



VOLUNTARY ENVIRONMENTAL CERTIFICATION PROGRAM FOR THE MARITIME INDUSTRY

Overview for the EPA – North East Diesel Collaborative
Wednesday, September 19, 2018

Thomas Gregoire, East Coast & Great Lakes Program Manager

green-marine.org



GREEN MARINE IS...

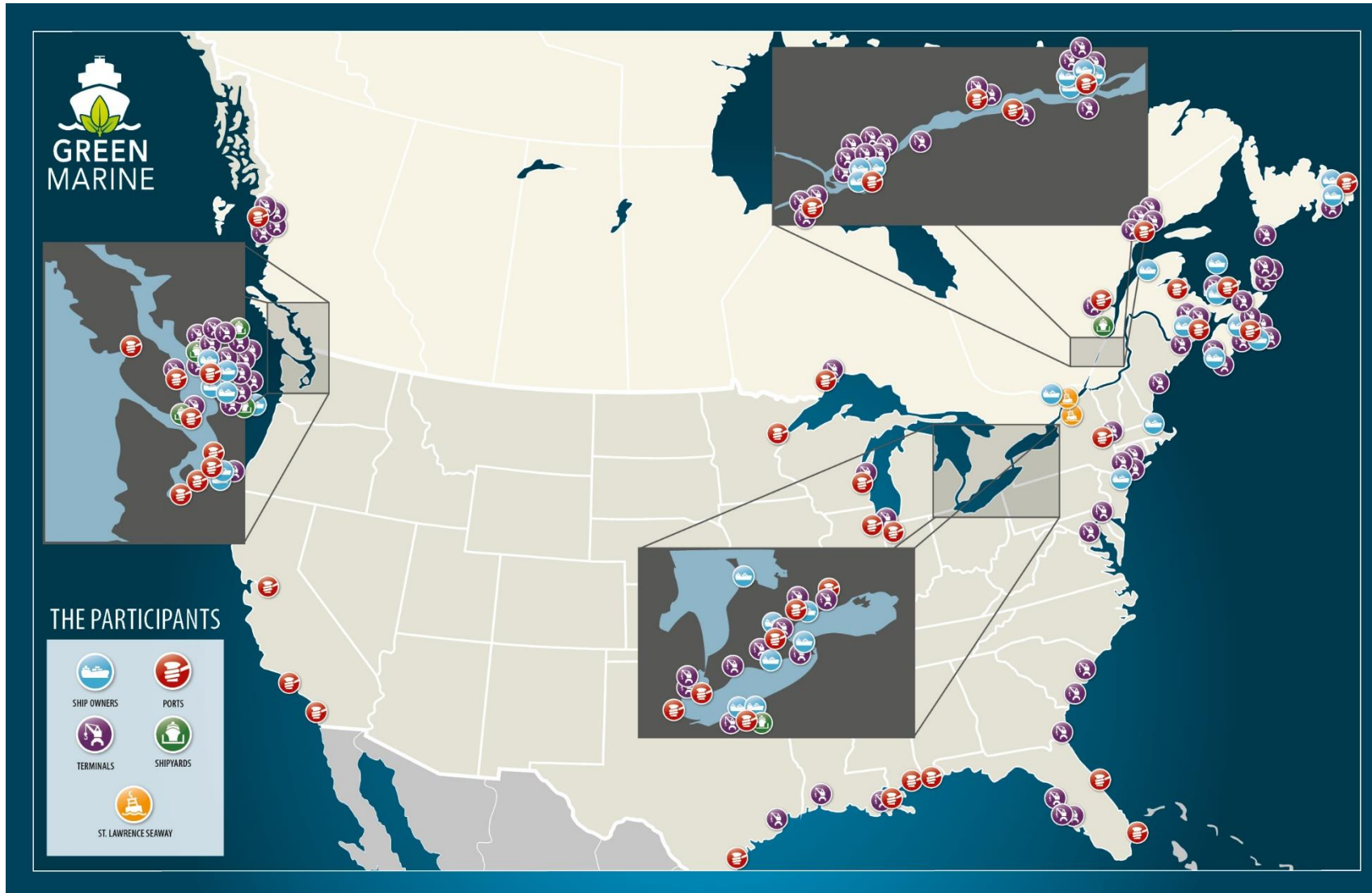
A **voluntary certification program** to reduce environmental footprint of marine operations by

- exceeding regulatory compliance
- promoting a culture of continual improvement

A **benchmarking tool** to measure performance

A **partnership** initiative involving stakeholders

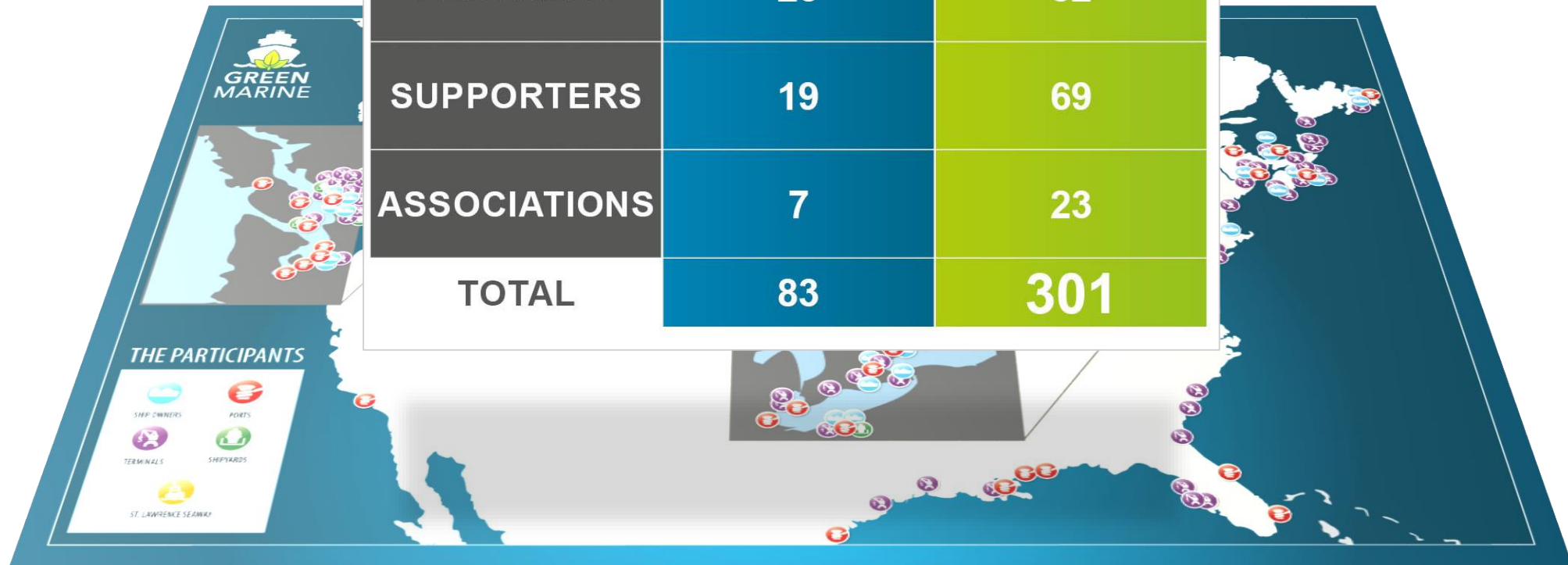
127 Participants in US and Canada



MEMBERSHIP GROWTH 2007 – 2018



	2007	2018
PARTICIPANTS	34	127
PARTNERS	23	82
SUPPORTERS	19	69
ASSOCIATIONS	7	23
TOTAL	83	301





PORTS



- Alabama State Port Authority
- Albany Port District Commission
- Bécancour Waterfront Industrial Park
- Belledune Port Authority
- Canaveral Port Authority
- Duluth Seaway Port Authority
- Greater Victoria Harbour Authority
- Halifax Port Authority
- Hamilton Port Authority
- Illinois International Port District
- Montréal Port Authority
- Nanaimo Port Authority
- Northwest Seaport Alliance
- Oshawa Port Authority
- Port Alberni Port Authority
- Port Charlottetown
- Port Everglades
- Port Milwaukee
- Port of Cleveland
- Port of Corpus Christi
- Port of Everett
- Port of Gulfport (MSPA)
- Port of Hueneme
- Port of Indiana - Burns Harbor
- Port of Monroe
- Port of New Orleans
- Port of Olympia
- Port of San Diego
- Port of Seattle
- Port of Stockton
- Port of Valleyfield
- Prince Rupert Port Authority
- Québec Port Authority
- Saguenay Port Authority
- Saint John Port Authority, NB
- Sept-Îles Port Authority
- St. John's Port Authority, NL
- Thunder Bay Port Authority
- Toronto Port Authority
- Trois-Rivières Port Authority
- Vancouver Fraser Port Authority
- Windsor Port Authority

PROGRAM CRITERIA

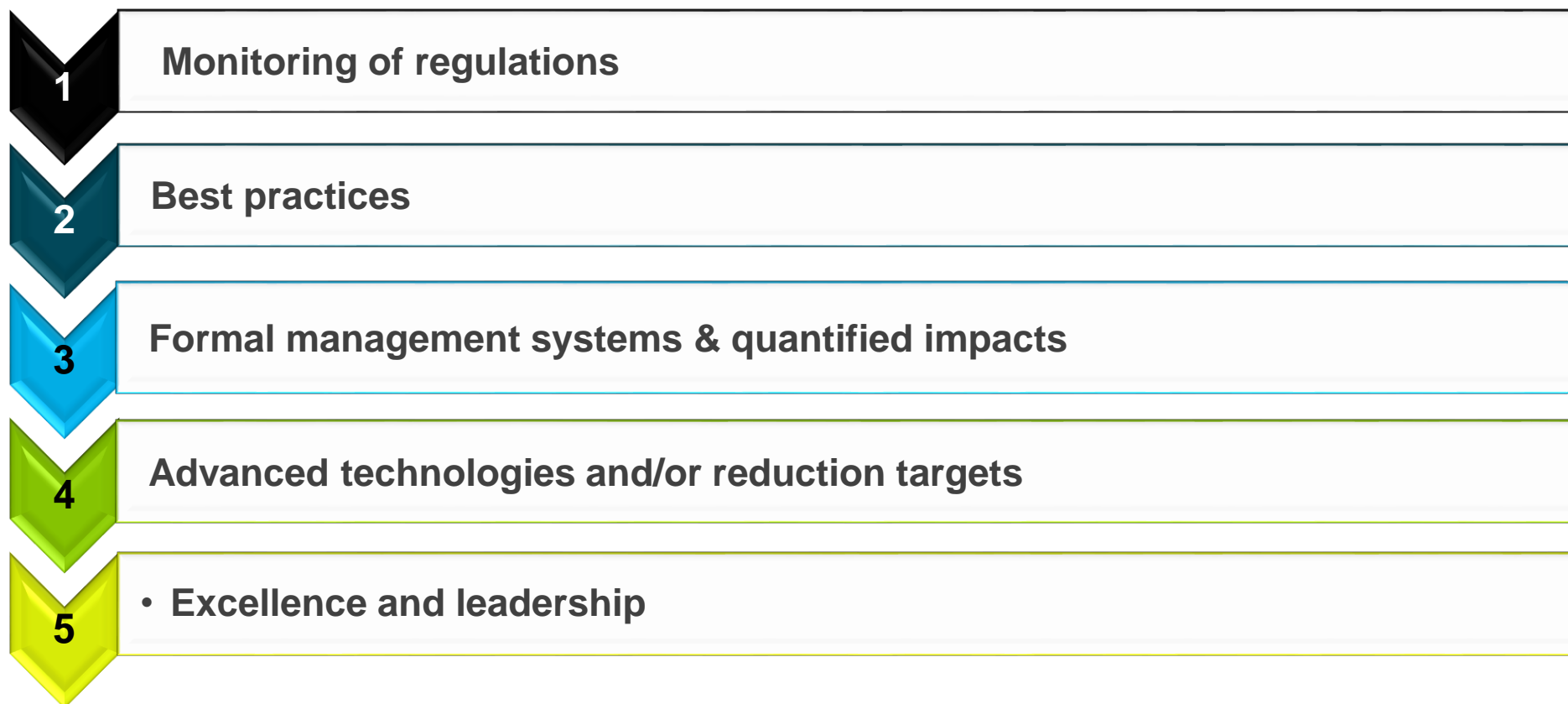
ENVIRONMENTAL PERFORMANCE INDICATORS

PERFORMANCE INDICATORS	SHIP OWNERS	PORTS & SEAWAY	TERMINALS & SHIPYARDS
Aquatic invasive species			
Community impacts			
Dry bulk handling and storage			
Environmental leadership			
Garbage management			
Greenhouse gas emissions			
Oily water			
Pollutant air emissions NOx			
Pollutant air emissions SOx & PM			
Prevention of spills and leakages			
Underwater noise			
Waste management			



BENCHMARKING PERFORMANCE

For each environmental issue, performance is evaluated from Level 1 to Level 5:



ANNUAL CERTIFICATION PROCESS & CONFERENCE



Evaluation Process

- Annual self-evaluation requiring CEO sign-off



External Verification

- Third party verification every two years



Results Publication

- Annual Report
- Website



Certification

- Exceeding regulatory compliance
- Demonstrating continuous improvement

PROGRAM SUMMARY





**Green Marine
Environmental
Program**

2018

Performance
Indicators for Ports
& St. Lawrence
Seaway
Corporations

GREEN MARINE ENVIRONMENTAL PROGRAM
Performance Indicators for Ports & St. Lawrence Seaway Corporations - 2018

2. GREENHOUSE GASES AND AIR POLLUTANTS

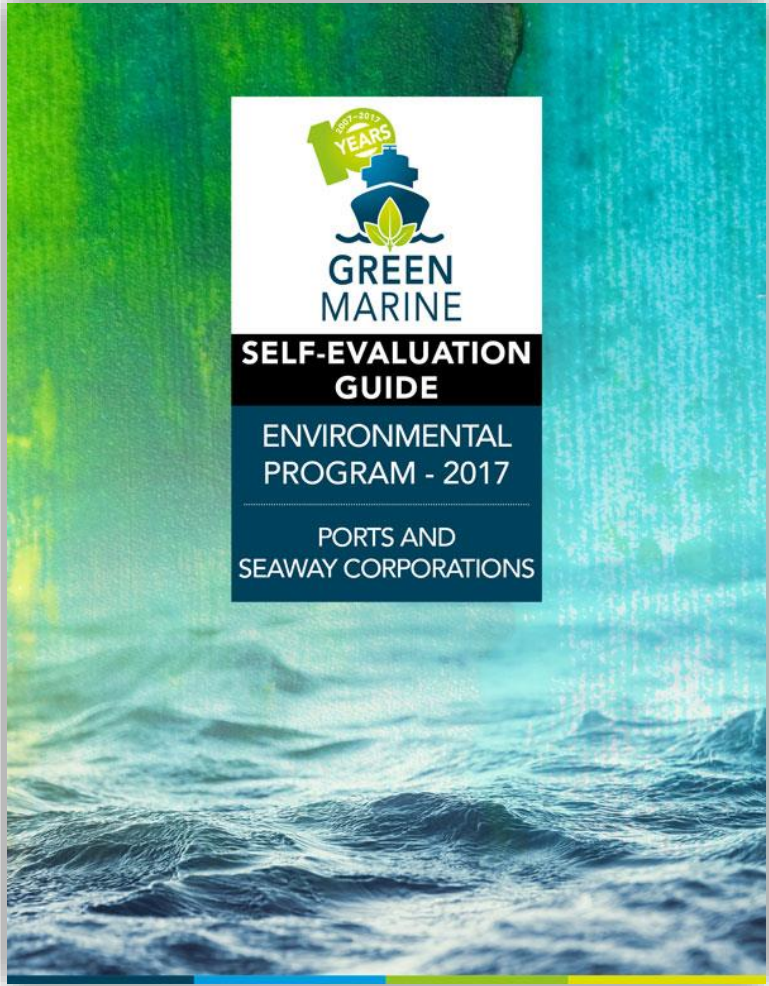
OBJECTIVE: To reduce greenhouse gas (GHG) and air pollutant emissions.

LEVEL 1	
Monitoring of regulations	
LEVEL 2	
2.1 Implement policies and communications that discourage idling of vehicles powered by Internal Combustion Engines. Include, at minimum, participant's own road, off-road, and unlicensed vehicles.	
2.2 Promote sustainable transportation practices by employees. <i>Example:</i> Incentives for public transport and carpooling, reorganization of business travel, installation of bicycle racks, etc.	
2.3 Implement measures to reduce congestion and idling during periods of heavy activity. <i>Note:</i> This relates to truck traffic.	
Ports only: 2.4 Implement policies and communications that inform or, when necessary, issue warnings to ships which emit excessive amounts of smoke.	
LEVEL 3	
3.1 Complete an annual report on GHG emissions. <i>Note:</i> The report only refers to GHG emissions resulting directly from the participant's activities. <i>Note:</i> See Annex 1-A.	
AND	
3.2 New criterion, OPTIONAL FOR 2018 Within the last 5 years, complete a detailed inventory for all Port and terminal operator owned/leased, and operated fleets, such as vehicle, off-road, and locomotives. <i>Note:</i> Include equipment's model year and engine's model year and/or emissions standard/tier, if available. Other data requirements may include hp and annual hours of operation.	3.3 New criterion, OPTIONAL for 2018 Implement a voluntary program to transition to lower emission equipment through cleaner fuels, engine repowers, or equipment replacements. This can be through direct incentives, rebates, or coordination of outside funding sources.
OR →	
LEVEL 4	
4.1 Complete a detailed inventory of GHGs and air pollutants emitted on the participant's entire area of jurisdiction within the last 5 years. Inventory should include key GHGs: CO ₂ , CH ₄ , and N ₂ O and criteria air pollutants, such as NO _x , SO _x , VOC, and PM. <i>Note:</i> Ports that are in nonattainment areas or that have potential "hotspots" should place a priority on an inventory of their relevant criteria air pollutants. Criteria air pollutants refer to those that are reported in Environment Canada's National Pollutant Release Inventory (NPRI) or U.S. EPA's National Emissions Inventory (NEI).	
4.2 Adopt a GHG performance plan for air emissions resulting directly from the participant's activities. In the plan, define reduction measures and establish reduction targets. <i>Note:</i> See Annex 1-B.	
LEVEL 5	
5.1 Publicly disclose GHG and relevant criteria air pollutant reduction targets and timeframe. Demonstrate continuous reduction of the participant's direct GHG emissions (in intensity), achieved by implementing the measures described in the energy performance and air pollutant reduction plans. <i>Note:</i> Each participant defines its own baselines for measuring continuous improvement.	

4

Posted online: <https://www.green-marine.org/program/>

SELF EVALUATION GUIDE



SELF EVALUATION		
5- COMMUNITY IMPACTS		
<h1>5</h1> <p>COMMUNITY IMPACTS</p>		
LEVEL 3		
HAS THE PARTICIPANT FULFILLED THE FOLLOWING CRITERIA?	STATUS	PROOF / JUSTIFICATION
<p>5.3.1 Adopt a plan for managing community issues, which formally incorporates all applicable the best practices, set out in level 2. Such a plan is to include a procedure for handling complaints. <i>Note: See Annex 3-A.</i></p>	<input type="radio"/> YES <input type="radio"/> NO <input type="radio"/> N.A.	
<p>5.3.2 Have a documented procedure for handling complaints.</p>	<input type="radio"/> YES <input type="radio"/> NO <input type="radio"/> N.A.	
<p>5.3.3 Have in place a procedure to verify sound levels of operations on a regular basis (at least annually).</p>	<input type="radio"/> YES <input type="radio"/> NO <input type="radio"/> N.A.	
<p>5.3.4 Have a procedure for evaluating environmental and social aspects of new projects, activities or types of operations including handling of new products, if there is uncertainty around the potential for environmental and social effects and where mitigation measures are not known to be effective and established. <i>Note: See Annex 3-B.</i> <i>Note: Not applicable to projects that are subject to an environmental assessment under existing regulation.</i></p>	<input type="radio"/> YES <input type="radio"/> NO <input type="radio"/> N.A.	
<p>5.3.5 Establish and implement a nuisance mitigation plan during works and/or operations. <i>Note: For ports, mitigation measures must be systematically part of all service contracts and communicated to tenants.</i></p>	<input type="radio"/> YES <input type="radio"/> NO <input type="radio"/> N.A.	
<p>5.3.6 If applicable, adopt and communicate a policy that deals with noise from vessels at anchor, and/or collaborate with the competent authorities to establish and communicate procedures for dealing with noise from vessels at anchor (e.g. operation of auxiliary or back-up engines, maintenance work, etc.).</p>	<input type="radio"/> YES <input type="radio"/> NO <input type="radio"/> N.A.	



SUMMARY REPORT FORM

- 1-pager
- Due by March 15
- Signed by CEO

GREEN MARINE ENVIRONMENTAL PROGRAM
2017 EVALUATION SUMMARY REPORT FORM

PORTS SEAWAY

PRINT RESTORE

ENVIRONMENTAL ISSUES	LEVEL ACHIEVED
1) AQUATIC INVASIVE SPECIES (Ports only) <i>Note: The AIS practices are not part of a performance indicator, and participants are therefore not required to link their performance with any particular level.</i>	
A) SAMPLINGS	YES NO N.A.
B) REGISTRY OF SPECIES	YES NO N.A.
2) GREENHOUSE GASES AND AIR POLLUTANTS	
3) SPILL PREVENTION	
4) DRY BULK HANDLING AND STORAGE <i>Note: Applicable only for ports operating dry bulk terminals</i>	
5) COMMUNITY IMPACTS	
6) ENVIRONMENTAL LEADERSHIP	
7) WASTE MANAGEMENT	
8) UNDERWATER NOISE *OPTIONAL FOR 2017 <i>Note: Applicable only for ports located on salt water.</i>	

I hereby confirm that the information contained in the Evaluation Summary Report Form matches the levels that the company has attained on the above environmental issues covered by the Green Marine Environmental Program. **This form must be signed by the president of the company or the company's most senior executive.**

Name of the signatory: _____
Title: _____ Company: _____
Signature: _____ Signed on: _____

Please complete, print and sign the Evaluation Summary Report Form and return it to the Green Marine Secretariat **before March 15, 2018**: By mail to 25, du Marche-Champlain, suite 402, Québec City (Québec) Canada G1K 4H2; by fax to (418) 476-1906 or by e-mail (scanned file) to the Program Manager of your region: (US & West Coast) eleanor.kirtley@green-marine.org; (Great Lakes & East Coast) thomas.gregoire@green-marine.org; (St. Lawrence) veronique.nolet@green-marine.org.

EXTERNAL VERIFICATION



On-site verification with 3rd party accredited verifier

Due May 4

Repeated every other year

21 Accredited Verifiers

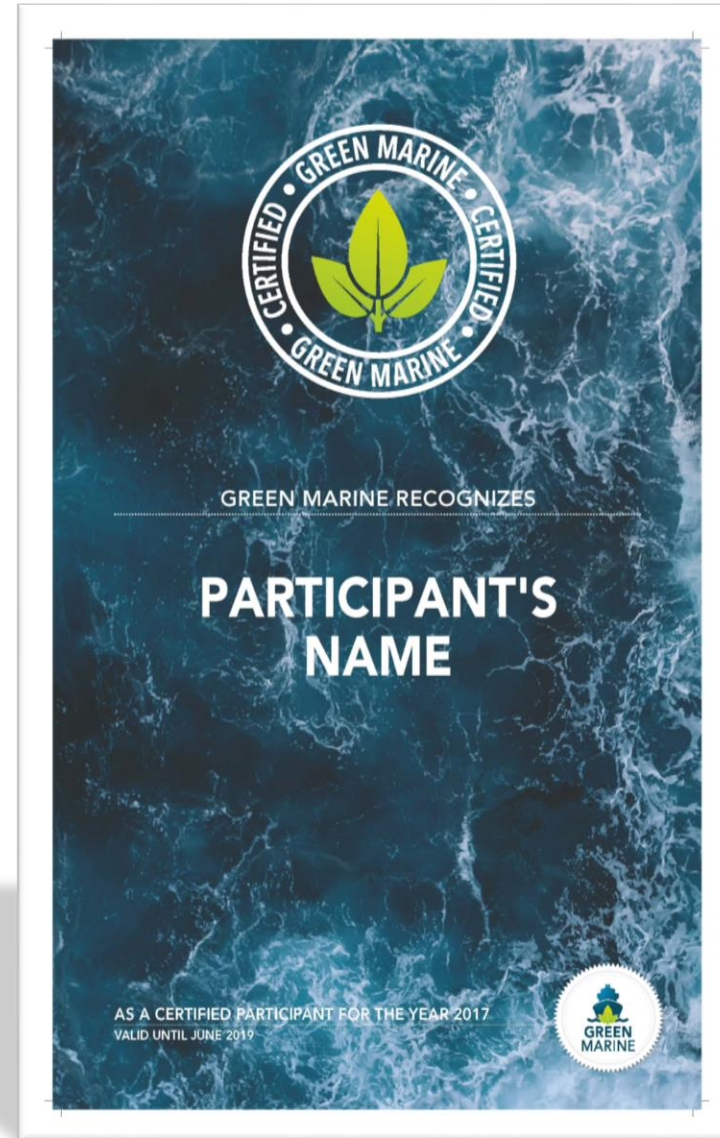
- Experienced with Vessel Ops, ISM / ISO Compliance Auditing, and Environmental
- Initial training and exam required to obtain accreditation; Annual training to maintain accreditation



Quality control process


CERTIFICATION

- Level 1 in all environmental issues plus Level 2 in one issue
- Continual Improvement by one level each year until Level 2 in all environmental issues
 - Beyond Level 2, demonstrate measurable year-over-year improvement



PUBLICATION OF RESULTS



PORT AUTHORITIES 	GHG & AIR POLLUTANTS	SPILL PREVENTION	DRY BULK HANDLING AND STORAGE	COMMUNITY IMPACTS	ENVIRONMENTAL LEADERSHIP	WASTE MANAGEMENT
Alabama State Port Authority	1	2	2	2	2	2
Bécaancat Waterfront Industrial Park	4	2	n.a.	2	4	2
Bellefleur Port Authority*	1	2	1	1	1	1
Canoveral Port Authority	2	5	n.a.	2	2	2
Cleveland-Cuyahoga County Port Authority	3	4	3	2	4	2
Duluth Seaway Port Authority	5	5	5	5	5	2
Greater Victoria Harbour Authority	3	5	n.a.	5	3	3
Halifax Port Authority	4	5	n.a.	4	5	4
Hamilton Port Authority	3	3	n.a.	4	2	3
Montreal Port Authority	5	5	n.a.	5	5	4
Nanaimo Port Authority	2	2	n.a.	2	3	2
Northwest Seaport Alliance	3	2	n.a.	2	3	2
Oshawa Port Authority	2	3	n.a.	4	2	2
Port Alberni Port Authority	2	2	n.a.	2	1	1
Port Everglades	5	5	3	2	5	2
Port of Albany	2	1	n.a.	2	2	1
Port of Corpus Christi	1	2	1	1	2	1
Port of Everett	1	2	2	2	2	2
Port of Galveston	2	3	2	2	2	2
Port of Hueneme	3	5	n.a.	5	5	4
Port of Indiana - Burns Harbor	2	3	n.a.	3	2	2
Port Milwaukee	3	2	n.a.	2	3	2
Port of Monroe	2	2	2	2	2	2



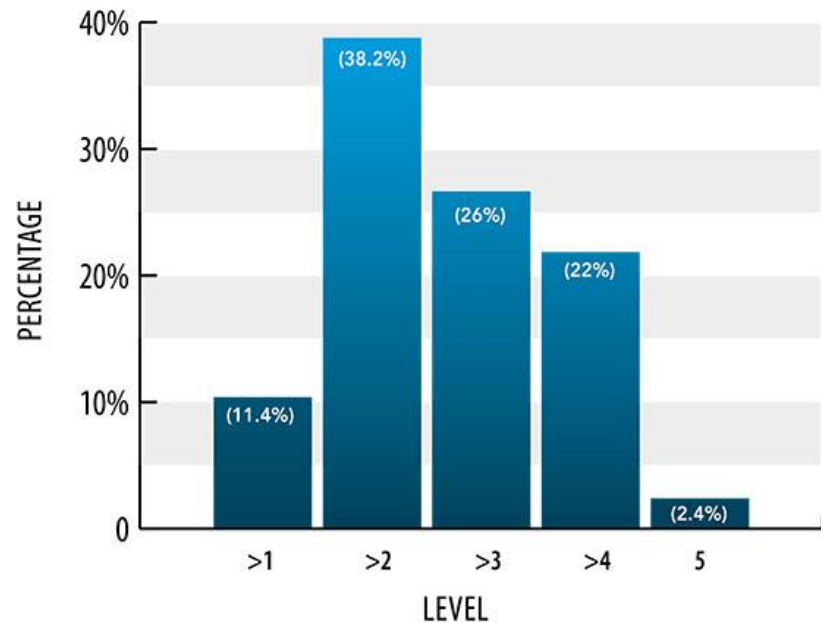
Performance report posted online: www.green-marine.org/certification/results/

2017 RESULTS

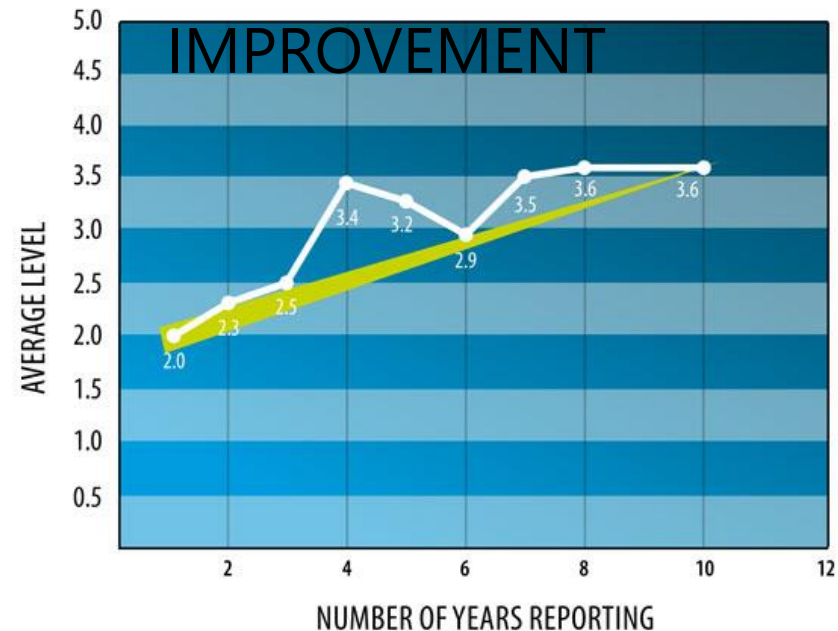


- **10%** more evaluation reports received (123 versus 112 for 2016)
- Global average in 2017 maintained at **3.1**
- **50%** of the participants achieved an average **Level 3 or higher** rating
- Indicator with the greatest increase: Waste management **16 levels up** from 2016

PERFORMANCE BY LEVEL



CONTINUAL IMPROVEMENT



ANNUAL COLLABORATION & PROGRAM DEVELOPMENT



WORKGROUPS → TECHNICAL COMMITTEES

Ad-hoc for particular issue with subject matter experts among all members

Each participant gets a seat

ADVISORY COMMITTEES

Directs program revision and development priorities. Includes all four member categories: participant, supporter, partner and association. And a verifier.

BOARD OF DIRECTORS

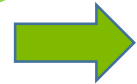


ANNUAL COLLABORATION & PROGRAM DEVELOPMENT



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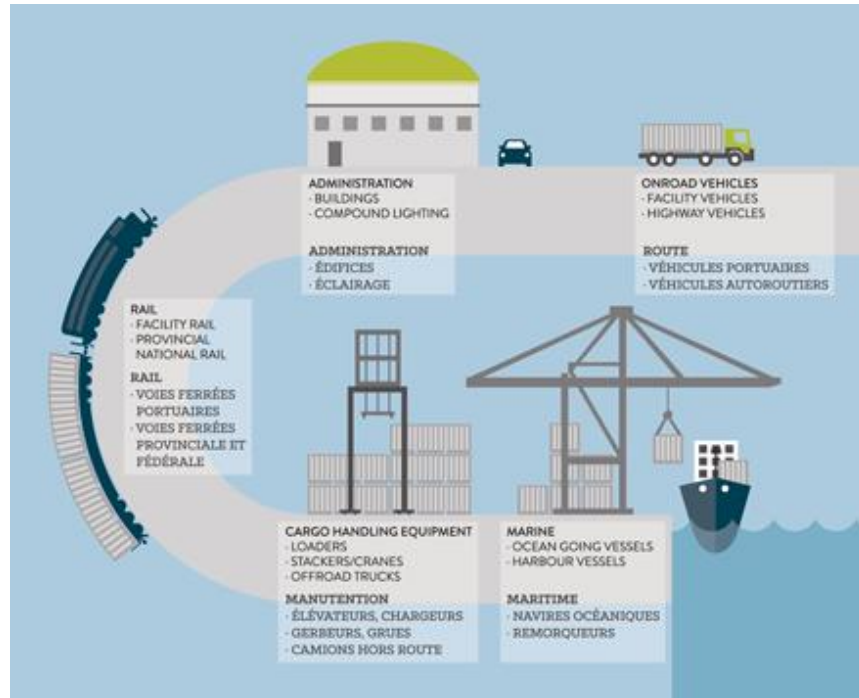
Directs program revision and development priorities. Includes all four member categories: participant, supporter, partner and association. And a verifier.



BOARD OF DIRECTORS



SPECIAL PROJECTS



Port Emission Inventory Tool (PEIT)

- Microsoft Excel/Access desktop calculator
- Available to Green Marine participants cost-free!

Community Relations Performance Indicator (PI)

- Under development for Ports and Terminal by workgroups in both English and French

ANNUAL CONFERENCE



- 2008 → Montreal
- 2009 → Toronto
- 2010 → Montreal
- 2011 → Chicago
- 2012 → Quebec City
- 2013 → Vancouver
- 2014 → Saint-John
- 2015 → Seattle
- 2016 → Quebec City
- 2017 → Fort Lauderdale
- 2018 → Vancouver, B.C.

GreenTech 2019:
Cleveland, Ohio / June 5 – 7, 2019

STAY IN TOUCH

Green Marine Magazine

Published twice a year

<https://www.green-marine.org/news/magazines/>



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