EU/IMO partnership
Navigating Shipping to a low carbon future

2nd MTCCs Global mtg
London, 22-25/10/2018

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The EU knows well that:

- Climate Change can bring about an unprecedented reversal in the progress towards poverty eradication and that it can undermine efforts towards sustainable and inclusive development.

- That's why the EU is doing its utmost in the fight against Climate Change and Disaster Risk Reduction, both within Europe and globally.
Globally, the EU played an instrumental role:

In the negotiations and agreements of three policy frameworks:

✓ Paris Agreement
✓ 2030 Agenda for Sustainable Development
✓ The Sendai Framework for DRR

And remains committed to support the sustainable and inclusive development of developing countries, especially the Least Developed Countries (LDCs) and Small Island Developing States (SIDS)
The EU (EU MSs and EC) is collectively:

✓ The world's largest provider of ODA, accounting for over half of the total ODA to developing countries and the largest contributor of climate finance

✓ Its public support for climate-specific finance has doubled in nominal terms over the last three years, amounting to EUR 19.7 billion in 2016.

✓ The European Commission alone is aiming to spend around 20% of its development portfolio on climate-related programmes projects for 2014-2020
The EU supports mitigation from ships/shipping

✓ **2016**: START of *GMN's journey*

➤ Selection of host institutes of five Maritime Technology Cooperation Centers (MTCCs) on a call for tenders basis

✓ **2017**: Set-up and launch of MTCCs

✓ **2018**: START of MTTCs operations
Results

Capacity building events
✓ 20 events (as of June 2018) - 660 people advance knowledge on:
  ➢ climate change, GHG
  ➢ energy efficiency issues in shipping, and discuss possible joint solutions.

Pilots projects
➢ on low carbon technologies
➢ related to data collection on fuel consumption

Launch of two satellite MTCCs
➢ Asia – Cambodge
➢ Pacific - Samoa
What is the impact of the project activities in reducing GHG?

So far positive impacts already being recorded: in the Pacific region, following the implementation of recommendations from the GMN energy audit pilot project, the Solomon Islands Port Authority reported overall energy savings of 8% (15 tonnes of GHG emission reduction), representing AU$17,000 per month in 2018.

Need to measure/calculate for the final report

Is there a methodology/software available for this purpose?
What is the impact of MTCCs on the ratification of MARPOL Annex VI in the countries of MTCCs regions?

What implementation structures/procedures have the countries put in place with the help of MTCCs?

To be reporting with the final report
Opportunities to be harnessed by MTTCs or Hosting Universities

- Upcoming EU funded Research Calls (EU Horizon 2020)
- The EU Copernicus Global Shipping service
Upcoming 2019 calls on Waterborne research


Transport Info Day 13 December 2018

Horizon 2020 Work Programme for Research & Innovation 2018-2020

#InvestEUresearch #H2020TransportInfo
EU Research on Green Shipping & International co-operation

113 projects, under EU R & I Framework Programme 7 (2007-2013) and EU Horizon 2020 (2014-2020) between 2007 and 2016, under the topic of Green Shipping

1028 participations from 38 countries

Several projects with non-EU countries' participation in FP7, growing in Horizon 2020 but in the future more is welcomed!

Waterborne platform (Waterborne transport – including maritime transport, inland navigation and Blue Growth projects)

https://www.waterborne.eu/
http://ec.europa.eu/research/transport/index.cfm?pg=transport&lib=water
ENERGY EFFICIENT AND EMISSION FREE VESSEL – FROM COMPONENT TO VESSEL DEPLOYMENT

- HERCULES-2
  - Fuel flexible, near-zero emission, adaptive performance marine engine

- LEANSHIPS
  - Efficient, less polluting new/retrofitted vessels with end users’ requirements

- E-FERRY
  - The first mid-size 100% electric ferry
Project information

HERCULES-2
http://www.hercules-2.com/

LEANSHIPS
https://www.leanships-project.eu/home/

E-FERRY
http://e-ferryproject.eu/
Retrofit Solutions and Next Generation Propulsion for Waterborne Transport

Challenge:
Retrofit solutions and next generation new builds (including fuel cells) to substantially reduce air pollution from shipping.

Scope (one of the following sub topics):
A) RIA: Concept passenger ship primarily powered by fuel cells of at least 5MW. Combined cycle OK for improved efficiency, Using LNG, LBG, CPG or synthetic fuels with additional consideration of full H2.

B) IA: One or more of:
- To TRL 5 Highly efficient next gen electrified, clean fuel, or renewable energy propulsion system
- To TRL 5 very innovative large area high efficiency or renewable energy assisted propulsion such as novel wind power, whale tale, bio mimic, considering all aspects.
- To TRL6 Cost effective retrofits for marine shipping that substantially reduce emissions and exceed current legislative requirements.
- As above for inland shipping

Expected impact:
Reduce air pollution from shipping, for retrofits particularly in coastal and port areas. Increase take up. Next gen solutions >10% reduction in CO2 emissions.

Indicative cost per proposal:
Topic A €4-8M
Topic B €3-5M

Budget:
Topic A: €8M
Topic B: €15m

Deadline 16 January 2019
**Challenge:**

Need a structured approach towards R&I to decarbonize waterborne transports as well as reducing other pollutants such as SOX, NOX and PMs may follow. All stake holders need to be engaged, priorities established and widely communicated so that they can become a focus for the greening of waterborne transport as a whole.

**Proposals should address:**

- Establish a comprehensive “green shipping stake holder group which should cooperate with: waterborne TP and take into account other activities such as ESSF, STRIA, CEF TEN-T
- Establish a quantified vision considering all pollutants and a strategic research agenda with the steps to achieve it.
- Support take up, including the establishment and implementation of a strong communications strategy.
- Some related activities concerning digitalisation, safety and competitiveness may also be included.

**Expected impact:** Towards zero-emission goal. Increase competitiveness. Better targeting and synergies. Wider awareness and "buy in" to a European zero emission strategy.
Challenge:
Innovative solutions to move more European freight by water using inland waterways or short sea shipping.

Scope Proposals should focus on either (a) Inland waterways or (b) maritime transport. Proposals should indicate which is being addressed
Those projects addressing:

a) Inland Waterways must address solutions for infrastructure maintenance and operations (4th bullet), plus at least 4 of the other bullets.

b) Marine Transport must address the development of innovative vessel(s) for more effective intermodal integration and with a focus of the TEN-T network, plus at least 4 of the other bullets.

Expected impact:
Decongest land transport. Reduce CO2 and air pollution from intra-European freight transport. Improve performance of TEN-T network. Substantially increase waterborne freight fed from intercontinental ports. Modernise and increase reliability. Demonstrate that the proposed solution increases the quantity of waterborne freight carried.

Indicative cost per proposal: €5M to €10M
Topic Budget: €30M
To ensure balance, at least the highest ranked proposal addressing (a) and b) will be selected

Deadline 16 January 2019
Ship Emission Control scenarios, marine environmental impact and mitigation

**Challenge:**
Increasingly strict emission limits apply to ships around coastlines of most developed countries. Now focussed on SOX but a focus on NOX and PM may follow. Some compliant solutions impacts and new waste streams. The effects and scenarios in the short and long term are not well understood.

**Proposals should address:**
- Assessment of the range of emission reduction technologies, considering their costs benefits.
- Experimentally characterise waste streams,
- Considering several scenarios model discernment around the European coast, considering main ship routes and real data, hydrological and weather as well as the constituents discharged
- Environmental impact in the medium and long term including bio accumulation.
- Propose sustainable cost effective solutions.
- Recommended to provide open source access to dispersion model data.

**Expected impact:** Comprehensive understanding of dispersion and any long term environmental impacts. Identify most effected regions. Provide sound basis for future policies.

**Deadline 24 April 2019**
EU H2020 eligible countries

- EU Member States + Territories linked to the Member States (Aruba, Bermuda etc.)
- H2020 associated countries (Norway, Iceland, Switzerland...)
- Participants from many non EU (developing) countries are eligible to receive EU funding on the same basis as an EU member state. A list of the countries can be found here.
How to participate?

Details of topics and how to apply can be found at:


Partner search tool

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Visit our website:
http://ec.europa.eu/research/transport/index_en.htm
Projects 4 Policy 'Green shipping'

EU/IMO Partnership – Navigate maritime shipping into a low-carbon future

The Global MTCCs Network

Lunchtime Conference External Cooperation Infopoint

11 June 2018

Agnieszka Zaplatka
DG RTD, H2 Surface Transport
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Green Shipping R&I 2008-2016

- 113 Green shipping projects identified (42 core projects)
- €294M EU investment in €424M R&I value

**€294 EU Contribution**
(For H2020 only includes first calls)

- Air pollution
- Decarbonisation
- Water pollution
What is Projects for Policy? (P4P)

Harvesting policy relevant R&I results from funded projects and using them for making timely and relevant policy recommendations.

**EU R&I projects' results**

- **EU R&I Framework programmes**

**Waterborne Transport Policy**

- IMO regulations
- EU directives
- EU Maritime Transport Strategy

**P4P report**

- Value of R&I investment beyond individual project
- Increasing the impact of R&I projects results as a resource for policy making
### Projects scopes within areas of Decarbonisation and Air Pollution

<table>
<thead>
<tr>
<th>Category</th>
<th>Scope</th>
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</thead>
<tbody>
<tr>
<td><strong>Zero emission technologies</strong></td>
<td>- Wind/solar assist</td>
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<tr>
<td></td>
<td>- Batteries, Hydrogen, Electricity</td>
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<tr>
<td><strong>Greening Technologies and Energy Efficiency</strong></td>
<td>- New types of ships/ equipment, materials</td>
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<td></td>
<td>- New hydrodynamic and propulsion systems</td>
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<tr>
<td><strong>Operations</strong></td>
<td>- Slow steaming, voyage optimisation</td>
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<tr>
<td></td>
<td>- Energy management</td>
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<td>- Improved port operations</td>
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Projects 4 Policy reports

Beginning 2019 at:

Green shipping Technology suppliers for your exhibitions during Regional or National Events:

Identify the Companies participating in EU funded projects:

- **Blue Economy Booklet** – available from the above site
- **Waterborne platform**: [https://www.waterborne.eu/](https://www.waterborne.eu/)
- **Partner search tool** [http://ec.europa.eu/research/participants/portal/desktop/en/organisations/partner_search.html](http://ec.europa.eu/research/participants/portal/desktop/en/organisations/partner_search.html)
- **Cordis portal** (One stop for information on EU-funded research projects and project results) [https://cordis.europa.eu/projects/home_en.html](https://cordis.europa.eu/projects/home_en.html)
The EU Copernicus programme
Full, Free and Open access to Earth Observation data
http://copernicus.eu

Copernicus is the European Union's Earth Observation Programme, looking at our planet and its environment for the ultimate benefit of all European and world citizens. It offers information services based on satellite Earth Observation and in situ (non-space) data.

The Programme is coordinated and managed by the European Commission. It is implemented in partnership with the Member States, the European Space Agency (ESA), the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT), the European Centre for Medium-Range Weather Forecasts (ECMWF), EU Agencies and Mercator Océan.
The EU Copernicus services
Full, Free and Open access to Earth Observation data

https://atmosphere.copernicus.eu/

http://marine.copernicus.eu/

https://land.copernicus.eu/

https://climate.copernicus.eu/

http://emergency.copernicus.eu/

http://copernicus.eu/main/security(including maritime surveillance (not public)
The EU Copernicus services
Full, Free and Open access to Earth Observation data

A demonstration project of Copernicus Climate Service on Global Shipping:
https://climate.copernicus.eu/global-shipping-project

👉 Up to MTCCs/Unis to harness Copernicus data for downstream services to navigate shipping into a low-carbon future.