Seminar

“Financiële incentives voor een schone scheepvaart”

Donderdag 6 oktober 2016

PLATFORM SCHONE SCHEEPVAART

KVNR NETHERLANDS MARITIME TECHNOLOGY Port of Amsterdam Port of Rotterdam MARIN TNO innovation for life De Stichting Noordzee

Wat is een incentive?

Een stimulans, aansporing, prikkel, drijfveer, motief of incentive is een in het vooruitzicht gestelde beloning in de vorm van een goed of dienst voor een specifieke prestatie ter (tijdelijke) motivatie van personen en/ of sectoren.

Een zee aan initiatieven

Welke type incentives bestaan er?

- beoordeling van milieuperformance van schepen voor het toepassen van havengeld differentiatie;
- financiële steun voor rederijen om te kunnen investeren in duurzame technologieën aan boord; en
- beoordeling van milieuperformance van schepen door middel van eco-labeling.

Programma

09.00 uur	Ontvangst	
09.30 uur	Openingswoord en introductie over financiële incentives (wereldwijd en EU specifiek) door dagvoorzitter	*Sibrand Hassing* Director Fleet Operations Europe, Holland America Line
09.40 uur	Korting voor schone zeeschepen via de Environmental Ship Index	*Henri van der Weide* Beleidsadviseur Divisie Havenmeester, Havenbedrijf Amsterdam
10.00 uur	Een Green Award certificaat, wat betekent dat?	*Jan Fransen* Directeur Green Award Foundation
10.20 uur	CEF Subsidie: Nieuwe ronde, nieuwe kansen	*Rianne de Vries* PNO Consultants
10.30 uur	Pauze	
10.50 uur	Ranking the ships: hoe nu verder?	*Marjolein van Gendt* Projectmanager IMVO Sectoren Maritiem en Chemie, MVO Nederland *Mark Spetter* Directeur Globalance

Programma (2)

11.15 uur	Kunnen we leren van de Zweden? Introductie casestudy Zweedse overhead	*Merijn Hougee* Directeur Clean Shipping Index
11.35 uur	Paneldiscussie Panelleden: • Coen Peelen - *Ministerie van Infrastructuur & Milieu* • Merijn Hougee - *Clean Shipping Index* • Henri van der Weide - *Havenbedrijf Amsterdam* • Jan Fransen - *Green Award Foundation* • Eelco Leemans - *Leemans Maritime* Consultancy • Nick Lurkin - *KVNR*	Toelichting door: Marijke Boonstra Discussie onder leiding van dagvoorzitter
12.15 uur	Afsluitende vragen uit de zaal	
12.30 uur	Einde bijeenkomst, gevolg door netwerklunch	

ESI the Environmental Ship Index

of the

World Ports Climate Initiative WPCI

Henri van der Weide
Platform Schone Scheepvaart
Amsterdam 06-10-2016

World Ports Climate Initiative

Some Facts

- **Houston May 2007**
  IAPH Resolution: Clean Air Program

- **Dunkirk April 2008**
  IAPH Resolution: Support for Climate Challenges

- **Rotterdam July 2008**
  World Port Climate Conference: World Ports Climate Declaration

- **Los Angeles November 2008**
  IAPH Port Environment Committee Symposium:
  World Port Climate Initiative (WPCI)

WPCI Mission Statement

The mission of the World Ports Climate Initiative is to

- **raise awareness in the port community of need for action**
- **initiate studies, strategies and actions to reduce GHG emissions and improve air quality**
- **provide a platform for the maritime port sector for the exchange of information thereon**
- **make available information on the effects of climate change on the maritime port environment and measures for its mitigation**

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WPCI Organization And Cooperation

Current Projects

• **Carbon Foot Print**	**CFP**	**Los Angeles**
• **On-shore Power Supply**	**OPS**	**Gothenburg**
• **Environmental Ship Index**	**ESI**	**Rotterdam**
• **LNG as a fuel**	**LNG**	**Antwerp**

WPCI current projects

Environmental Ship Index

Ship emissions, why ports care

- **Responsibility for local quality of life**
- **Air quality as a limiting factor for port development**
- **Implications of climate change**
- **Incorporate sustainability in the port, licence to operate and grow**

Ship emissions, current options for ports

Regulations of international / regional bodies

IMO	**NO_x / SO_x**	**Mandatory limits**
	CO_2	**Ship fuel efficiency**

(European Union & California Air Resources Board)

ESI: what it is [1]

- **The ESI is a measure for the environmental performance of seagoing ships (air emissions) relative to IMO rules**
- **Provides a tool that assists ports and other parties to promote clean shipping**
- **Use is on a voluntary base using self declaration**
- **Maximum responsibility with the ship owner**
- **Suitable for all sizes and types of ships**

ESI: what it is [2]

ESI is composed of credits (0 – 100) for above-baseline environmental performance regarding NO_x, SO_x (indirectly PM) and CO_2

- **NO_x : depending on performance of main and auxiliary engines**
- **SO_x : depending on the sulphur content of the fuels used**
- **CO_2 : bonus for monitoring and reporting of data**
- **OPS: bonus for having the equipment on board the ship**

ESI: what it is [3]

https://youtu.be/bbNw2tgoL7s

ESI: how it works [1]

- **Ships may obtain an ESI Score by reporting on engine certificates, bunker fuel information and CO_2 reporting, via a secured web-based application**
- **The ESI Score is calculated and managed in the ESI central database and shown on the public part of the web site**
- **Ports develop their own incentive scheme based on ESI points and report to the ESI administration**
- **These ESI incentives will also be shown on the public part of the web site**

ESI: score calculation [1]

OVERALL CALCULATION ESI SCORE

$$\frac{2 \times \text{ESI } NO_x + \text{ESI } SO_x + \text{ESI } CO_2 + \text{OPS}}{3.1}$$

(maximum 100)

http://esi.wpci.nl/Public/Ships

ESI: score calculation [2]

The ESI formula is built up of different parts for NO_x, SO_x, CO_2 and OPS

NO_x : Baseline Tier I; input rpm, rated power of all engines.
Engines built before 2000: instead of EIAPP, approved statement is accepted.
100 sub-points maximum score

SO_x : Baselines for HFO and MDO/Gasoil; input thru BDN: date, amount and sulphur content.
100 sub-points maximum score

subdivided as follows
High 30 Mid 35 Low 35

ESI: score calculation [3]

CO_2 : Include data on fuel consumption and distance sailed as defined in MEPC.1/Circ.684 *
10 sub-points fixed bonus

OPS : Where an approved OPS system is fitted, regardless of its use
35 sub-points fixed bonus

*** MEPC.1/Circ.684 Guidelines for Voluntary Use of the Ship Energy Efficiency Operational Indicator EEOI**

ESI: score calculation [4]

$$\text{ESI } NO_x = \frac{100}{\Sigma \text{ Rated Power of all Engines}} \times \sum \text{ of all Engines} \frac{(NO_x \text{ limit value} - NO_x \text{ rating}) \times \text{Rated Power}}{NO_x \text{ limit value}}$$

ESI: score calculation [5]

FUEL	HIGH	MID	LOW
Sulphur Content % (m/m)	≤ 3.5	≤ 0.5	≤ 0.1
Baseline	3.5	0.5	0.1
Multiplying Factor	30	35	35
Relative Sulphur Content	x	y	z

HIGH 0.5 < S % ≤ 3.50

MID 0.1 < S % ≤ 0.5

LOW S % ≤ 0.1

ESI: score calculation [6]

Average sulphur content of fuel for quarters 1 & 2 2015 :

$$\frac{Mass_1 \times sulphur\ content_1 + Mass_2 \times sulphurcontent_2 \ldots\ldots + Mass_x \times sulphurcontent_x}{\sum(Mass_1 \ldots Mass_x)}$$

HIGH	**a**
MID	**b**
LOW	**c**

ESI: score calculation [7]

x = the relative reduction of the average sulphur content of HIGH

$$(3.5 - a) / 3.0$$

y = the relative reduction of the average sulphur content of MID

$$(0.5 - b) / 0.4$$

z = the relative reduction of the average sulphur content of LOW

$$(0.1 - c) / 0.1$$

If the average sulphur content (a b c) is above the baseline level, the ESI SOx sub-points of that period for that particular fuel is set on zero (no negative scores).

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ESI: score calculation [8]

Scenario 1 **Three fuels**

HIGH, MID and LOW

ESI SO_x = 30 * x + 35 * y + 35 * z max. 100

Scenario 2 **Two fuels**

HIGH and MID (no LOW)

ESI SO_x = 30 * x + 35 * y + 0 max. 65

HIGH and LOW (no MID)

ESI SO_x = 30 * x + 35 + 35 * z max. 100

MID and LOW (no HIGH)

ESI SO_x = 30 + 35 * y + 35 * z max. 100

ESI: score calculation [9]

Scenario 3 **One fuel**

HIGH							
ESI SO_x	**=**	**30 * x**	**+**	**0**	**+**	**0**	**max. 30**
MID							
ESI SO_x	**=**	**30**	**+**	**35 * y**	**+**	**0**	**max. 65**
LOW							
ESI SO_x	**=**	**30**	**+**	**35**	**+**	**35 * z**	**max. 100**

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ESI: score calculation [10]

ESI SUB-POINTS

FUEL BUNKERED	HIGH	MID	LOW	TOTAL MAX.
1: HIGH	max. 30	-	-	30
1: MID	bonus 30	max. 35	-	65
1: LOW	bonus 30 *	bonus 35	max. 35	100
2: HIGH & MID	max. 30	max. 35	-	65
2: HIGH & LOW	max. 30	bonus 35	max. 35	100
2: MID & LOW	bonus 30	max. 35	max. 35	100
3: HIGH & MID & LOW	max. 30	max. 35	max. 35	100

*** only if vessel sailed outside ECA**

ESI: how it works [2]

Examples of ships	ESI Score
• Ship A in compliance with IMO rules on NO_x, SO_x and no EEOI Data sets and no OPS	0
• Ship B performing 10 % better on NOx, SOx	9
• Ship C performing 20 % better on NOx, SOx	17
• Ship D performing 20 % better on NOx and using only MID and LOW	26
• Ship E performing 20 % better on NO_x and using only LOW 0.08	36

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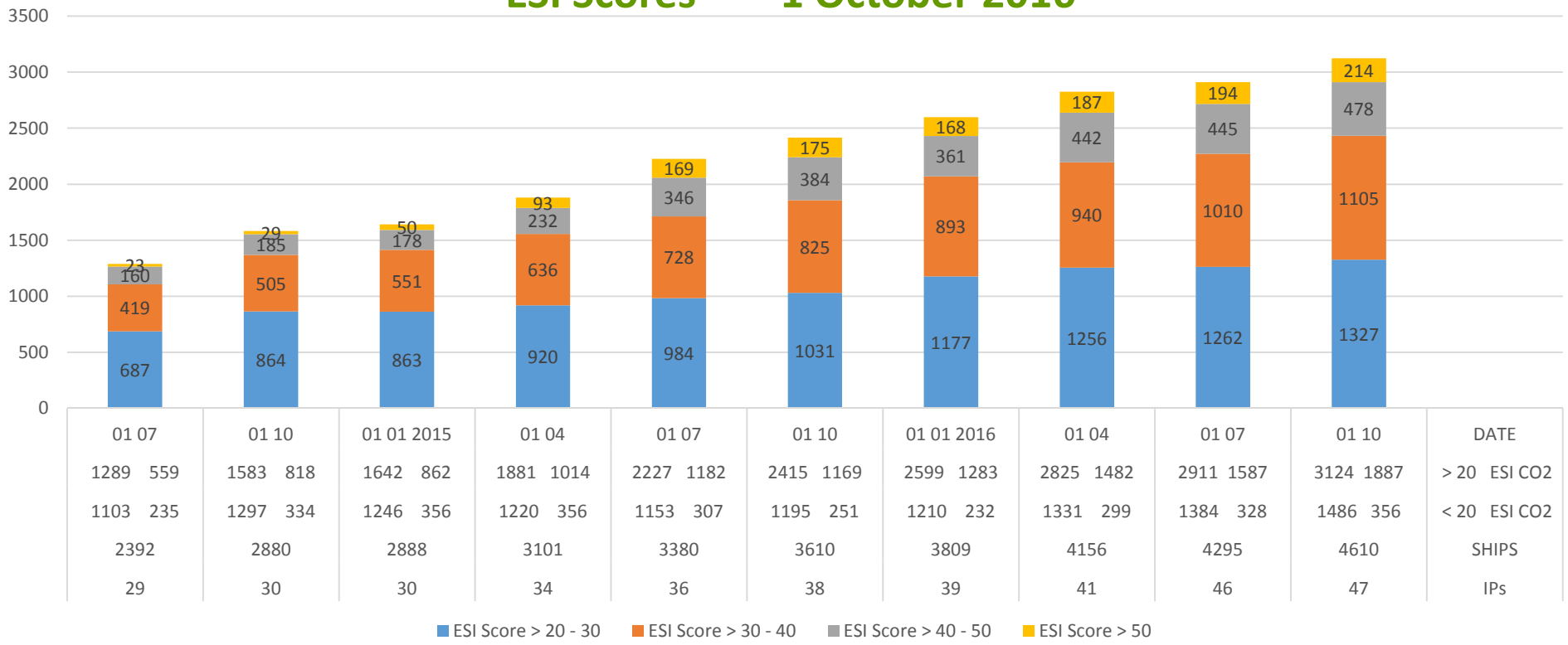
ESI Scores 1 October 2016



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ESI: how it works [4]

1 OCTOBER 2016

	ESI score	> 50	(selection)
•	**SKANDI VEGA**	**99.9**	**PSV SCR MGO OPS**
•	**STAVANGERFJORD**	**87.0**	**PAX FERRY SCR LNG fuel**
•	**FUJI LNG**	**82.5**	**TANKER LNG carrier**
•	**KVITNOS**	**88.0**	**RO RO SCR LNG fuel**
•	**STENA SCANDINAVICA**	**73.3**	**PAX FERRY SCR METHANOL OPS**
•	**CORAL ANTHELIA**	**69.6**	**TANKER LNG fuel MGO**
•	**EUROPA 2**	**58.9**	**CRUISE HFO MGO**
•	**TIMBUS**	**56.7**	**GENERAL CARGO SCR HFO MGO**
•	**HANJIN BOSAL**	**56.0**	**CONTAINER HFO MGO OPS**

ESI: how it works [5]

- **On entering an ESI Port, the ship may inform that port of its participation in ESI**

- **The port may then apply incentives in accordance with the ESI score**

Whenever a port so wishes

- **it can appoint an auditor to verify the ESI Score and check the data on board and**
- **report the results to the ESI administration**

ESI: how it works [6]

ACTIVE INCENTIVE PROVIDERS: 47

http://esi.wpci.nl/Public/PortIPs#

ESI: website

AUDITOR

- **ESI Database: Registration of Auditors and audits**
- **Auditors are appointed by an IP and authorized by ESI Administrator**
- **Auditors: experienced ship inspectors**
- **Entered in force on 1 January 2014**

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ESI: Changes per 01-07-2017

ESI Score = ESI NO_x + ESI SO_x + ESI CO2 + OPS (max. 100)

ESI NO_x	**:**	**2 x ESI NOX sub-points divided by 3**
ESI SO_x	**:**	**ESI SOX sub-points divided by 3**
ESI CO2	**:**	**5 ,10 or 15 points**
OPS	**:**	**10 points**

ESI: website

www.environmentalshipindex.org

www.wpci-esi.org

www.esi.wpci.nl

ESI: info

fer@wpci.nl

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A simple, recognised tool to address **CSR issues** in ports and waterways
The more ports joining, the better the effect

GREEN AWARD FOUNDATION

Een Green Award certificaat,

wat betekent dat?

Excellence in Shipping

GREEN AWARD

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Agenda

- Why Green Award?
- Scope of ship certification
- Partners
- Governance & Bureau
- Industry-wide CSR!
- What does it mean?
- Future?

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Who is Green Award?

Founders (early ‘90s):

- Rotterdam Port Authority
- Dutch Ministry of Transport and Waterworks

- BUT since 2000 Independent & built by industry stakeholders

Foundation is:

- Non-profit Organisation (NPO) but Self-supporting
- Independent but governed by major industry representatives
- Voluntary programme

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Why ?

Current status

- Difficulties due to magnitude of shipping (Sea / Inland)
- Regulation or world standard (Just above / or even lower) = **Most advantageous**

"Beneficial" to those making the most "effort"

Make it happen together with stakeholders!

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Quality Shipping (Excellence in Shipping)

SHIPPING (owners/managers)

- Recognition platform for Quality Shipping
- Get rewarded!

Audit/Survey and Certification by highly qualified Green Award auditors

INCENTIVE PROVIDERS

- Tool to support Quality Shipping and address sustainability
- International exposure

Giving rewards to ships and shipping companies that go that extra mile

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Scope

SHIPPING (owners/managers)

- Office Audits & Ship Surveys
- High quality audits by Green Award
- 50+ topics
  - Safety (Policy + Crew competence)
  - Quality (Hardware)
  - Environment (Ocean + Air)
  - Society (CSR)
  - Sustainability

Certification!

INCENTIVE PROVIDERS

- Support quality shipping
- Reduced risks at ports
- Higher efficiency during port operation
- Incorporate CSR principles by use of Green Award

Make a difference!

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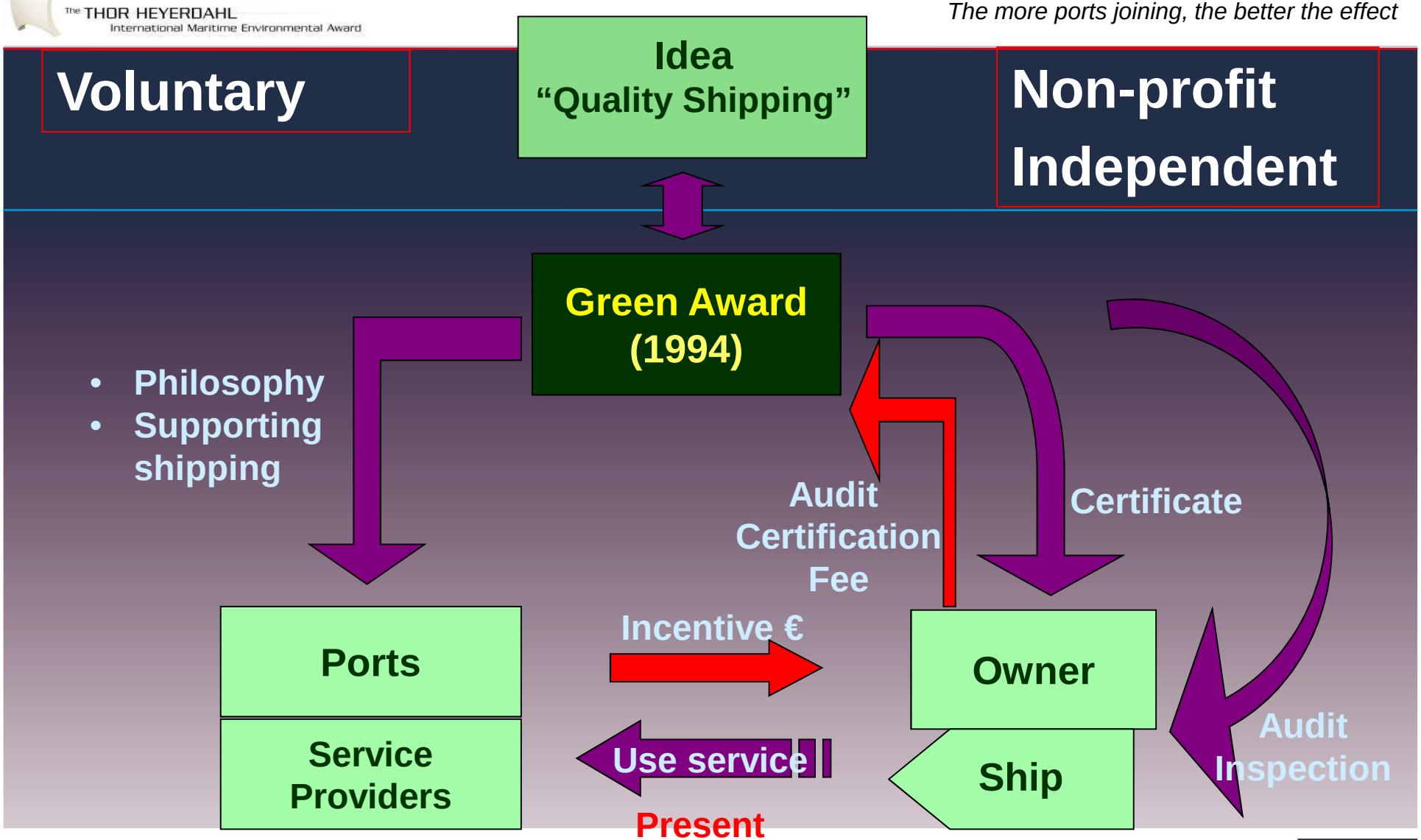

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CERTIFICATION SCHEME

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3 main pillars as the base

Quality **Safety** **Environment**

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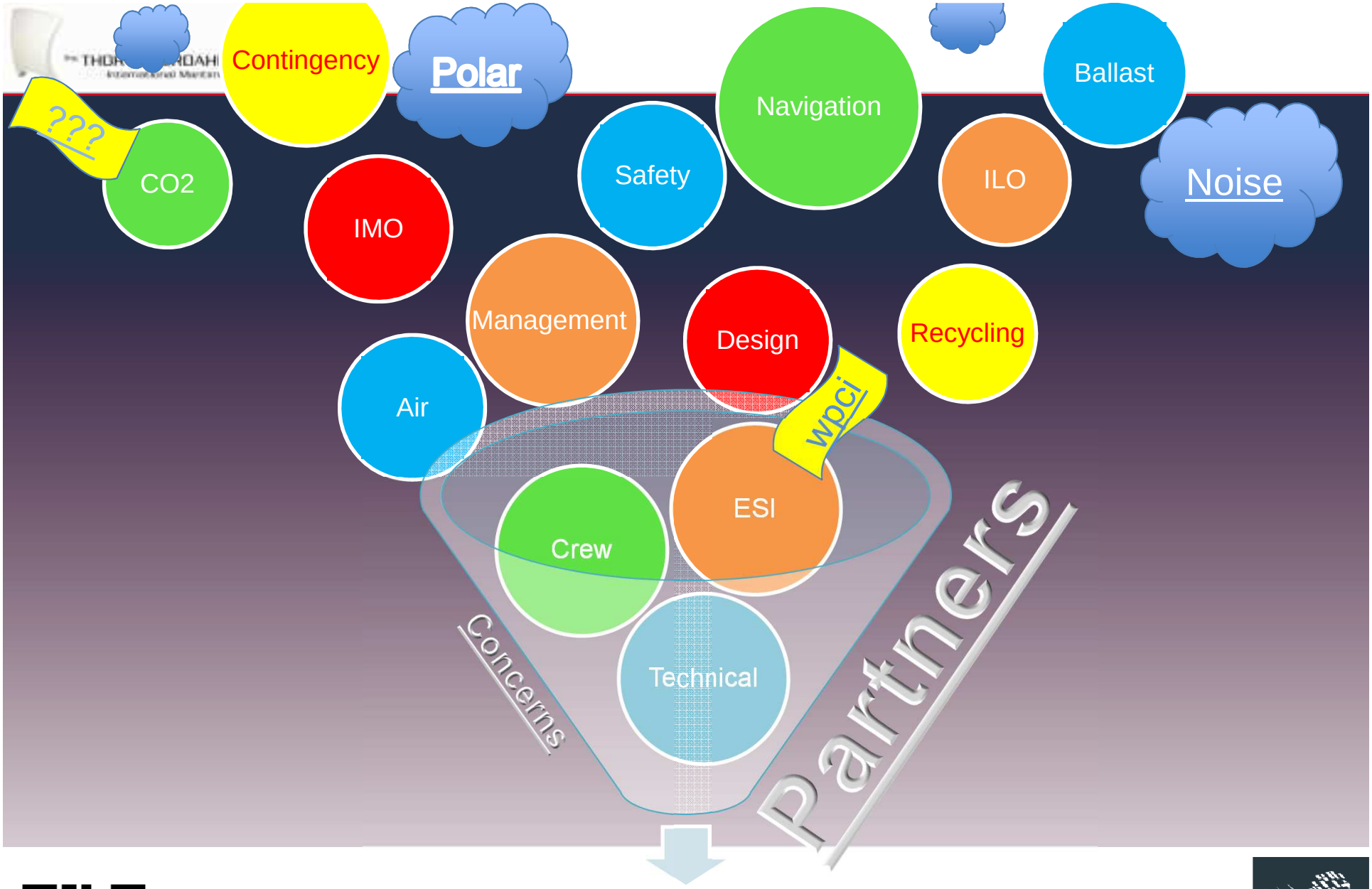
???
Contingency
Polar
Navigation
Ballast
CO2
IMO
Safety
ILO
Noise
Management
Design
Recycling
Air
wpci
ESI
Crew
Technical
Concerns
Partners

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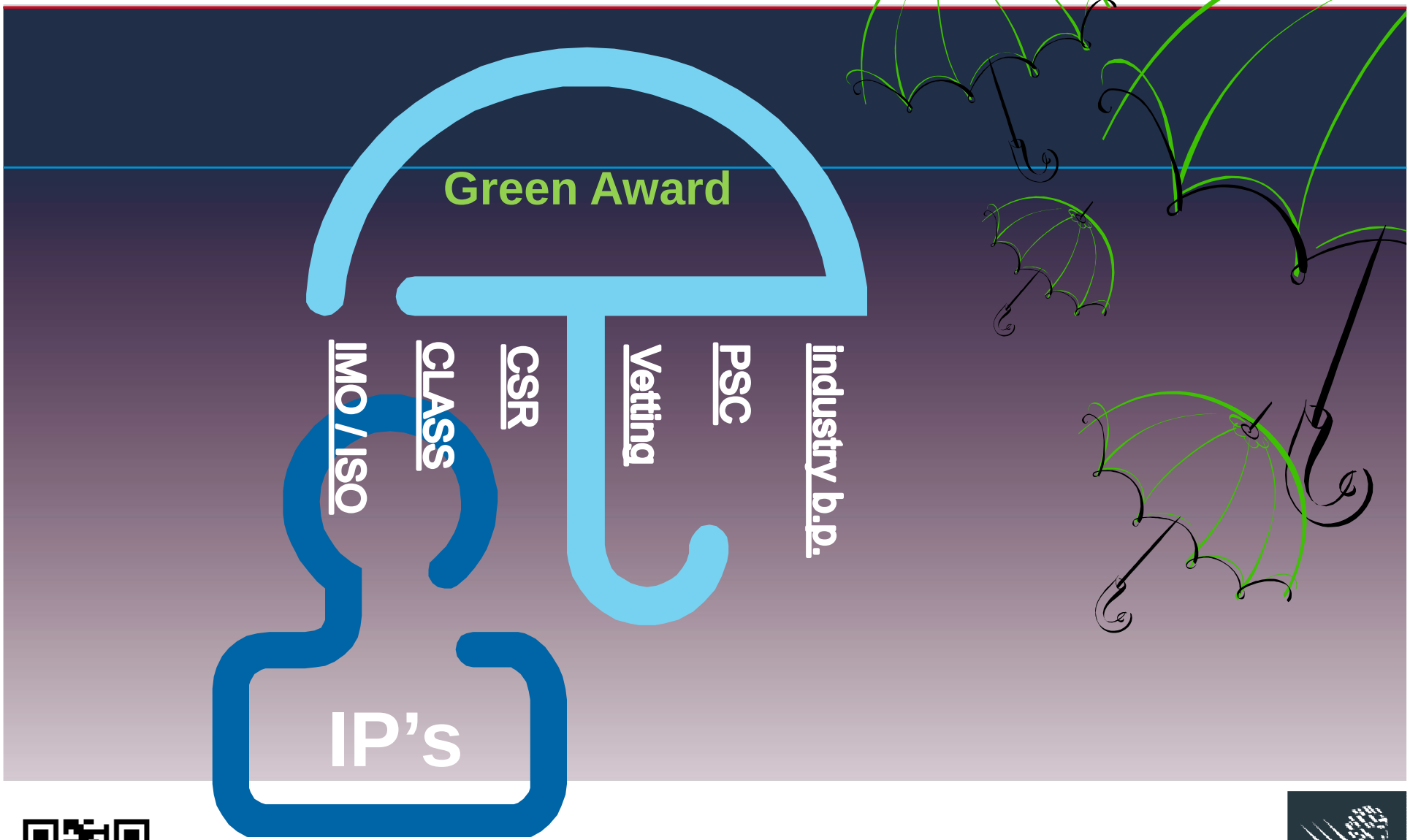
The more ports joining, the better the effect



b.p. = best practice

IP's = Incentive Providers

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Audit requirements (Outline)

2 MAIN SCOPES

- Regulations + Legislation with **LOW** & **SLOW** compliance
  => aim to speed-up, increase, and maintain

- **BEYOND** + **AHEAD** Regulations + Legislations
  => selected best practices (become and remain frontrunners)

Industry Best Practice

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Audit requirements (Rating system with scores)

General

Navigation / Bridge Operations

Machinery / Engine Operations

Cargoes / Cargo Operations

Prevention of Pollution

Maintenance / Surveys

Crew

ISO 9000 series

- 8 categories
- 50+ elements

Rating system (Ranking requirements)

- Each element = minimum required score
- Some elements 100% score required

- Total overall minimum score for certification

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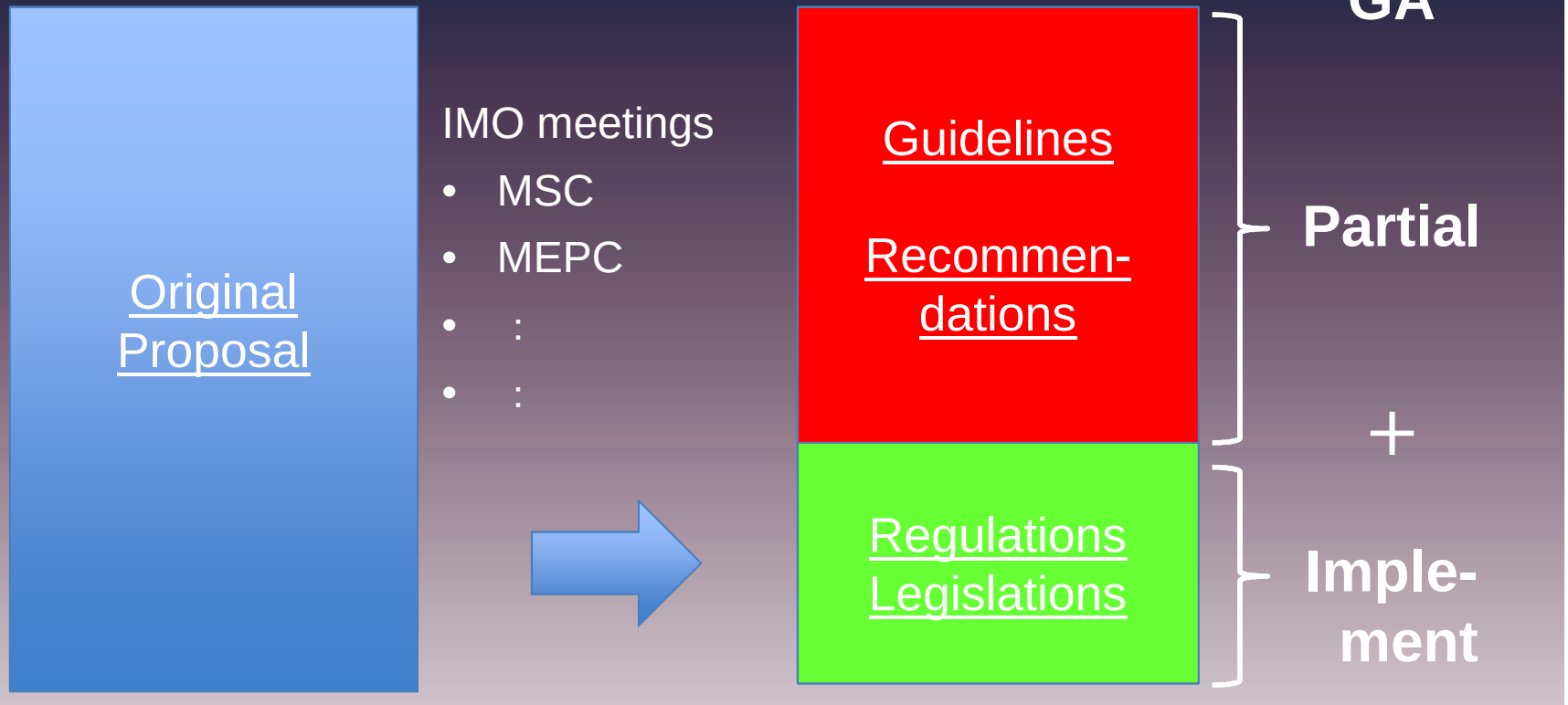
IMO



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Starting from there…

GA

Guidelines

Recommen-dations

Partial

\+

Regulations Legislations

Imple-ment

\+

Experience / Input Stakeholders

- Shipowners / managers
- Ports / Service Prov.
- Association / Authorities

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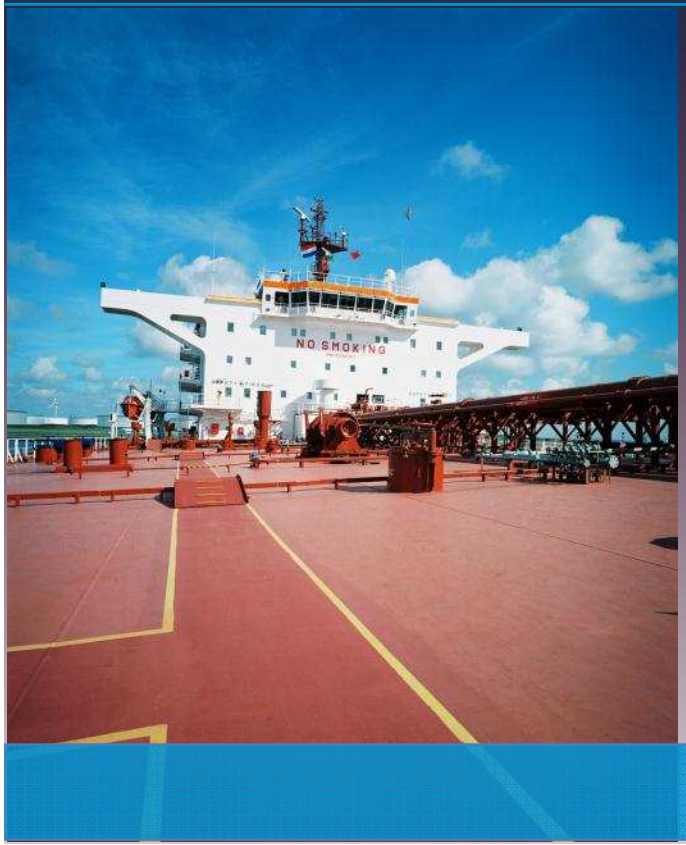
Audit intervals



- **<u>All ships</u> are surveyed / audited**
- **All Certificates are valid for <u>3 years</u>**

<u>SEA</u>

- **Office audit: every 3 years**
- **Ship survey: annually***

<u>INLAND</u>

- **Ship inspection: every 3 years**

*** An internal "incentive" for oil tankers can be granted (to replace 2 annual surveys with 1 Intermediate survey)**

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Green Award surveyors/auditors:

- Employed by Green Award
- In house modular training
- Supported by IMO

Emphasis on:

- Senior Management crew experience
- Training (Auditing + Maritime)
- On-The-Job Training (OJT)
- In-depth interview skill

Personnel/Crew <u>self-realisation</u>

(motivation) + <u>cont. improvement</u>

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Green Award certification programme

SHIPS

- **Oil tankers (≥ 10,000 dwt)**
- **Chemical tankers (≥ 20,000 dwt)**
- **LNG carriers (no threshold)**
- **LPG carriers (≥ 20,000 m3) (from Apr 2016)**
- **Bulk Carriers (≥ 20,000 dwt)**
- **Container ships (≥ 5,000 dwt)**
- **Inland shipping (EU)**

FUTURE

- **Ferries (?) + Vehicle carriers (?) possibly MORE (?)**

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Green Award in numbers

SHIPPING (owners/managers)

800+

Ships surveyed & certified (Sea & Inland)

40+	225+	580+
Companies	Sea-going	Inland

INCENTIVE PROVIDERS

80+

Incentive Providers

40+	40+
Ports	Service Providers

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Total: 32 Incentives: Pacticipating Ports (SEA only)

- Port of Ghent
- Port Metro Vancouver
- Port of Montreal
- Port Sept-Iles
- Prince Rupert Port Authorities
- Hamburg Port Authorities
- Gibraltar Port Authorities
- Port of Kitakyushu
- Freeport of Riga
- Klaipeda State port
- Port of Amsterdam
- Port of Rotterdam
- Port of Dordrecht
- Port of Moerdijk
- Zeeland Seaports x 2
- Port Taranaki
- CentrePort Wellington
- Port Nelson
- Port of Sohar
- Port of Sines
- Port of Setubal
- Port of Lisboa
- Port of Leixoes
- National Ports Authority South Africa x 8

*** Full updated list available on Green Award website**

URL: http://www.greenaward.org/22-all-incentive-providers-(list)

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Types of Incentives

Current

- **Port Authorities**
- **Port Maritime Service Povider**
  - **Ship agents**
  - **Port reception facilities**
- **Classification Societies**
- **Flag registries**
- **Pilot associations**
- **Universities / Training centres**
- **Banks**
- **Consulting agencies**
- **Weather ship routing services**
- **Hardware manufacturers / providers**
- **P&I club (insurance)**
- **Qualified Individual (USA)**

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Incentive providers (examples)

- **Hamburg Port Authority**
  SEA: 3% on all liquid cargo (crude oil, product oil, chemical, LNG)

- **Port of Rotterdam**
  SEA: 6% on LNG carriers & Crude oil/product tankers above 20,000dwt

- **Port of Amsterdam**
  SEA: 5% for Crude oil/Product Tankers

- **Zeeland Seaports**
  SEA: 6% For Crude oil/ Product Tankers and Dry Bulk carriers

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Non-Port Incentive providers (examples)

- **ABN AMRO Bank (NL)**
  - 25% of the annual Green Award fees for the vessels
  - 25% of the Green Award office audit fees for the (shipping) companies
- **DNV GL – Maritime (Norway/Germany)**
  - 10% discount in training courses at DNVGL academies worldwide to Green Award
  - 10% discount on audits for environmental standards (ISO 14000, ISO 50001)
- **Liberian Registry**
  - 3% Tonnage Tax Discount annually
- **Alphatron**
  - 10% discount on range of products and services

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GOVERNING BODIES

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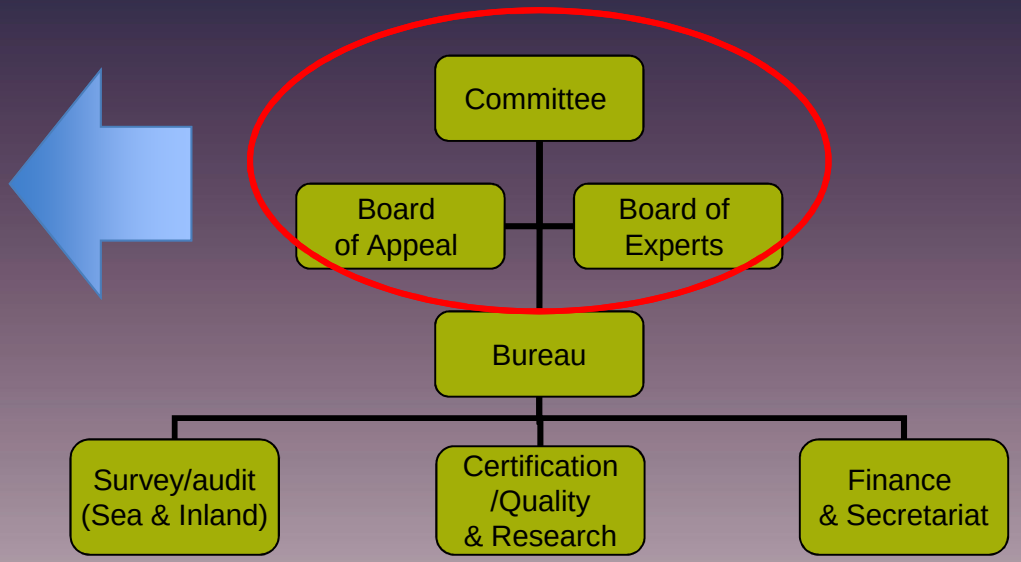
Governance

Industry Representatives

(Shipping, Ports, Maritime)



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Governing Bodies

Committee

- Shipping Company (Chairman)
- Ports Authorities (Rotterdam Vice Chair)
- IACS
- INTERCARGO
- INTERTANKO
- OCIMF
- SIGTTO
- Peter Swift

Board of Experts (Technical)

- The Nautical Institute (Chairman)
- QatarGas (Vice Chair)
- Classification Societies (Current: ClassNK)
- INTERCARGO / INTERTANKO
- SIGTTO
- Chemical Distribution Institute (CDI)
- P&I Clubs (UK & NL)
- Maersk Maritime Technology
- North Sea Foundation
- Deltalinqs
- HELMEPA
- Maritime authorities (IL&T (NL), USCG (USA))
- Port authorities (Amsterdam)
- Ship owners + association (QatarGas, BLN, CBRB. ThyssenKrupp Veerhaven)

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Joint programme

- Certificate Holders (shipping companies + crew)

+

- Incentive Providers (ports + maritime service providers)

+

- Governing bodies (industry representatives)

JOINT MARITIME CSR

(with Green Award as a platform)

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What does it mean?

- Incentives
- Awareness
- Motivation
- Recognition
- Image
- Excellent audits
- Performance

- Audit costs
- Audit burden
- Operational costs?

Container KDWT 5-40 : 2390 Euro initial -> 1435 Euro annually
Office audit: 3475 Euro every three years

Please check website for details

GREEN AWARD

The THOR HEYERDAHL International Maritime Environmental Award

A simple, recognised tool to address **CSR issues** in ports and waterways

The more ports joining, the better the effect

GREEN AWARD FOUNDATION

FUTURE ???????

Recognize synergies and collaborate

RIGHTSHIP

WPCI

GREEN MARINE

GREEN AWARD

Join us in

creating a platform for

an industry-wide CSR

Contacts
Green Award Foundation
management@greenaward.org
+31 (0)10 217 0200
www.greenaward.org

Thank You !!

www.greenaward.org

GREEN AWARD

CEF subsidie 2016: Nieuwe ronde, nieuwe kansen

Financiële incentives voor een schone scheepvaart

6 oktober 2016, Rianne de Vries

AGENDA

- ❑ PNO
- ❑ Algemene inzichten subsidies
- ❑ CEF & Praktische voorbeelden
- ❑ Aan de slag

PLATFORM
SCHONE SCHEEPVAART

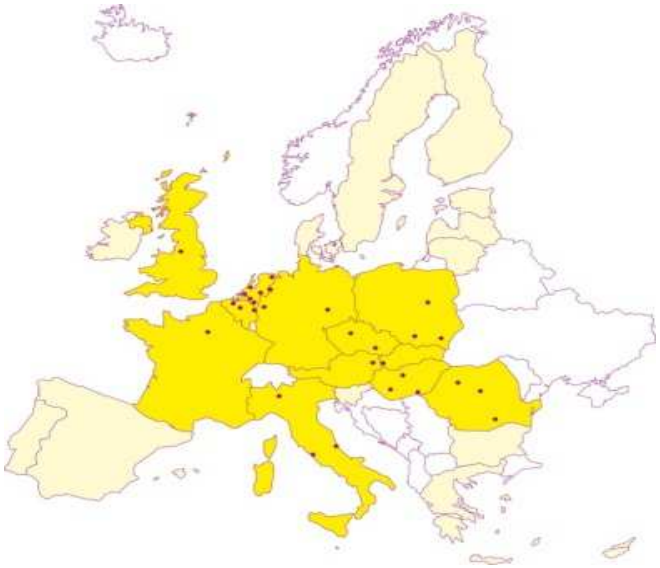
PNO

NOVEMBER 2015

CONNECTING AMBITIONS

PNO CONSULTANTS

- PNO is gespecialiseerd in financieringsoplossingen voor innovatie- en investeringsprojecten
- Klantennetwerk omvat multinationals, MKB, universiteiten en overheden
- PNO is opgericht in 1984 - 30 jaar ervaring in subsidieverwerving
- PNO biedt fullservicedienstverlening: roadmap-en projectontwikkeling, subsidieaanvragen voorbereiden en schrijven, contract onderhandelingen, projectmanagement
- PNO heeft diverse specialistenteams, waaronder het **Team Transport**
- Wij werken voor ***H**avenbedrijven, **R**eders, **C**ontainerterminals, **L**ogistiek **D**ienstverleners, **B**rancheverenigingen en **K**ennisinstellingen.*



CONNECTING AMBITIONS

PLATFORM
SCHONE SCHEEPVAART

SUBSIDIES

NOVEMBER 2015

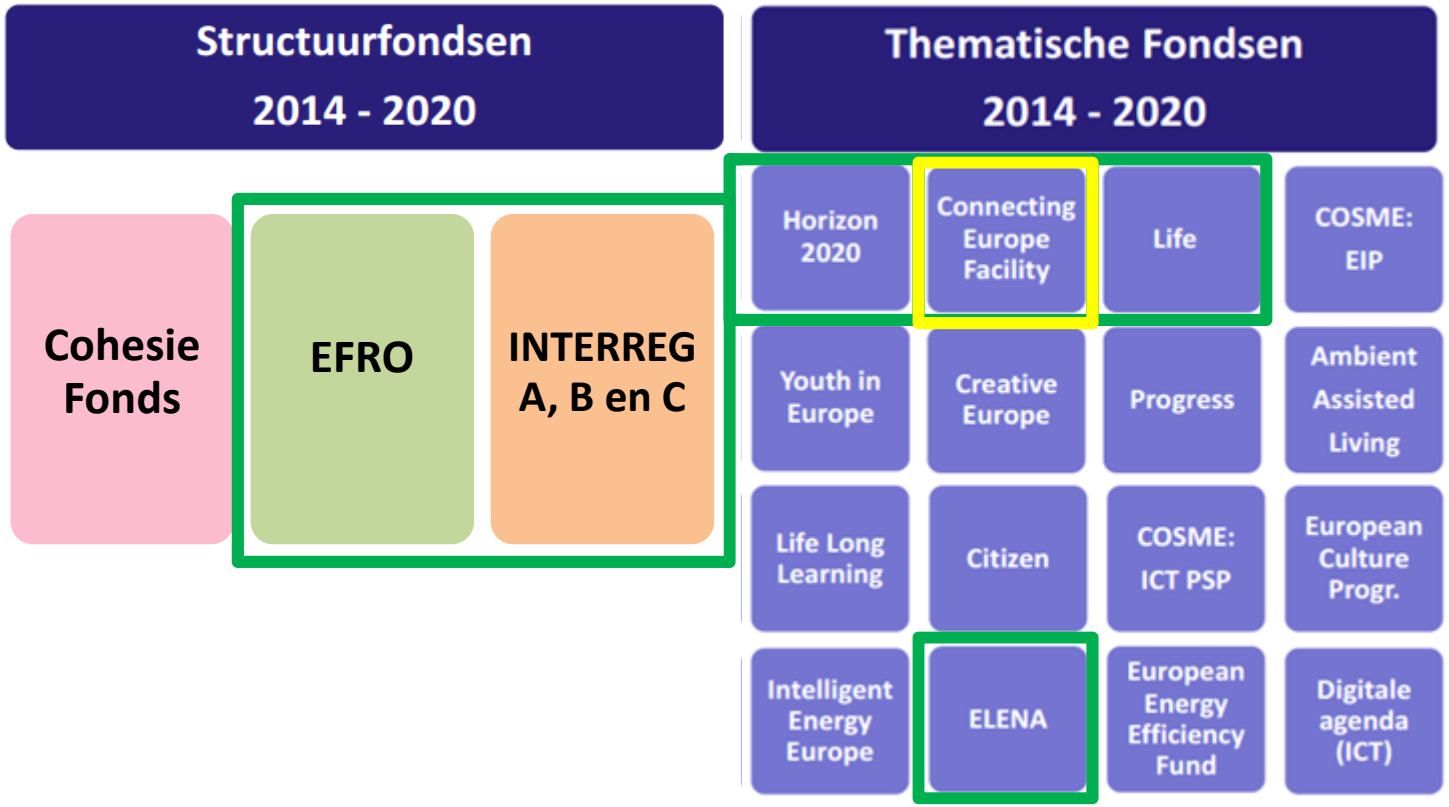
CONNECTING AMBITIONS

ALGEMEEN

Algemene inzichten subsidies:

- Subsidies zijn gekoppeld aan **beleidsthema's** van de overheid
- Subsidies zijn beschikbaar op **regionaal, nationaal en Europees niveau**
- Geen continue indieningsmogelijkheden
- Meeste subsidies voor **samenwerkingsprojecten (**en **MKB)**
- Subsidie is een **% van je (project) kosten**, meeste subsidies bieden < 50% bijdrage
- Subsidies brengen **administratieve lasten** met zich mee
- **Meer dan alleen geld**: positioneren, netwerk, zichtbaarheid, toegang tot kennis, imago, marketingtool

EUROPEES SUBSIDIELANDSCHAP



Structuurfondsen: **<u>decentrale</u>** uitvoering in de lidstaten

Thematische fondsen: **<u>centrale</u>** uitvoering vanuit Brussel

PLATFORM
SCHONE SCHEEPVAART

CONNECTING EUROPE FACILITY TRANSPORT

NOVEMBER 2015

CONNECTING AMBITIONS

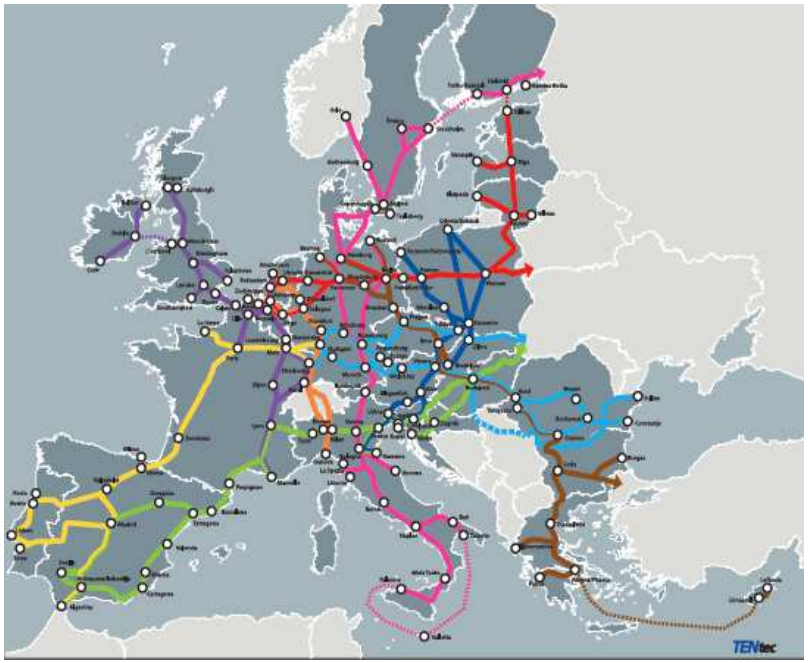
CONNECTING EUROPE FACILITY TRANSPORT SUBSIDIES

De Europese Commissie stimuleert projecten die het Europese hoofdnetwerk voor vervoer en transport verbeteren.

De nadruk ligt bij het **oplossen knelpunten** en **duurzaam, efficiënt en multimodaal transport** en stimuleren van **"resource efficiency and reducing carbon emissions"**

CEF subsidieert studieprojecten (met of zonder demonstratie/pilot) en realisatieprojecten:

- *Subsidie: 50% van de subsidiabele kosten voor 'studies' > € 500.000*
- *Subsidie: 20-40% van de subsidiabele kosten voor 'works', > € 1.000.000*



Gemiddelde project omvang tussen de €3 tot €30 miljoen maar ook uitschieters …

CEF 2016

SUBSIDIES

Indicative Timetable CEF Transport Calls 2016	
Adoption of the CEF WPs 2016	Before 7 October 2016
Publication of Calls	13 October 2016
Info Day	25 October 2016
Calls Deadline	7 February 2017
Evaluation	February 2017 – May 2017
Presentation to CEF Committee	June 2017
Adoption of Selection Decision	July 2017
Preparation and Signature of Grant Agreements	From August 2017

CEF 2016

Prioriteit (Annual Programme) Indicatief budget (x 1 miljoen euro)	
Grensoverschrijdende projecten op het uitgebreide- en kernnetwerk	110
Grensoverschrijdende projecten om het TEN-T netwerk te verbinden met infrastructuurnetwerken van niet-EU buurlanden	40
Vrachttransportdiensten	20
Geluidsreductie spoorgoederenvervoer	20
Prioriteit (Multi Annual Programme) Indicatief budget (x 1 miljoen euro)	
SESAR	300
Intelligent Transport Systems (ITS)	120
Nieuwe technologieën en innovaties	80
ERTMS	70
Motorways of the Sea (MoS)	40
Infrastructuur in knooppunten inclusief stedelijke knooppunten	40

Potentiele onderwerpen voor CEF subsidie in relatie tot ***schone scheepvaart:***

- LNG/CNG/Waterstof aangedreven schepen *(geen hele vloot, enkel meerkosten milieu-investering vergoed!*)
- Infrastructuur voor alternatieve brandstoffen – ook on-shore power
- Innovatieve technologieën (market ready) bv. voor ballast water tanks
- Vergroeningsmaatregelen op bestaande en nieuwe SSS verbindingen en sea-river services
- ‘Opvangfaciliteiten’ voor olie en ander afval

CEF Innovation

SUBSIDIES

Deployment of a **sustainable and efficient transport system** and promote the **decarbonisation of all transport modes**

- E.g. promote the use of *electricity, hydrogen, biofuels, synthetic fuels (preferably from biomass), compressed or liquefied natural gas (CNG and LNG), preferably pure bio-methane or blended with biomethane), or other innovative systems*.
- The infrastructure (especially for long distance) is more important then the mobile equipment!
- Studies with pilot deployment (real-life trial) & Works in at least 2 Member States
- No particular focus on Short-Sea Shipping

Previously awarded projects:

- Make LNG available for inland shipping - a real-life trial including 3 mobile LNG filling stations and two small-scale LNG-terminals
- Pilot deployment of Onshore Power Supply (OPS) systems in four ports and on the installation of related equipment on eight RoPax and ferry vessels

CEF MoS

Motorways of the Sea:

Short-sea routes, ***ports, associated maritime infrastructure and equipment, facilities*** *as well as simplified administrative formalities* ***enabling Short Sea Shipping or sea-river services*** *between at least* ***two maritime ports (core/comprehensive), including hinterland connections****.*

Three Pillars of Action

1. **Environment** - deploying an alternative fuels infrastructure and developing environmentally sustainable shipping.
2. **Logistics and integration** – maritime transport integration in door-to-door logisitics chain & upgrading or establishing new maritime links
3. **Safety, human element and traffic management** – promoting wider benefits such as maritime safety

CEF MoS

SUBSIDIES

Pillar I

- **Technologies reducing CO2**
  - *Facilities for LNG, methanol and other clean fules in ports and aboard vessels, incl bunkering barges*
- **Technologies reducing Nox emissions**
  - *On shore power supply systems*
  - *Batteries*
  - *Energy efficiency measures (hull, propellers, re-blading, etc)*
  - *Scrubbers (need to go beyond the scope of current legislation!)*
- **Facilities for oil and other ship waste in ports**
- **Facilities for sludge from scrubbers**
- **Waste water treatment systems on ships**
- **Ballast water treatment systems**

Pillar II

- Develop the **port infrastructure** handling facilities, freight terminals, logistic platforms and freight villages (incl improved port access)
- Develop reliable **short sea shipping transport services** integrated within door-to-door logistics chains and connecting core network corridors
- Improve **logistics and administrative ICT management systems**
- Increase **environmental performance** of ships on dedicated Mos links

Pillar III

- Safety operations (ice breaking surveying, AIS, vessel control)
- Vocational training

CEF MoS

Type of projects

Works

- **Wider Benefit Actions (30% co-financing rate)**
  - Adressing industry needs widely (e.g. coherent investments in a group of ports for LNG filling stations)

- **Implementation works (30% co-financing rate)**
  - Upgrade of maritime links (involvement of at least 2 EU Ports + maritime operator + considerable port investment 50% of total investment costs)

Pilots

- **Pilot actions (50% co-financing rate)**
  - Projects testing of deploying new technological solutions in operational conditions

WAT NIET: Geen platte Studies! Geen superstructures! Geen volledige vloot! Geen conventionele scrubbers!

CEF VOORBEELDEN

SUBSIDIES

Most sustainable container terminal

LNG Uptake in the UK

PLATFORM
SCHONE SCHEPEN

AAN DE SLAG

NOVEMBER 2015

CONNECTING AMBITIONS

KERNVRAGEN

AAN DE SLAG

- Hoe innovatief is het project?
- Locatie project?
- Samenwerking / consortium / havens/ maritime operators?
- Kosten en Financiering?
- Vergunningen benodigd?
- Planning project?
- Specifiek voor CEF: Studie of Works project?

PLATFORM
SCHONE SCHEPEN

AFSLUITING

VRAGEN OF OPMERKINGEN?

Rianne de Vries

Consultant Team Transport

+31 6 29 55 88 56 | rianne.devries@pnoconsultants.com


MVO
NEDERLAND

RANKING THE SHIPS
Hoe nu verder?

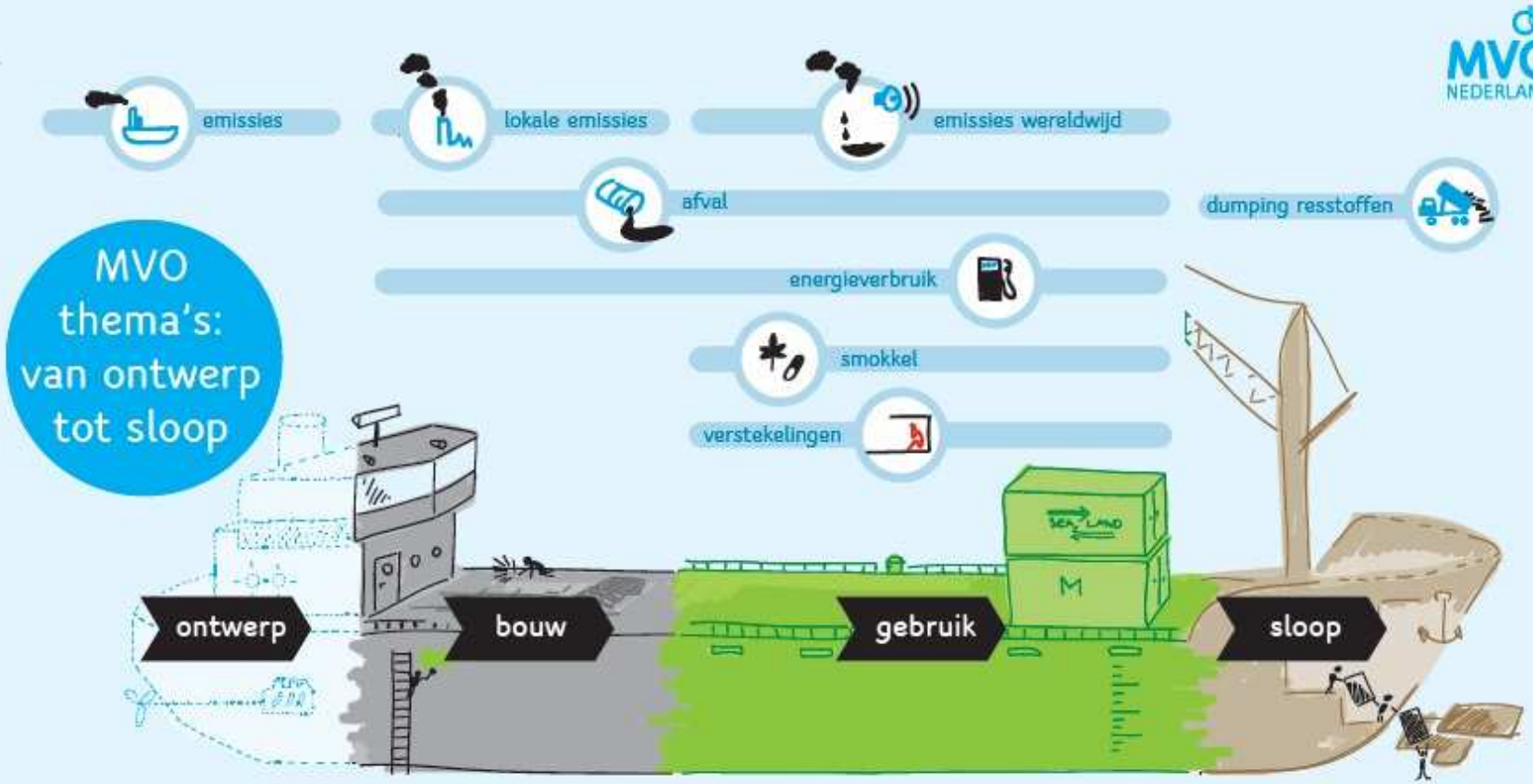
6 oktober 2016

Marjolein van Gendt
m.vangendt@mvonederland.nl

ONDERZOEK ‘RANKING THE SHIPS’

FINANCIËLE INCENTIVE PROVIDERS

IMVO MARITIEM

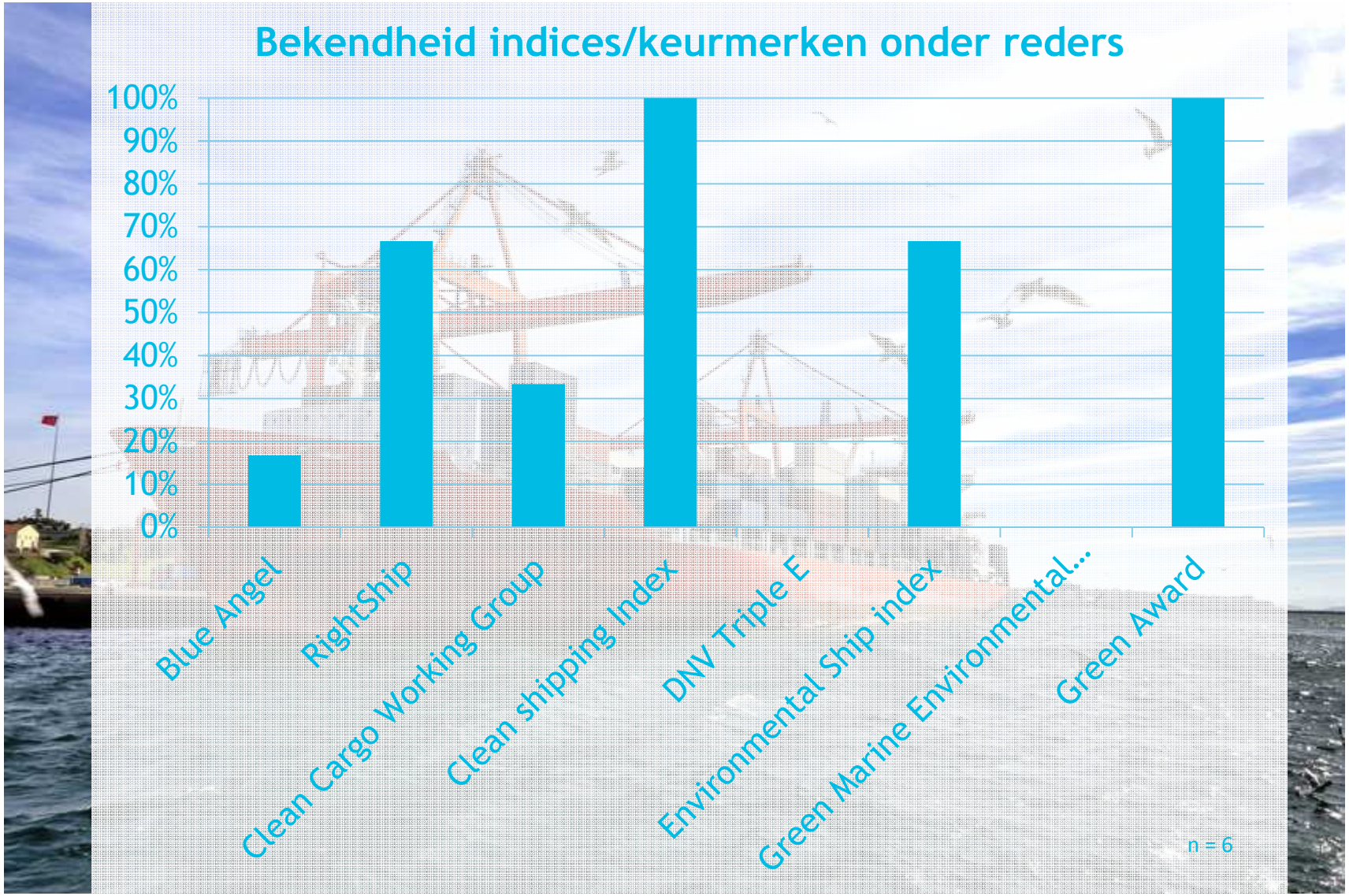


GAP ANALYSIS

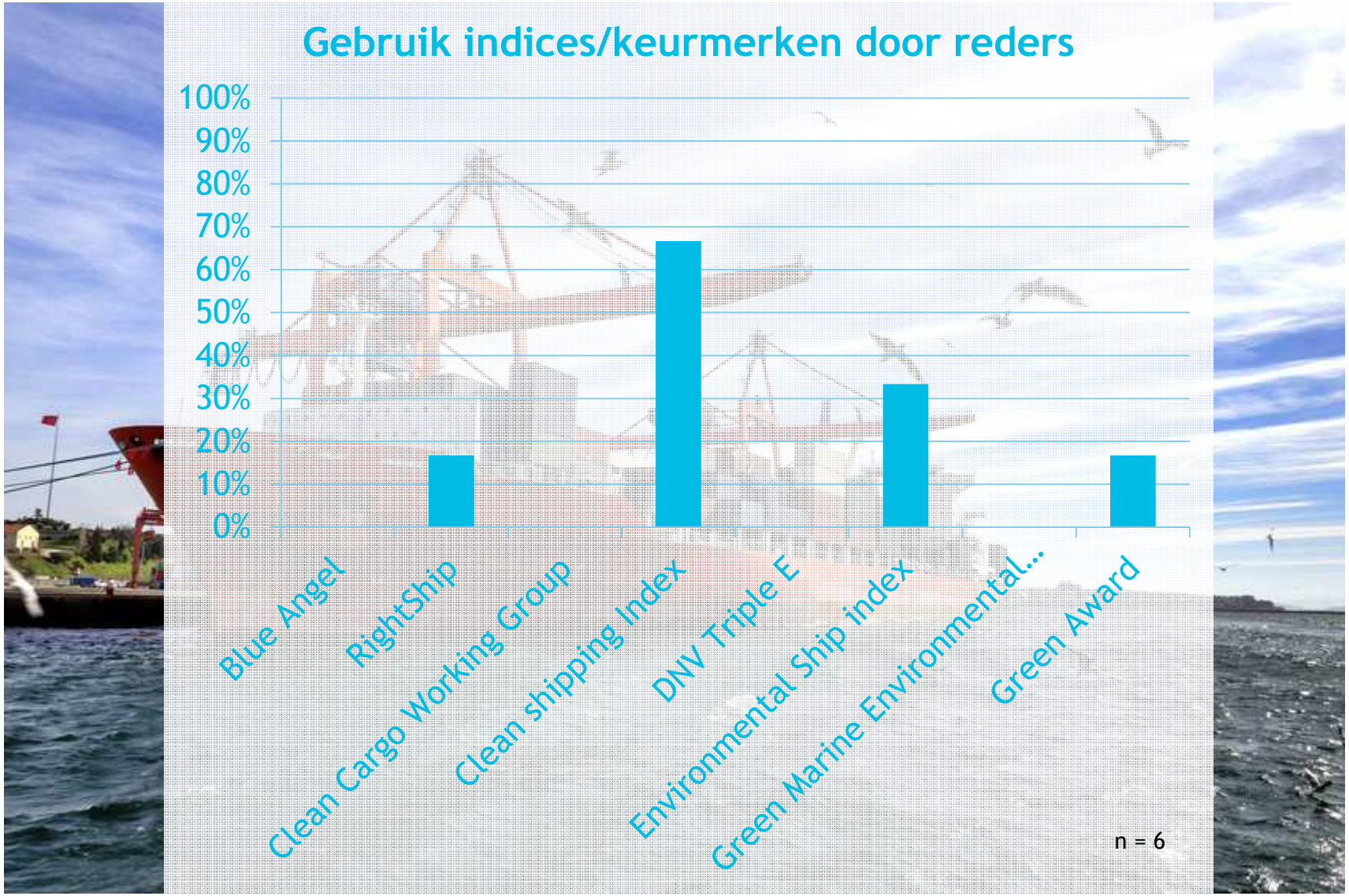
Topic	MVO NL Quickscan (reference)	Rightship	Clean Shipping Index	Green Marine Environmental Program	Environmental Ship Index	Blue Angel	Green Award	DNV Triple E	Shipping Efficiency energy Label	Clean Cargo Working Group
3rd party verification?	n.a.	√	√	√	√		√			√
CO_2	√	√	√	√	√		√	√	√	√
SOx	√		√	√	√		√	√		√
NOx	√		√	√	√		√	√		√
PM	√		√	√			√			√
Water pollution	√		√	√			√	√		√
Vibrations	√		√							
Ballast water, bulk water, fouling	√		√	√			√	√		√
Working conditions	√					√	√			
Waste on land	√			√			√			
Waste at sea	√		√	√			√	√		√
Corruption	√									
Piracy	√									
Energy-efficiency	√	√					√	√	√	√
Illegal goods and persons	√									
(ant-)arctic sailing	√									
Recycling + demolition	√		√				√			√
Resources	√									

"Sloop was vroeger geen issue, maar wordt dat de laatste jaren steeds meer." (reder)

BEKENDHEID


Bekendheid indices/keurmerken onder reders
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Blue Angel
RightShip
Clean Cargo Working Group
Clean shipping Index
DNV Triple E
Environmental Ship index
Green Marine Environmental...
Green Award
n = 6

GEBRUIK


Gebruik indices/keurmerken door reders
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Blue Angel
RightShip
Clean Cargo Working Group
Clean shipping Index
DNV Triple E
Environmental Ship index
Green Marine Environmental...
Green Award
n = 6

HEDEN

Reders:

- Huidige systemen kosten veel energie
- Elk systeem stelt andere eisen
- Veel partijen ‘interesseert duurzaamheid geen biet’
- Schepen / projecten passen niet in de systemen
- Steeds een kosten - baten afweging

TOEKOMSTMUZIEK?

Nederlandse overheid:

‘Het Nederlandse maritieme cluster kan alleen de economische potentie blijvend waarmaken, als het milieuvriendelijk en duurzaam opererend is’ (Nederlandse maritieme strategie 2015-2025)

TOEKOMSTMUZIEK?

Vergaande instrumentaliteit labels, mits:

- Toename voordeel voor reders
- Analyse en aanpassing toepasbaarheid voor verschillende typen schepen / projecten
- Meer samenwerking tussen labels
- Opnemen diverse duurzaamheidsaspecten

Globalance
A BALANCED WORLD THROUGH SUSTAINABLE ORGANISATIONS

Waarom werkt BREEAM in de vastgoedsector?

Platform Schone Scheepvaart
ProDock Amsterdam, 6 oktober 2016
Mark Spetter, Globalance – co-auteur Ranking the Ships

BRE, BREEAM & BREEAM-NL

Bron: BRE, sept 2016

BREEAM-NL = Nederlandse versie

NL (2016): 4.711.505 m² gecertificeerd

Globalance

1. Management
2. Gezondheid
3. Energie
4. Water
5. Materialen
6. Afval
7. Vervuiling
8. Landgebruik & Ecologie
9. Transport

Management	Gezondheid & Welzijn	Energie	Water	Mater
MAN 1 3 punten MAN 2 2 punten MAN 3 4 punten MAN 4 1 punt	HEA 1 1 punt HEA 2 1 punt	ENE 1 15 punten ENE 2 1 punt	WAT 1 2 punten	MAT 1

$$\sum \{ (\text{Categoriescores in \%}) \times (\text{weging in \%}) \} = \text{Totaalscore in \%}$$

$$+ \text{ Innovatiepunten in \%}$$

$$\text{Kwalificatiescore in \%}$$

≥ 30% ★

≥ 45% ★★

≥ 55% ★★★

≥ 70% ★★★★

≥ 85% ★★★★★

Globalance

3 Partijen-certificering

Dutch Green Building Council

Steekproef

Waarom werkt BREEAM-NL?

Push – maatschappelijk

Impact gebouwen wereldwijd

- 40% energieverbruik
- 30% CO2-uitstoot
- 30% materiaalgebruik
- ‘ziekmakende gebouwen’

Pull

1. Marktinitiatief Nederland: ‘1 taal voor duurzaamheid & 1 certificaat’

1. Opdrachtgever wil zich onderscheiden
   - Ontwikkelaar volgt
   - Aannemers
   - Toeleveranciers

2. MIA/VAMIL

   ‘een gebouw met BREEAM-NL certificaat… komt per definitie in aanmerking’

Push – nieuwe situatie

1. BREEAM-NL is de norm geworden voor grootste deel nieuwe, commerciële vastgoedontwikkelingen
2. OVG, Delta Development: werken alleen nog voor opdrachtgevers met duurzame ambitie
3. Zuidas: BREEAM-NL Excellent is ondergrens
4. Financiers: duurzaamheidscriteria

Overeenkomsten vastgoed – scheepvaart

- Maatschappelijke impact
- Kapitaalintensieve assets
- Lange levensduur
- Wisselend eigendom gedurende levensduur
- Eigendom en gebruik vaak in verschillende handen (gebouwen: ook beheer)

Belangrijkste verschillen?

- Nationale versus internationale wetgeving
- Scheepvaart ‘onzichtbaar’

Clean Shipping Index

www.cleanshippingindex.com

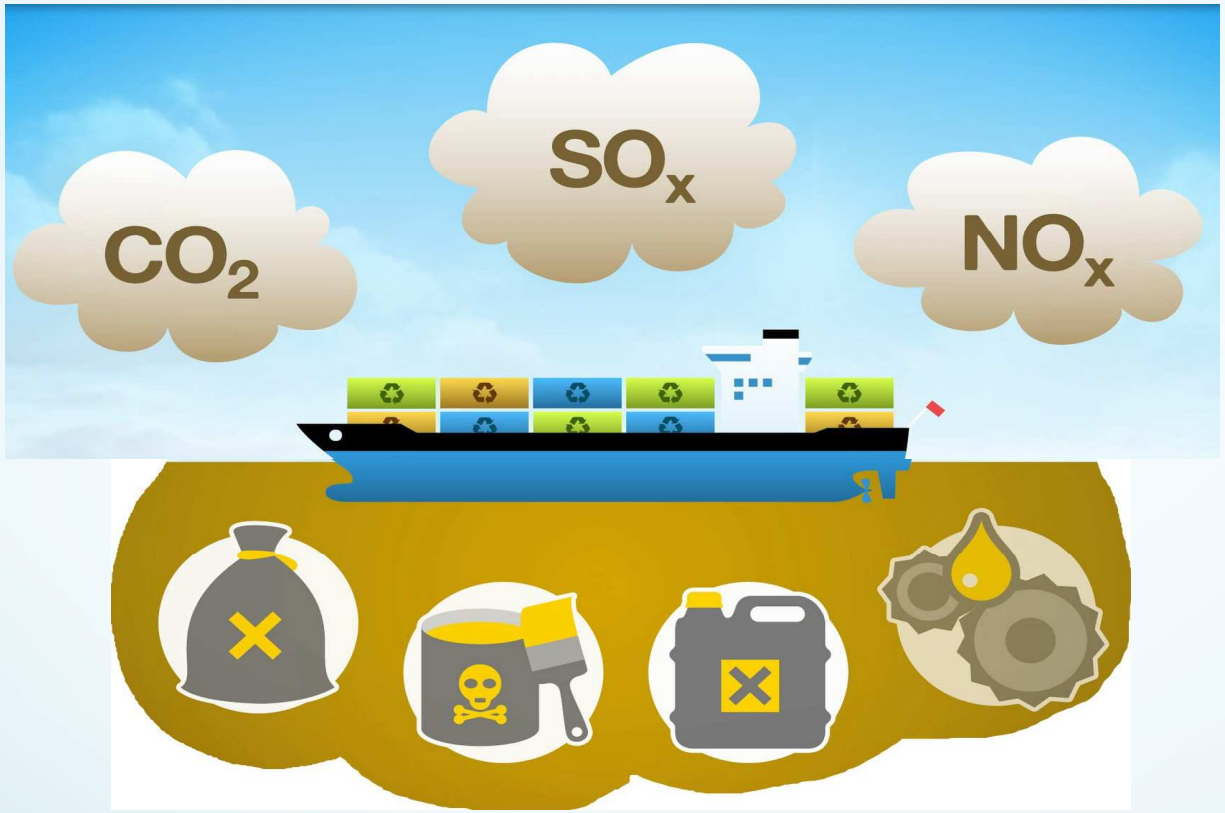
Clean Shipping Index

Sustainable Shipping tool

Merijn Hougee
Merijn@cleanshippingindex.com
+ 31 6 11 603 462

cleanshippingindex.com

Ship emissions

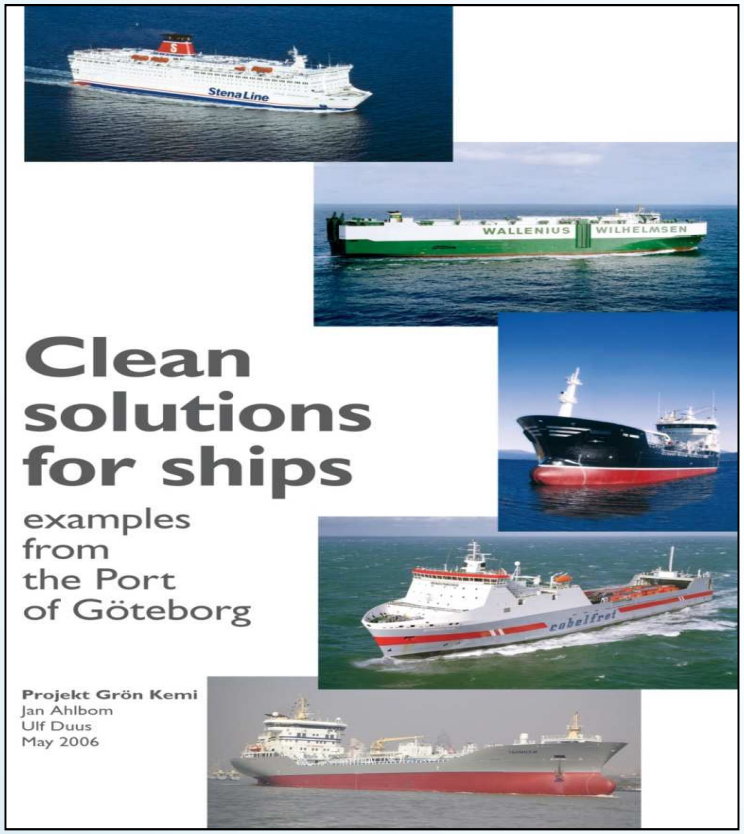


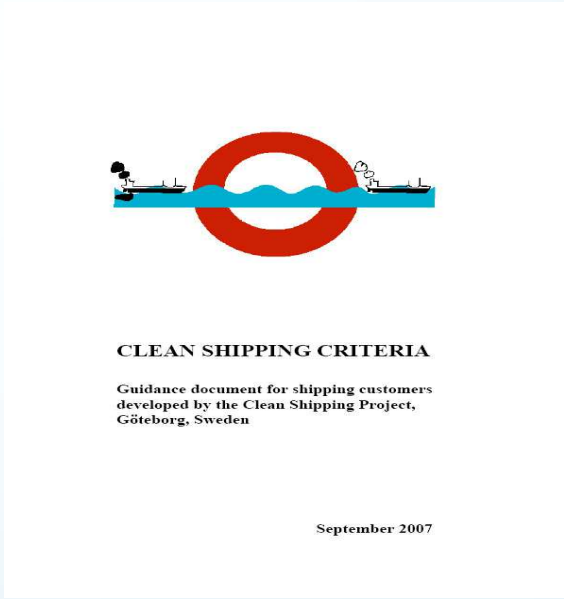
Research results suggest a connection between concentrations of heavy metals and biocides in the marine environment and the development of antibiotic resistance of bacteria.

INTERACT - The interaction of metals and biocides with the selection of antibiotic-resistant bacteria

Multi-resistant bacteria cause tens of thousands of deaths every year in Europe, jeopardizing all kinds of medical procedures. According to the WHO, the rapid resistance development is one of the largest threats to public health, globally. Alarmingly, not only antibiotics select for resistance, but the combined exposure to biocides and metals can also contribute through co-selection and cross-resistance. Chemicals in the environment may thus make bacteria untreatable with antibiotics at a later stage. To enable mitigations, INTERACT will identify chemicals and environments associated with high risks for combination effects. Specifically, we will assess:

Clean Shipping Project





The Clean Shipping Index: an online database tool to score ships and ship operators on their full environmental performance. A third party certification system is in place.

Criteria

- Shiprecycling
- SO_X and PM
- NO_X
- CO_2
- Chemicals
- Water and Waste

holistic focus

performance

high

medium

low

The Clean Shipping Network: an association of the shipping industry's customers who evaluate their suppliers with the Clean Shipping Index during procurement. The aim: a market demand for clean ships.

cleanshippingindex.com

Verification and certification

CLEAN SHIPPING INDEX

CERTIFICATE OF VERIFICATION

VESSEL

Name of vessel	TransTimber
Owner	Transatlantic
IMO number	IMO9343273

THIS IS TO CERTIFY
that the above-mentioned vessel has been verified by the undersigned according to the Clean Shipping Index Verification Guidelines, Version 2.0 and that, upon completion of the survey the undersigned is of the opinion that the vessel is in compliance with the self assessment. The overall scoring in the database for this vessel leads to a classification of **Good performance** according to the Clean Shipping Index.

2011-12-02
Date

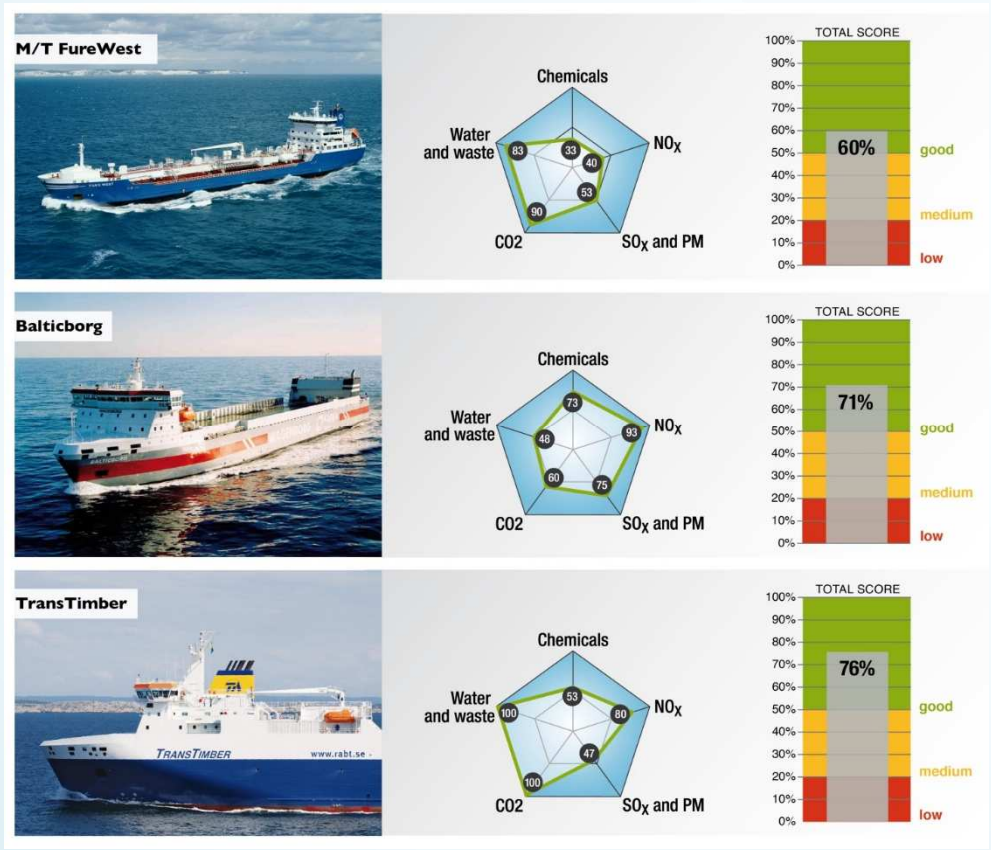
Stefan Borggren
Surveyor

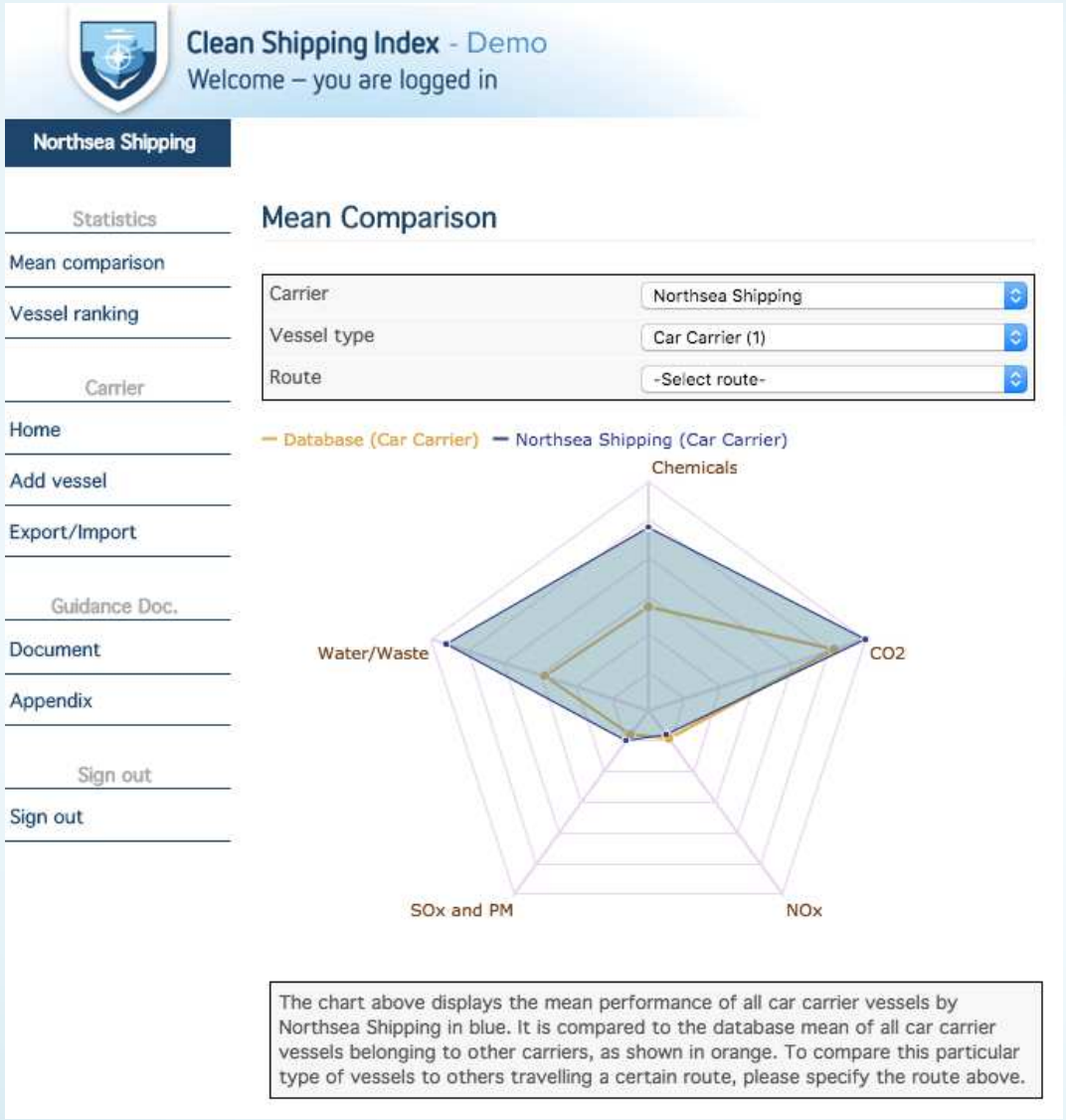
DNV
Classification Society, Member of IACS

SOx and PM				
Scoring description Company assessment highlighted		Verification assessment	Verification comments	Guideline for assessment
SOx/PM main engines Operations in non-ECAs and ECAs (total yearly average)				
No data	0	3	Enter comments here.	Office and onboard verification Required documents: Bunker Delivery Notes, BDN summaries, Oil Record Book, International Air Pollution Prevention (IAPP) certificate
Operation only in ECAs	**3**			
Fuel quality ≥ 2.5% S	0			
Fuel quality < 2.5% S	1			
Fuel quality < 2.3% S	2			
Fuel quality < 2.0% S	3			
Fuel quality < 1.5% S	5			
Fuel quality < 1.0% S	7			
Fuel quality < 0.5% S	9			
LPG / LNG / Biogas	10			
SOx/PM main engines Operations in ECAs (total yearly average)				
No data	0	3	Enter comments here.	Office and onboard verification Required documents: Bunker Delivery Notes, BDN summaries, Oil Record Book, International Air Pollution Prevention (IAPP) certificate
Operation only in non-ECAs	0			
Fuel quality ≥ 1.0% S	0			
Fuel quality < 1.0% S	**3**			
Fuel quality < 0.8% S	5			
Fuel quality < 0.5% S or MDO < 1% S	7			
Fuel quality < 0.1% S	9			
LPG / LNG / Biogas	10			
Harbour bonus				
No data	**0**	0	Enter comments here.	Office and onboard verification Required documents: Bunker Delivery Notes, BDN summaries, Oil Record Book, International Air Pollution Prevention (IAPP) certificate
Fuel quality ≤ 0.1% S in main and auxiliary engines in harbour areas	3			

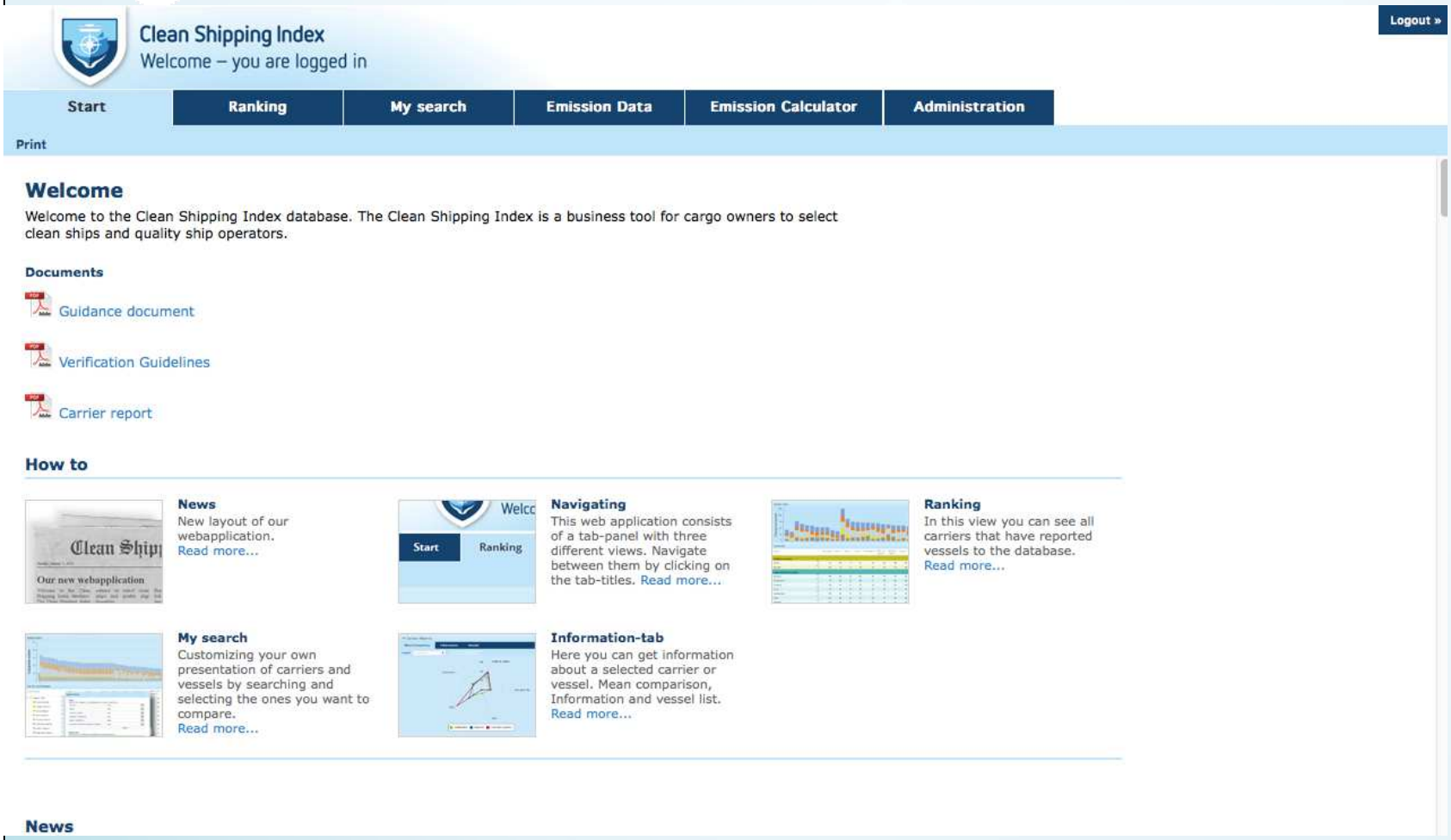
Clean Shipping Index

cleanshippingindex.com

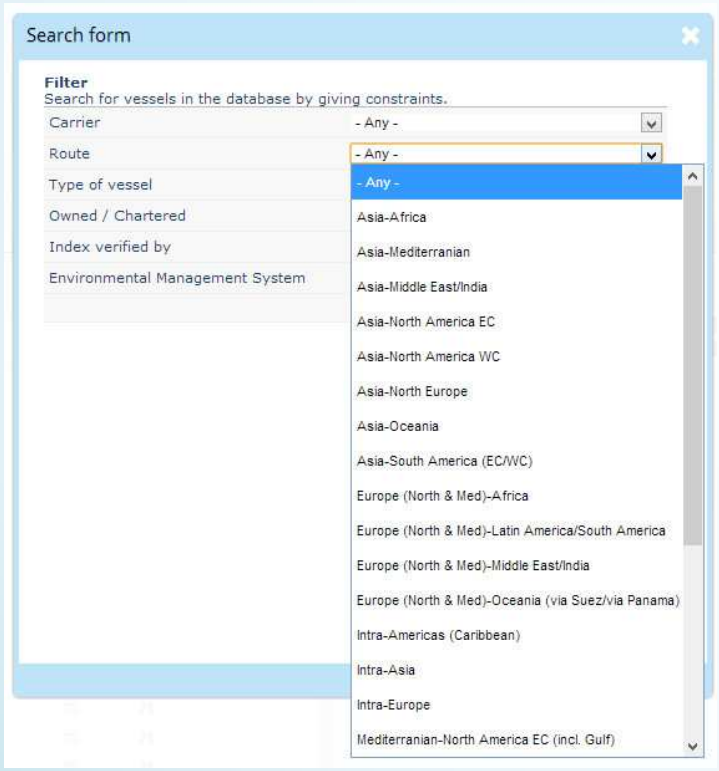


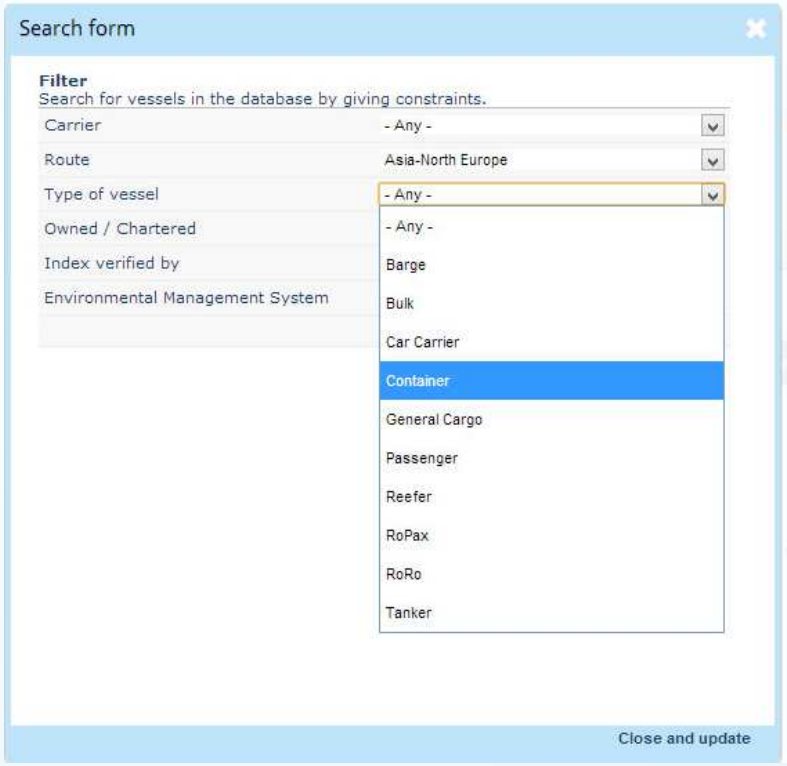

Clean Shipping Index - Demo
Welcome – you are logged in
Northsea Shipping
Statistics
Mean comparison
Vessel ranking
Carrier
Home
Add vessel
Export/Import
Guidance Doc.
Document
Appendix
Sign out
Sign out
Mean Comparison
Carrier
Northsea Shipping
Vessel type
Car Carrier (1)
Route
-Select route-
Database (Car Carrier)
Northsea Shipping (Car Carrier)
Chemicals
Water/Waste
CO2
SOx and PM
NOx
The chart above displays the mean performance of all car carrier vessels by Northsea Shipping in blue. It is compared to the database mean of all car carrier vessels belonging to other carriers, as shown in orange. To compare this particular type of vessels to others travelling a certain route, please specify the route above.

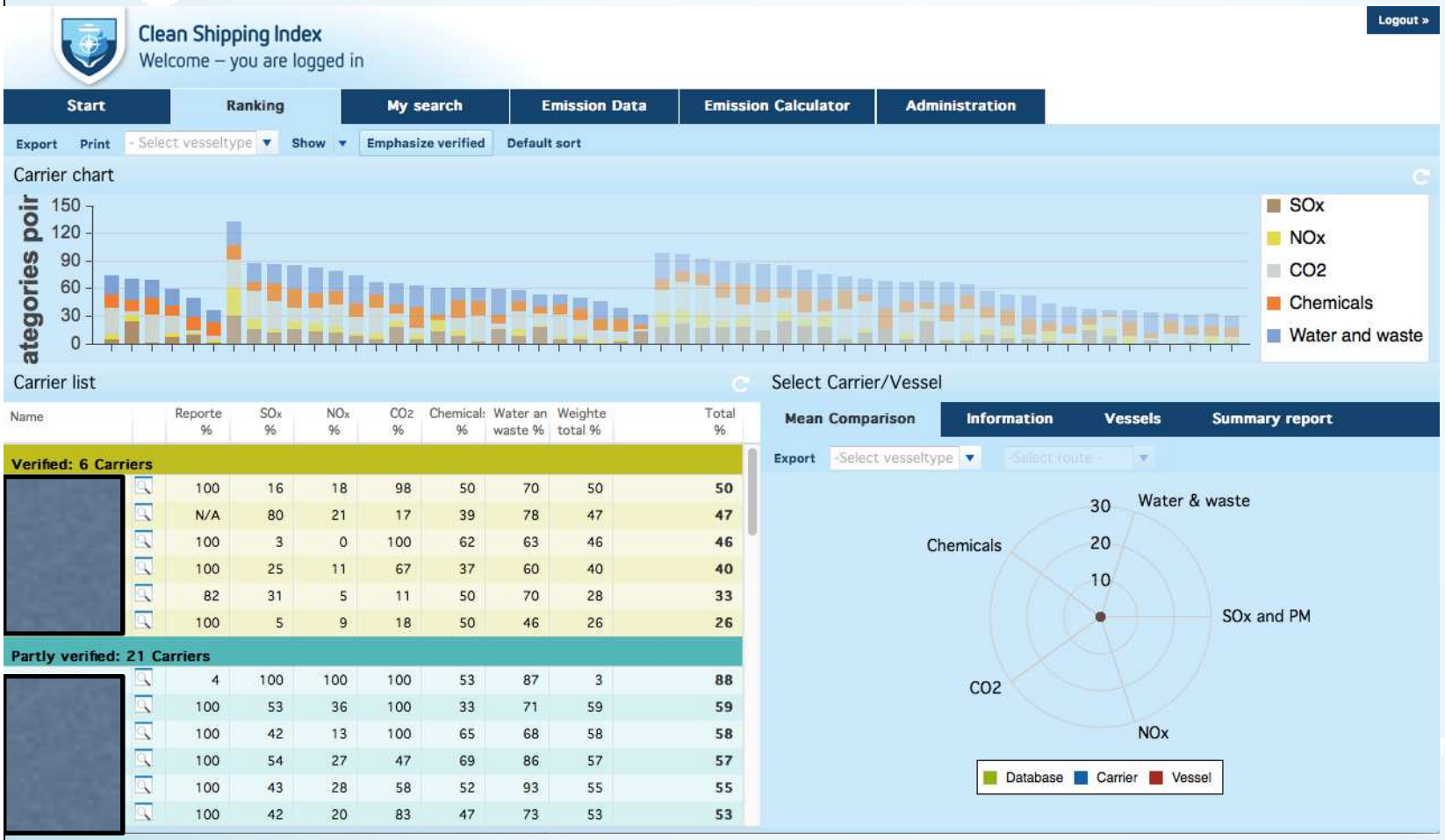
Entry from a cargo owners perspective



cleanshippingindex.com

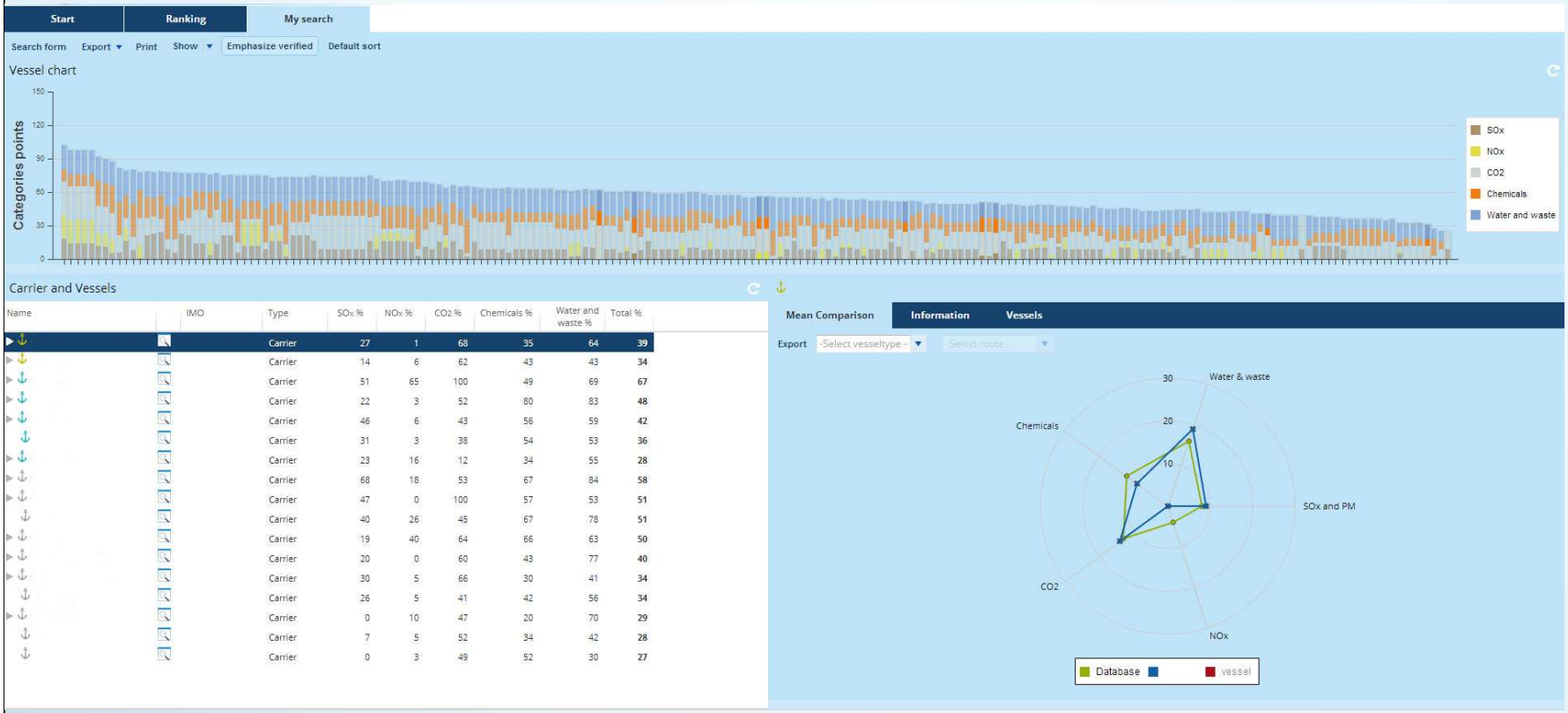






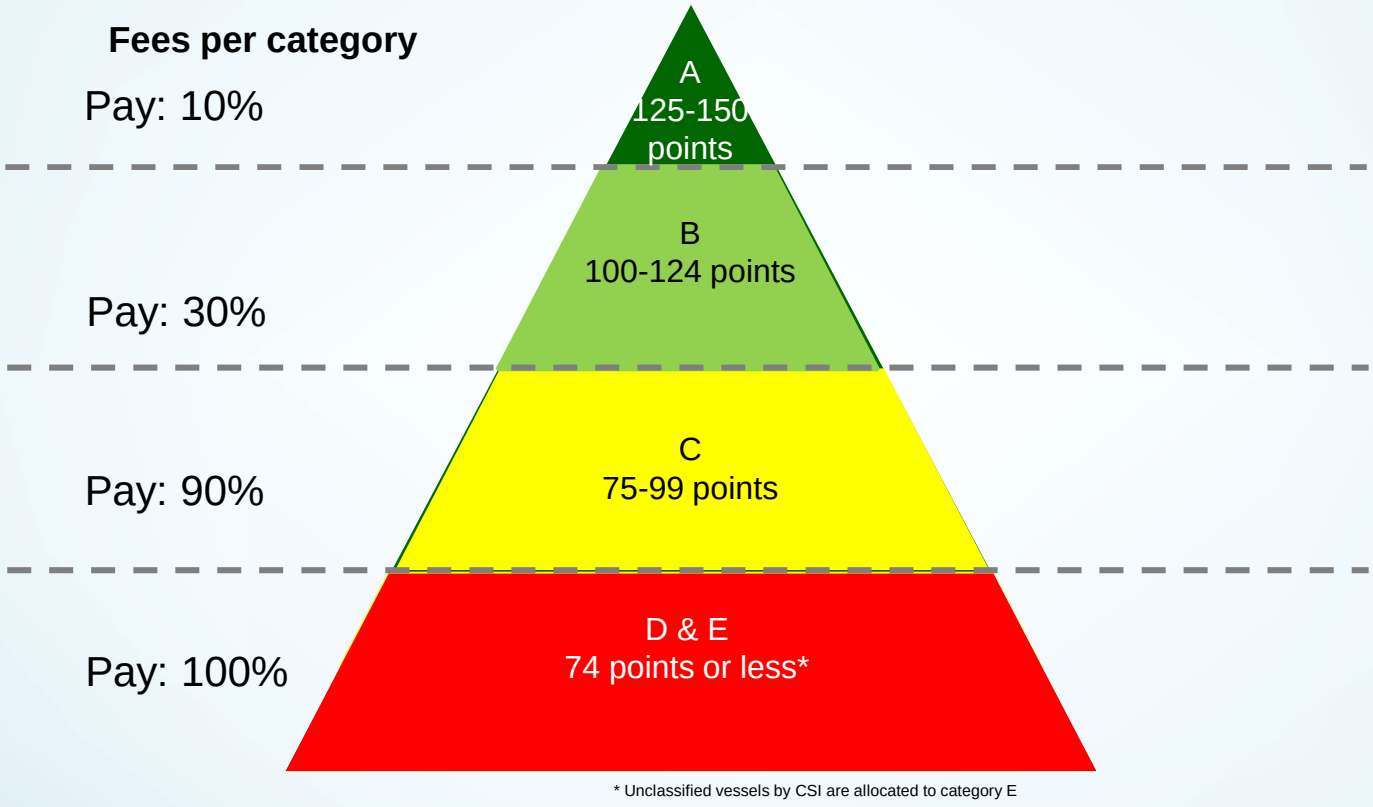
cleanshippingindex.com

Clean Shipping Index Database



“Swedish Maritime Administration refocuses its efforts in order to reduce the environmental impact from the shipping industry by incorporating the entire environmental impact from a ship rather than just NOx”

Swedish Maritime Administration segments the vessel into five different categories based on their total environmental impact as measured by CSI



* Unclassified vessels by CSI are allocated to category E

The Swedish Maritime Administrations new shipping due model is presented in a simple, transparent and consistent format

NT bracket	Lowest NT per bracket	Call due per environmental category (EUR/call)			
		A	B	C	D/E
1	0	€ 22,92	€ 68,75	€ 206,25	€ 229,17
2	1000	€ 87,50	€ 262,50	€ 787,50	€ 875,00
3	2000	€ 171,88	€ 515,63	€ 1.546,88	€ 1.718,75
4	3000	€ 276,04	€ 821,88	€ 2.465,63	€ 2.739,58
5	6000	€ 503,13	€ 1.509,38	€ 4.528,13	€ 5.031,25
6	10000	€ 731,25	€ 2.193,75	€ 6.581,25	€ 7.312,50
7	15000	€ 936,46	€ 2.809,38	€ 8.428,13	€ 9.364,58
8	30000	€ 1.073,96	€ 3.221,88	€ 9.665,63	€ 10.739,58
9	60000	€ 1.322,92	€ 3.771,88	€ 11.315,63	€ 12.572,92
10	100000	€ 1.485,42	€ 4.456,25	€ 13.368,75	€ 14.854,17

Frequent traffic

Frequency reduction, based on number of calls per month:

Call 1: 100%
Call 2: 100%
Call 3: 75%
Call 4: 50%
Call 5: 25%
Call 6+: 0%

The Swedish Maritime Administrations new shipping due model is presented in a simple, transparent and consistent format

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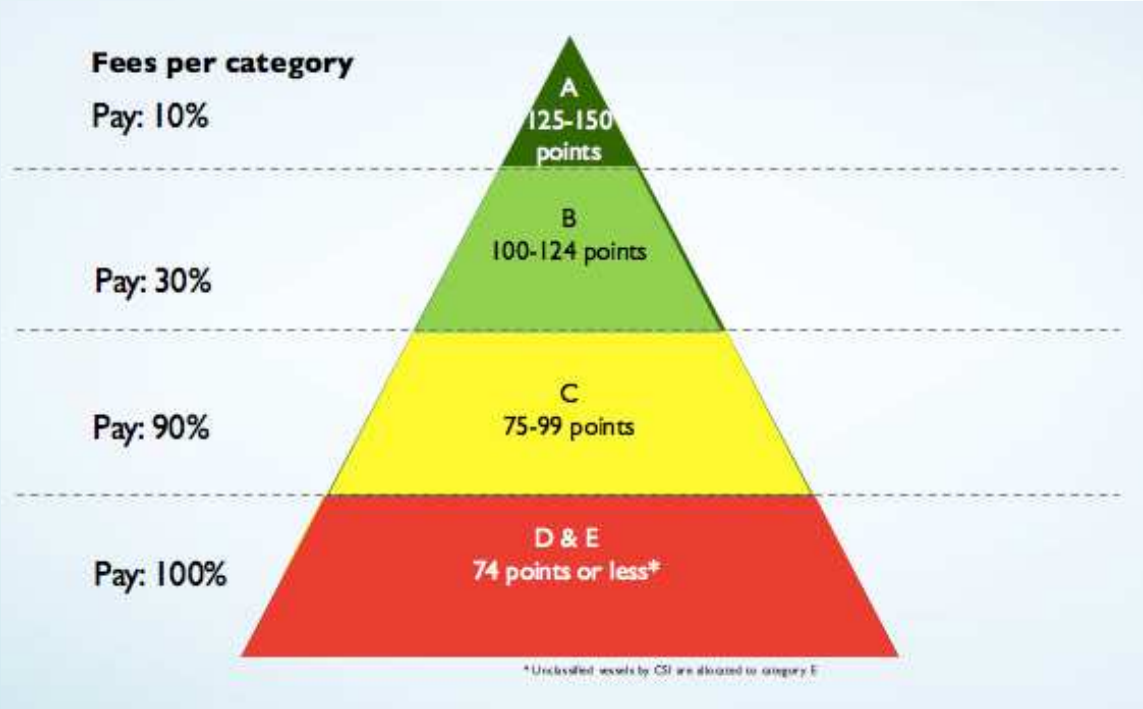


CLEAN SHIPPING INDEX

Environmental performance

CSI 5	★★★★★
CSI 4	★★★★
CSI 3	★★★
CSI 2	★★
CSI 1	★

Future outlook

Connect environmental performance to procurement systems

Synergies with other initiatives: ESI, Greenaward, Carbon Warroom, CCWG

Product labelling

Increase transparency: all data visible for everyone

Make use of ‘external’ Big Data

Interested? Get a login for the Demo database tool

There is a demo version available on www.demo.cleanshippingindex.com

If you want to practice first before submitting data to the actual database, contact:

Merijn Hougee
Merijn@cleanshippingindex.com
+ 31 6 11 603 462

Clean Shipping Index

get acquainted, become a member,
view or edit the index, download reports
and follow the latest news at:

cleanshippingindex.com

Difference between various volume/size measurements

Gross tonnage

Gross tonnage (GT) is a measurement that includes all the free space on the ship. This includes areas not directly related to the goods or passengers

Net tonnage

Net tonnage (NT) is a measurement that reflects the volume where goods and passengers are transported and/or services are provided. Thus it better reflects the vessels capabilities to earn a profit compared to GT

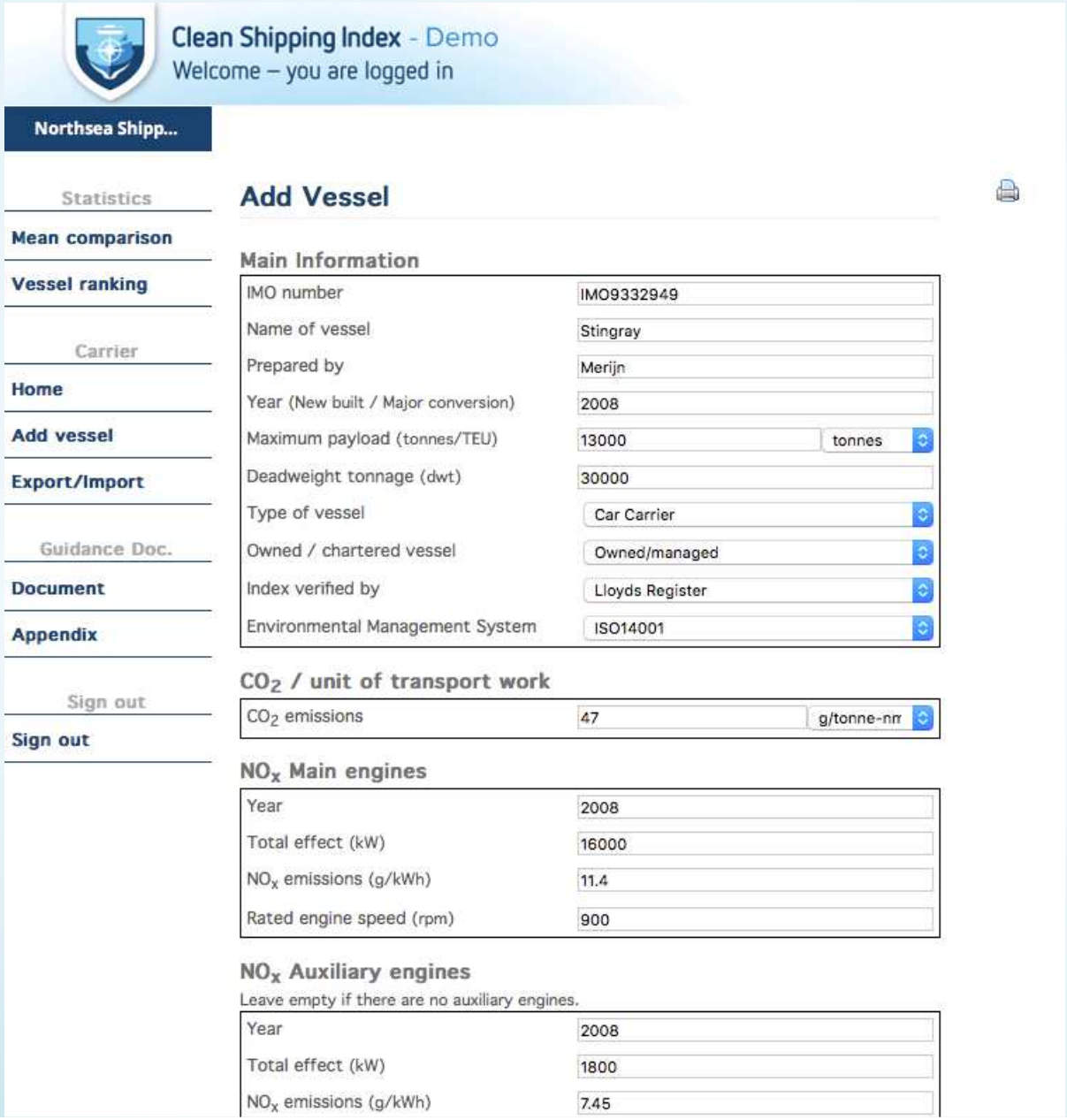
Length x Breadth x Depth

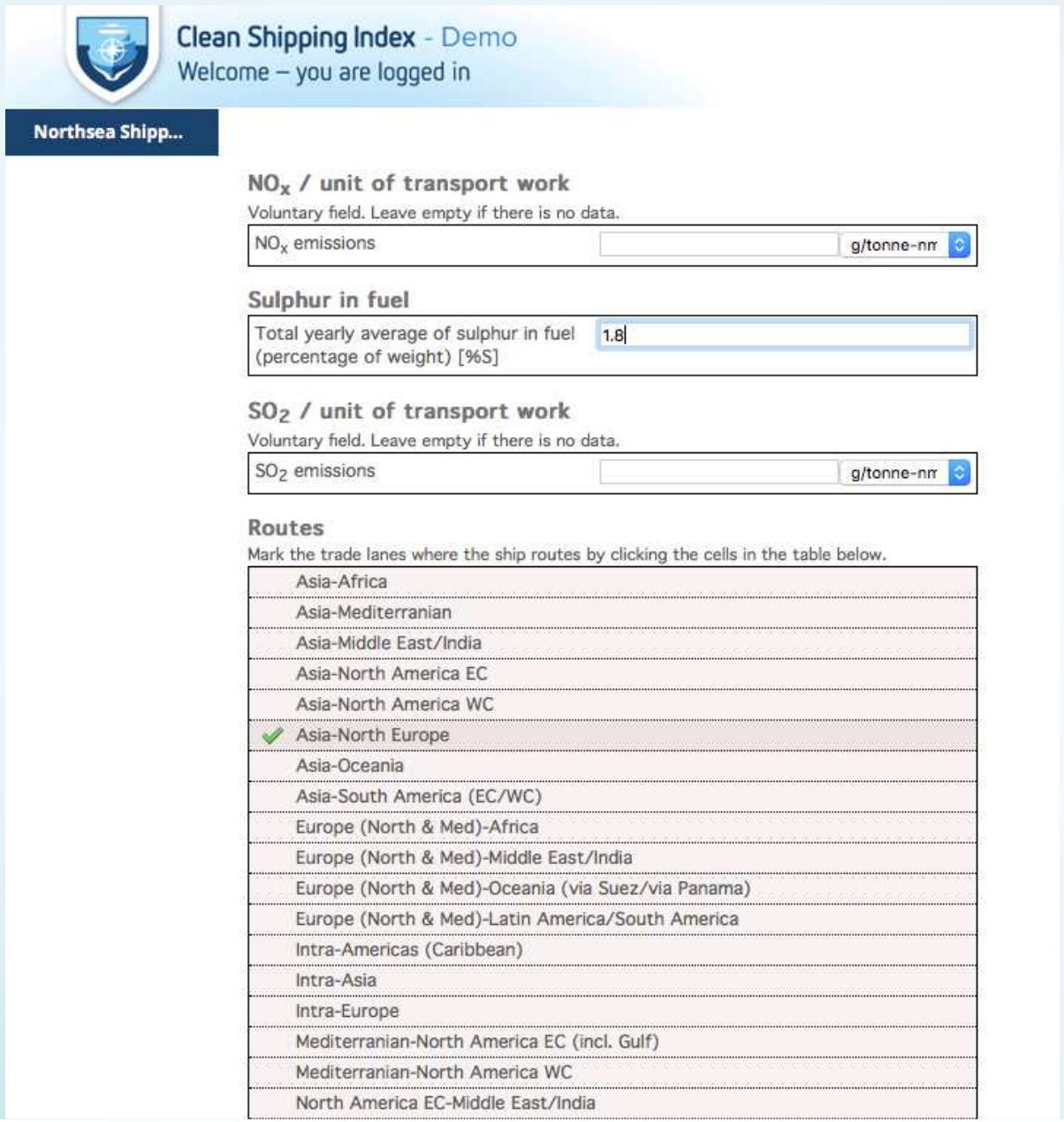
The measure above correlates to the Swedish Maritime Administrations costs of keeping the fairways open

Deadweight

Dead weight (DWT) denotes the vessels maximal storage capacity. The implementation of DWT would cause significant changes in costs both for cargo owners and for the shipping industry

SJÖFARTSVERKET


Clean Shipping Index - Demo
Welcome – you are logged in
Northsea Shipp...
Statistics
Mean comparison
Vessel ranking
Carrier
Home
Add vessel
Export/Import
Guidance Doc.
Document
Appendix
Sign out
Sign out
Add Vessel
Main Information
IMO number
IMO9332949
Name of vessel
Stingray
Prepared by
Merijn
Year (New built / Major conversion)
2008
Maximum payload (tonnes/TEU)
13000
tonnes
Deadweight tonnage (dwt)
30000
Type of vessel
Car Carrier
Owned / chartered vessel
Owned/managed
Index verified by
Lloyds Register
Environmental Management System
ISO14001
CO2 / unit of transport work
CO2 emissions
47
g/tonne-nr
NOx Main engines
Year
2008
Total effect (kW)
16000
NOx emissions (g/kWh)
11.4
Rated engine speed (rpm)
900
NOx Auxiliary engines
Leave empty if there are no auxiliary engines.
Year
2008
Total effect (kW)
1800
NOx emissions (g/kWh)
7.45


Clean Shipping Index - Demo
Welcome – you are logged in
Northsea Shipp...
NOx / unit of transport work
Voluntary field. Leave empty if there is no data.
NOx emissions
g/tonne-nm
Sulphur in fuel
Total yearly average of sulphur in fuel (percentage of weight) [%S]
1.8
SO2 / unit of transport work
Voluntary field. Leave empty if there is no data.
SO2 emissions
g/tonne-nm
Routes
Mark the trade lanes where the ship routes by clicking the cells in the table below.
Asia-Africa
Asia-Mediterranian
Asia-Middle East/India
Asia-North America EC
Asia-North America WC
Asia-North Europe
Asia-Oceania
Asia-South America (EC/WC)
Europe (North & Med)-Africa
Europe (North & Med)-Middle East/India
Europe (North & Med)-Oceania (via Suez/via Panama)
Europe (North & Med)-Latin America/South America
Intra-Americas (Caribbean)
Intra-Asia
Intra-Europe
Mediterranian-North America EC (incl. Gulf)
Mediterranian-North America WC
North America EC-Middle East/India

Vessel Performance

SOx

Main engines Operations in non-ECAs	No data	(0)
	Operation *only* in ECAs (ECA scoring doubles)	(5)
	Fuel quality ≥ 2.3% S	(0)
	Fuel quality < 2.3% S	(1)
	Fuel quality < 1.5% S	(2)
	Fuel quality < 1.0% S	(3)
	Fuel quality < 0.5% S	(5)
	"Minimum sulphur fuels" (< 50 ppm S)	(6)
Main engines Operations in ECAs	No data/compliance	(0)
	Operation *only* in non-ECAs (scoring above doubles)	(2)
	"Minimum sulphur fuels" (< 50 ppm S)	(5)
Harbour bonus	Main/aux engines, boilers Fuel quality > 0.1% S in harbour areas	(0)
	Fuel quality < 0.1% S in harbour areas outside SECAs	(1)
	"Minimum sulphur fuels" (< 50 ppm S) in harbour areas	(2)
Aux. engines	No data	(0)
	Fuel quality > 0.1% S	(0)
	Fuel quality ? 0.1% S outside SECAs	(1)
	Shore-side electricity	(2)
	"Minimum sulphur fuels" (< 50 ppm S)	(2)

PM

PM Main engines, operation in non-ECAs	No data	(0)
	Operation *only* in ECAs (ECA scoring doubles)	(0)
	Fuel quality ≥ 2.3% S	(0)
	Fuel quality < 2.3% S	(1)
	Fuel quality < 1.5% S	(2)
	Fuel quality < 1.0% S	(3)
	PM < 0.3 g/kWh	(4)
	Fuel quality < 0.5% S	(5)
	"Minimum sulphur fuels" (< 50 ppm) S	(6)
PM Main engines, operation in ECAs	No data/compliance	(0)
	Operation *only* in non-ECAs (scoring above doubles)	(2)
	PM < 0.2 g/kWh	(3)
	"Minimum sulphur fuels" (< 50 ppm S)	(5)
	PM < 0.1 g/kWh	(5)
PM Harbour Bonus	No data/compliance	(0)
	PM < 0.1 g/kWh	(1)
	"Minimum sulphur fuels" (< 50 ppm S) in harbour areas	(2)
PM aux.engines	No data/compliance	(0)
	PM < 0.2 g/kWh	(1)
	PM < 0.1 g/kWh	(2)
	Shore-side electricity	(2)
	"Minimum sulphur fuels" (< 50 ppm S)	(2)

NOx

All data should already be reported. Just click the Compute button.

NOx main engines	● No data	(0)
	○ Engines 2000-2011, above or within Tier 1 levels	(0)
	● Engines prior year 2000, Tier I levels	(6)
	● Engines prior year 2011, Tier II levels	(9)
	● ≥ 30% below Tier I levels	(12)
	● ≥ 40% below Tier I	(15)
	● Tier III levels	(21)
NOx auxiliary engines	● No data	(0)
	● Engines 2000-2011, above or within Tier 1 levels	(0)
	● Engines prior year 2000, Tier I levels	(2)
	● Engines prior year 2011, Tier II levels	(3)
	○ ≥ 30% below Tier I levels	(4)
	● ≥ 40% below Tier I	(6)
	● Tier III levels or when shore-side electricity is installed and used	(9)
Automatic fill-in	Compute	

CO2

CO2 emission information	● No data	(0)
	● CO2 per TEU-km according to BSR	(3)
	● **CO2 per tonne-nm according to MEPC (EEOI)**	(3)
CO2 emission performance EEOI Reference value: 75.94	● No data	(0)
	● 20% above reference or more	(0)
	● < 20% above reference	(3)
	● < 15% above reference	(6)
	● < 10% above reference	(9)
	● < 5% above reference	(12)
	● Reference value or below	(15)
	● > 5% below reference	(18)
	● > 10% below reference	(21)
	● > 15% below reference	(24)
	● **> 20% below reference**	(27)

Chemicals

Antifouling	No data	(0)
	Other	(0)
	Controlled Depletion Polymer (CDP)	(0)
	Self-Polishing Coating (SPC), only acceptable biocides	(5)
	Non-toxic	(7)
Stern Tube Oil	No data	(0)
	Mineral oil based	(0)
	Air seal	(3)
	Based on biodegradable oil	(5)
	Water lubrication	(7)
	Not applicable	(7)
External hydraulic fluids	No data	(0)
	Mineral oil based	(0)
	Ext. hydraulics exchanged to electrical power	(3)
	Based on biodegradable oil	(3)
	Ext. hydraulic system capped	(3)
Gear oils for thrusters and controllable pitch (CP) propellers	No data	(0)
	Mineral oil based	(0)
	Based on biodegradable oil	(5)
	Not applicable	(5)
Boiler/ Cooling water treatment	No data	(0)
	Classified as CMR, toxic, sensitizing, dangerous to the environment	(0)
	Not classified as above (nitrite exclusive)	(2)
Cleaning agents	No data	(0)
	Classified as CMR, dangerous to the environment or toxic	(0)
	Not classified as above	(3)

Water and waste control

Ballast water treatment	● No data	(0)
	● No treatment	(0)
	● Ballast water mid-ocean exchange	(3)
	○ IMO final approval	(10)
	● Not applicable	(10)
Sewage / Black water	● No data	(0)
	● No treatment	(0)
	○ No discharge in sensitive areas (PSSA) or sewage treatment plant on board	(3)
Garbage handling	● No data	(0)
	● Incinerator used on board	(0)
	● Waste overboard	(0)
	○ No incinerator on board or documented no incineration of garbage and no waste overboard and separate garbage handling for reuse, recycling and disposal	(3)
Sludge handling	● No data	(0)
	● Incinerator used on board	(0)
	○ No incinerator on board or documentation of no incineration of sludge and disposal of sludge to treatment on shore	(4)
Bilge water treatment	● No data	(0)
	● Gravimetric separation	(0)
	● Active treatment installed and < 15ppm oil in outgoing water	(3)
	○ Active treatment installed and < 5ppm oil in outgoing water	(5)
	● Active treatment installed and < 5ppm oil in outgoing water and emission control box in place	(7)
Crew awareness	● No data	(0)
	Documented education of personnel on	(3)

	● Not applicable	(10)
Sewage / Black water	● No data	(0)
	● No treatment	(0)
	○ No discharge in sensitive areas (PSSA) or sewage treatment plant on board	(3)
Garbage handling	● No data	(0)
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	○ Active treatment installed and < 5ppm oil in outgoing water	(5)
	● Active treatment installed and < 5ppm oil in outgoing water and emission control box in place	(7)
Crew awareness	● No data	(0)
	○ Documented education of personnel on environmental awareness, health risks and adequate protective equipment	(3)

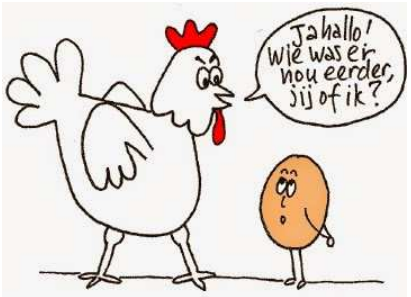
Submit

Paneldiscussie: Stelling I

“Huidige financiële incentives zorgen niet voor een schonere scheepvaart (op dit moment zijn incentives niet zelfregulerend en er is geen echte milieuwinst)”

Paneldiscussie: Stelling II

“De Nederlandse overheid moet het Zweedse voorbeeld volgen”



Paneldiscussie: Stelling III

“Er moet een uniform label komen voor de scheepvaart zoals BREEAM”