's greatest success.

AIS : Aquatic Invasive Species
SOx : Pollutant Air Emissions: Sulphur Oxides
NOx : Pollutant Air Emission: Nitrogen Oxides
GHG : Greenhouse Gases
CR : Cargo Residues
OW : Oily Water
CU : Conflicts of Use in Ports and Terminals
EL : Environmental Leadership

Figure 2
AVERAGE LEVELS ATTAINED BY SHIPOWNERS
PARTICIPANTING IN THE GREEN MARINE
ENVIRONMENTAL PROGRAM FOR 2008-2009

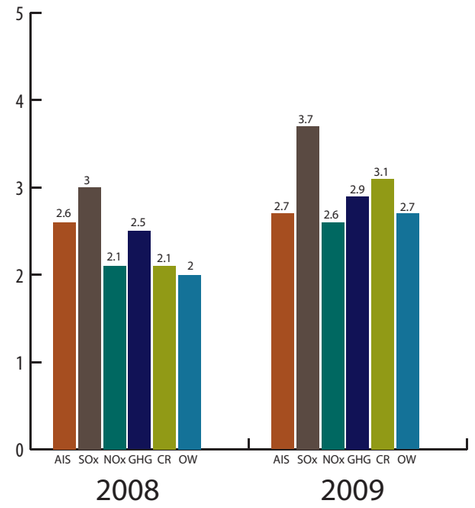
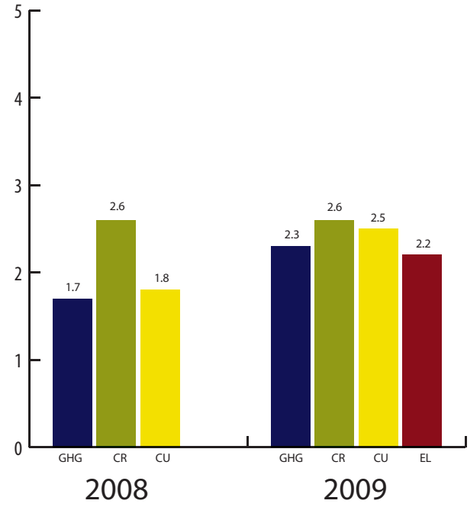


Figure 3
AVERAGE LEVELS ATTAINED BY PORTS
AND TERMINALS PARTICIPATING IN THE GREEN
MARINE ENVIRONMENTAL PROGRAM FOR 2008-2009



GREEN MARINE PROGRAM ENHANCEMENTS

Revision and development of indicators

With the assistance of Green Marine's Board of Directors and its technical and environmental committees, an enormous amount of work on the content of the program was carried out in 2009. These efforts began during the first self-evaluation period, when several problematic areas in the performance indicators were identified. Immediately after the certification ceremony that took place last May, Green Marine formed three technical committees to examine these areas more closely, and the resulting amendments, which are summarized below, were submitted to the St. Lawrence Environment Committee for approval.

- **Invasive species (levels 3 and 4):** Due to difficulties in methodology and application, the level 3 requirement to evaluate propagation risks using government data was withdrawn, as was the level 4 requirement to analyse sediment samples. These were replaced by a requirement to conduct ballast water inventories (for domestic shipowners) and to produce compliance reports on the salinity level of ballast reservoirs (for international shipowners), as well as develop a statistical tool to evaluate the risk of propagating invasive species by means of ballast water.
- **NOx Emissions (levels 3 and 4):** Shipowners now have the option of either doing sampling or conducting an inventory in order to reach level 3. However, they must complete both in order to reach level 4.
- **Greenhouse Gas Emissions – Ports and Terminals (Levels 3 and 4):** The requirement for an energy performance plan has been moved from level 3 to level 4.
- **Cargo Residues – Shipowners:** To reach level 4, participants must implement uniform practices throughout their fleet, and develop a training plan to improve the specificity of the inventory required at level 3.
- **Cargo Residues – Ports and Terminals:** This entire indicator has been revised and is now applicable exclusively to solid bulk operators.
- **Conflicts of Use (Level 3):** The requirements for sound and dust sampling have been clarified.

In addition to revising several existing performance indicators, a great deal of effort was also devoted to identifying and developing new indictors as needed. For example, Green Marine, Purdue University and the U.S. Great Lakes Ports Association launched a joint effort financed by the Great Lakes Maritime Research Institute (GLMRI) to develop new performance indicators for ports and terminals. Towards that end, Lynn Corson, a researcher at Purdue University, worked with the Great Lakes Environment Committee to define performance criteria for managing run-off waters and preventing spills on port territory. These new indicators are almost complete and will be presented to Participants later in 2010.

SUMMARY OF ENVIRONMENTAL ISSUES AND ACTIONS PROPOSED BY GREEN MARINE

Aquatic Invasive Species

The risk of introducing and propagating aquatic invasive species by means of ships' ballast water has been identified as the marine industry's most important issue. The performance indicator for this issue encourages all shipowners, both domestic and international, to implement safer practices and initiate technological projects that will ultimately enable them to conform to – or exceed – the future requirements of the International Convention for the Control and Management of Ships' Ballast Water and Sediments.

The recent regulations regarding the management and treatment of ballast waters in certain U.S. states pose a challenge for Green Marine because the performance indicator for this issue is based on the requirements of the IMO ballast water convention. Given that 8 states and 2 provinces in two different countries border the St. Lawrence-Great Lakes region, Green Marine must act very prudently before modifying its requirements due to regulatory developments in these different jurisdictions. Green Marine plans to study this issue carefully in 2010, with a view to making any necessary adjustments for this performance indicator.

Pollutant Air Emissions

The environmental program includes distinct performance indicators to address the two main air pollutants emitted by ships – sulphur oxides (SOx) and nitrogen oxides (NOx). Emissions of sulphur oxide are directly related to the sulphur level in the fuel used by the ship. In addition to requiring practices that reduce fuel consumption, the performance indicator for this issue encourages the use of lower-sulphur content fuel, or the use of technologies that will result in an equivalent reduction in emissions.

Emissions of nitrogen oxide, on the other hand, are linked more to engine design than fuel quality, and the performance indicator for this issue is designed to surpass the standards that are already in place, as well as those that are still under discussion by the International Maritime Organization (IMO). The recent announcement of the implementation of a North American Emissions Control Area may result in modifications to the performance indicator for SOx emissions starting in 2010.

Greenhouse Gases

Greenhouse gas (GHG) emissions are currently the most significant environmental challenge that our planet faces. Marine transportation represents an excellent means of dealing with this challenge because the energy efficiency of ships results in a lower level of GHG emissions than any other mode of transportation on a tonne-kilometres basis.

The Green Marine Program encourages participants to make every effort to cut their GHG emissions even further by reducing their fuel consumption. After implementing an energy performance plan and conducting an emissions inventory at Level 3, Participants must significantly improve their energy efficiency to reach Levels 4 and 5.

Cargo Residues

Cargo residues are generated from the loading and unloading of the holds of ships transporting solid bulks, such as minerals, grain, salt, sugar, etc. To prevent contamination among cargoes, these holds are swept and rinsed clean whenever a ship changes the type of cargo it carries.

The performance indicator for this issue requires participants to begin by conducting inventories and adopt best practices – Levels 1 and 2 – and then mandates that shipowners and terminal operators work together to reduce the production and discharge of cargo residues during loading and unloading operations to achieve Level 3 status. This is followed by the development of technological solutions and the adoption of corporate policies to eliminate cargo residue discharges (for shipowners) and the implementation of measures to limit dust emissions and cargo spillage (for sold bulk terminals) – Levels 4 and 5.

Oily Waters

The equipment on ships – engines, pumps, and piping, etc. – use various types of fluids, such as fuel, oils and water. In certain sections of the ship, and in the engine room in particular, oil can mix with water during normal operations or when machinery is undergoing routine maintenance, making it necessary to treat the contaminated water before it can be discharged from the ship. Ensuring the proper functioning of the equipment used to treat oily water is crucial to avoiding even the most minimal risk of pollution.

The performance indicator for this issue is based on the implementation of a significant number of best practices and improvements to the technologies used in the ship's engine room.

Conflicts of Use in Ports and Terminals

The extensive economic and industrial activity that takes place at ports often leads to the creation of dust, noise, light and odours, all of which may be perceived as irritants by people who live near port installations. The performance indicator for this issue aims to reduce existing and potential irritants through a series of concrete measures. It also includes a number of criteria related to communications, which are designed to establish a collaborative relationship between port users and the public.

Environmental Leadership

This new performance indicator, which is aimed exclusively at port administrations, stems from the fact that ports, as administrators of land and infrastructure, generally impact the environment not through their own activities, but through the activities of their tenants and users (terminal operators, transport companies, etc.) Within such a context, one of the most productive environmental roles that ports can play is to encourage their clients to adopt best environmental practices.

Towards that end, the performance indicator requires port administrations to undertake various actions to encourage their tenants and users to continually improve their environmental performance. This includes promoting voluntary environmental programs, including environmental clauses in leases and contracts, and initiating collaborative and innovative projects, such as the ones showcased on the following page.

INDUSTRY INITIATIVES

PLUGGABLE HYBRID ELECTRICAL TERMINAL TRUCK TESTED AT MONTREAL GATEWAY TERMINAL

Montreal Gateway Terminals Partnership is the first marine terminal in Canada to test the PHETT (Pluggable Hybrid Electrical Terminal Truck) developed by the Texas firm Capacity. The PHETT is a hybrid truck for terminals, which runs on batteries that are powered by a diesel generator while the truck is in use, and through electrical power when the truck is plugged in. A test took place from April 19 to 30, 2010 in sections 62 and 77 of the Montreal Gateway Terminals Partnership. For more information, please visit the PHETT website at www.capacitytexas.com/phett.html.

THE PORT OF TORONTO CONVERTS TO RENEWABLE ENERGY

The Toronto Port Authority (TPA) participated in Earth Hour 2010 to bring attention to the need for everyone to do their part in fighting climate change. On Saturday, March 27, 2010, starting at 8:30 pm, the TPA turned off or dimmed lights and shut down machinery that were not essential for security or public safety throughout the Port of Toronto and invited photographers and video-camera operators working for local media to record the change in the Toronto skyline during Earth Hour. The TPA's commitment to fighting climate change and reducing carbon emissions did not end with Earth Hour. The TPA has deployed a long-term sustainability action plan to fight climate change and protect the environment. In 2010, the TPA began to purchase 100 per cent of its electricity for all operations from renewable sources such as wind and hydro through Bullfrog Power. For more information, visit the Port of Toronto's website: www.torontoport.com.

GROUP OCEAN REDUCES ITS GHG EMISSIONS

As part of its fleet renewal plan, Group Ocean has acquired five new tugs – four with 5000 HP and one with 4000 HP – all of which are equipped with a new generation of Tier 1 engines. On the last tug built at Industrie Ocean's shipyard, located at l'Ile-aux-Coudres, the engines of the generator sets are certified Tier 2. This new generation of engines will enable Group Ocean to reduce its greenhouse gas (GHG) emissions by approximately 10 to 20 percent.

"Each day, taking steps toward a greener future."

TOLEDO-LUCAS COUNTY PORT AUTHORITY REDEVELOPS FORMER INDUSTRIAL PARK

The Toledo-Lucas County Port Authority in Ohio has received a $2 million grant for the redevelopment of the former industrial park at Beazer, located at the Port of Toledo. This grant, which was awarded by the State of Ohio via its Clean Ohio Revitalization Fund (CORF) program, will allow the Port Authority to complete environmental remediation and demolition activities on this property that it purchased in 2004. The Toledo- Lucas County Port Authority views this project as an excellent example of local, state and federal political subdivisions bringing resources together to redevelop a former brownfield.

FEDERAL MARINE TERMINALS PUBLISHES ITS ENVIRONMENTAL POLICY

Federal Marine Terminals (FMT) has unveiled the details of its environmental policy, which is now available on the company's website (www.fmtcargo.com). With its focus on reducing greenhouse gas emissions, the prevention of aquatic and terrestrial pollution, and the handling of dangerous goods, FMT's initiative is helping to reduce its environmental footprint in all areas of its operation.

THE QUEBEC PORT AUTHORITY TREATS ITS CONTAMINATED SOIL

The Port Authority of Quebec has set up a special area on its territory for treating soil contaminated by hydrocarbons resulting from earlier tanker activity. The decontamination process involves placing the soil onto a waterproof asphalt surface and mixing it with large quantities of nutrients. A watertight canvas is then spread over the treatment area, and the air under the canvas is sucked out using an underground suctioning device. This creates an ideal environment in which microorganisms can grow and carry out the decontamination process. After a treatment period of approximately 26 weeks, the decontaminated soil is ready to be re-used as filling material. By conducting the treatment process on its territory rather than transporting the contaminated soil elsewhere, the port is also minimizing the number of trucks – and therefore the level of GHG emissions – on the region's highway network.

Annex A
Green Marine Management Corporation

AMERICAN GREAT LAKES PORTS ASSOCIATION
www.greatlakesports.org
Steve FISHER
Executive Director
700-700 12th Street, NW
Washington, DC, 20013
Telephone: 202 625-2102
fisher@greatlakesports.org

CANADIAN SHIPOWNERS ASSOCIATION
www.shipowners.ca
Bruce BOWIE
President
705-350, Sparks Street
Ottawa, Ontario, K1R 7S8
Telephone: 613-232-3539
bowie@shipowners.ca

CHAMBER OF MARITIME COMMERCE
www.cmc-ccm.com
Raymond JOHNSTON
President
700-350, Sparks Street
Ottawa, Ontario, K1R 7S8
Telephone: 613-233-8779
rjohnston@cmc-ccm.com

SHIPPING FEDERATION OF CANADA
www.shipfed.ca
Michael BROAD
President
326-300, rue du Saint Sacrement
Montreal, Québec, H2Y 1X4
Telephone: 514-849-2325
mhbroad@shipfed.ca

ASSOCIATION OF CANADIAN PORT AUTHORITIES
WWW.ACPA-PORTS.NET
Gary LEROUX
Executive Director
85, Albert Street, Suite 1502
Ottawa, Ontario, K1P 6A4
Telephone: 613-232-2036
leroux@igrg.com

SODES
www.st-laurent.org
Robert MASSON
President
271, rue de l'Estuaire
Québec, Québec, G1K 8S8
Telephone: 418-648-4572
robert.masson@st-laurent.org

ST. LAWRENCE SHIP OPERATORS
www.armateurs-du-st-laurent.org
Marie LETELLIER
Executive Director
271, rue de l'Estuaire
Québec, Québec, G1K 8S8
Telephone: 418-648-4378
asl@portquebec.ca

UNITED STATES GREAT LAKES SHIPPING ASSOCIATION
www.usglsa.org
Stuart H. THEIS
Executive Director
7714 Woodstar Lane
Concord Township, Ohio, 44077-8993
Telephone: 440 357-9104
theismarine@adelphia.net

ONTARIO MARINE TRANSPORTATION FORUM
www.omtf.org
Peter LANDRY
Executive Director
595 Bay Street, Suite 1202
Toronto, Ontario, M5G 2C2
Telephone: 416-586-1474
plandry@oebenterprise.com

GREEN MARINE SECRETARIAT

Executive Director
David BOLDUC

Coordinator
Andrée-Anne STEWART

Annex B

GREEN MARINE GOVERNANCE BOARD

Greg WIGHT	Algoma Central Corporation
Steve CANTIN	Bunge of Canada
Michael HAGN	Canfornav
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André LANDRY	CTMA Group
Adolph OJARD	Duluth Seaway Port Authority
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Paul GOURDEAU	Federal Marine Terminal
Louis-Marie BEAULIEU	Groupe Desgagnés
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Sid HYNES	Oceanex
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Pierre GAGNON	Sept-Îles Port Authority
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Richard J. CORFE	St. Lawrence Seaway Management Corporation
Gerry CARTER	The CSL Group
Tim HENEY	Thunder Bay Port Authority
Michael J. STOLARCZYK	Toledo-Lucas County Port Authority
Goeffrey A. WILSON	Toronto Port Authority
Gaétan BOIVIN	Trois-Rivières Port Authority
Louis FORGET	Ultramar
Pat LODUCA	Upper Lakes Group
David CREE	Windsor Port Authority

GREEN MARINE EXECUTIVE COMMITTEE

CO-CHAIRS:

Laurence PATHY	Fednav Limited
Gerry CARTER	The CSL Group
Terry JOHNSON	Saint Lawrence Seaway Development Corporation

MEMBERS:

Peter RASKIND	Cleveland-Cuyahoga County Port Authority
Adolph OJARD	Duluth Seaway Port Authority
Louis-Marie BEAULIEU	Groupe Desgagnés
Bruce WOOD	Hamilton Port Authority
Madeleine PAQUIN	Logistec Corporation
Sylvie VACHON	Montréal Port Authority
Allister PATERSON	Seaway Marine Transport
Richard CORFE	St. Lawrence Seaway Management Corporation

Annex C
Members of environment committies

ST. LAWRENCE ENVIRONMENT COMMITTEE

PRESIDENT:

Lyne MARTIN	Montréal Port Authority

SECRETARY:

Andrée-Anne STEWART	Green Marine

MEMBERS:

Martin DAIGNEAULT	Bunge of Canada
Marie-Josée COUTURE	Environnement Canada
Marc GAGNON	Fednav Limited
David BOLDUC	Green Marine
Daniel CÔTÉ	Groupe Desgagnés
Claude MAILLOUX	Human Resources Sectorial Committee of the Maritime Industry
Nicolas PARENT	Innovation Maritime
Ingrid STEFANCIC	Logistec
Guy DESMARAIS	Ministère du Dév. Durable, de l'Env. et des Parcs
Manon D'AUTEUIL	Sept-Îles Port Authority
Anne LEGARS	Shipping Federation of Canada
Caroline GRAVEL	Shipping Federation of Canada
Nicole TRÉPANIER	Société des traversiers du Québec
Robert MASSON	Sodes
Pierre PESANT	St. Lawrence Seaway Management Corporation
Jean-Éric TURCOTTE	Stratégies Saint-Laurent
Caroline DENIS	The CSL Group
Rachid RAFFA	Transport Québec
Eve JOSEPH	Transport Québec
Claude COMTOIS	Université of Montréal

GREAT LAKES ENVIRONMENT COMMITTEE

PRESIDENT:

Marilyn BAXTER	Hamilton Port Authority

MEMBERS:

Steve FISHER	American Great Lakes Ports Association
David BOLDUC	Green Marine
Guy JARVIS	Thunder Bay Port Authority
Ray JOHNSTON	Chamber of Maritime Commerce
Pamela DAVIS	Cleveland-Cuyahoga County Port Authority
Pierre PESANT	St. Lawrence Seaway Management Corporation
Sal PISANI	SLSDC
Mike KIRKPATRICK	Federal Marine Terminals
Richard STEWART	Great Lakes Maritime Research Institute
John GRUSZEWSKI	McKeil Marine
Mira HUBE	Seaway Marine Transport
Caroline GRAVEL	Shipping Federation of Canada
Stuart THEIS	U.S. Great Lakes Shipping Association