



MTCC LATIN AMERICA
Maritime Technology Cooperation Centre

**MARITIME TECHNOLOGY
COOPERATION CENTRE
FOR LATIN AMERICA**



Uptake of Ship Energy Efficient Technologies and Operations

(Barriers and Constraints Examination)



MTCC LATIN AMERICA
Maritime Technology Cooperation Centre



Project funded by
the European Union



INTERNATIONAL
MARITIME
ORGANIZATION



The Global
MTCC Network
A global network for energy-efficient shipping

Pilot Project 1

**Uptake of Ship Energy Efficient
Technologies and Operations**
(Barriers and Constraints Examination)

MTCC Latin America - Pilot Project 1

Project aim

The MTCC Latin America Pilot Project 1

“Uptake of Ship Energy Efficient Technologies and Operations”

Aims at utilizing the existing IMO regulation on ship energy efficient technologies and operations as a starting point, for examining the barriers and constraints faced by regional ship owners and operators when implementing or planning to implement such provisions and moving towards low carbon shipping.

MTCC Latin America - Pilot Project 1

General objective

The project's general objective is strengthening the uptake of ship energy efficient technologies and operations by better understanding the barriers and constraints experienced by relevant stakeholders in the Latin American region, by making recommendations to policy-makers and competent administrations on actions to overcome these issues, and by disseminating the outcomes of this pilot project.

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Methodology

1. Literature review
2. Identification of key stakeholders
3. Selection of 6 countries to participate
4. Development of questionnaires
5. Completion of questionnaires
6. Analysis of collected data
7. Reporting on PP-1 findings
8. Dissemination of project results

Methodology

The methodology followed for was carefully designed and planned, to cover all stakeholders views and considerations as well as all aspects of the research subject, and comprises of the steps reflected in the table on the left.

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Breakdown of activities

1. Literature review

2. Identification of key stakeholders

3. Selection of 6 countries to participate

4. Development of questionnaires

5. Completion of questionnaires

6. Analysis of collected data

7. Reporting on PP-1 findings

8. Dissemination of project results

1. Literature review

Literature review on the nature and status of barriers and constraints

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Breakdown of activities

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2. Identification of key stakeholders

Identification of the key stakeholders acting actively in the implementation of strategies for the uptake of ships energy efficiency technologies and operations and categorization based on their actual role

Stakeholders Categories:

1. Maritime Administrations
2. Government Institutions
3. Ship Owners / Ship Operators
4. Port Authorities / Operators
5. Maritime Training Centers/Institutes
6. Marine Fuel Suppliers
7. Shipyards / Dry Docks
8. Recognized Organizations
9. National Policymakers

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Breakdown of activities

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3. Selection of 6 countries to participate

Selection of six (6) Latin American countries to form part of this study, taking into account:

- Their total fleet and availability of vessels of 500GT and over that need to apply ship energy efficient provisions
- Equal participation of signatory and non-signatory (3&3) to MARPOL Annex VI, in order to ensure representative results and reliable conclusions

Participating countries:

1. Colombia
2. Ecuador
3. Honduras
4. Mexico
5. Panama
6. Peru

TABLE 1 – Selection of the six (6) participating countries in MTCC Latin America Pilot Project 1

Country	Signatory to MARPOL Annex VI	Total fleet (incl. ships under MARPOL Annex VI) *as per UNCTD 2019 data	IMO Member State	IMO Council Member	PSC MOUs
Argentina	No		Yes	No	Acuerdo Vina del Mar
Bolivia	No		Yes	No	Acuerdo Vina del Mar
Brazil	Yes		Yes	Yes – Category B	Acuerdo Vina del Mar
Chile	Yes		Yes	Yes – Category C	Acuerdo Vina del Mar, Tokyo MOU
Colombia	No	115 ships	Yes	No	Acuerdo Vina del Mar
Costa Rica	No		Yes	No	Acuerdo Vina del Mar
Ecuador	No	137 ships	Yes	No	Acuerdo Vina del Mar
El Salvador	No		Yes	No	Acuerdo Vina del Mar
Guatemala	Yes		Yes	No	Acuerdo Vina del Mar
Honduras	Yes	527 ships	Yes	No	Acuerdo Vina del Mar
Mexico	No	637 ships	Yes	Yes – Category C	Acuerdo Vina del Mar
Nicaragua	No		Yes	No	Acuerdo Vina del Mar
Panama	Yes	7860 ships	Yes	Yes – Category A	Acuerdo Vina del Mar, Tokyo MOU
Paraguay	No		Yes	No	Acuerdo Vina del Mar
Peru	Yes	98 ships	Yes	Yes – Category C	Acuerdo Vina del Mar
Uruguay	Yes		Yes	No	Acuerdo Vina del Mar
Venezuela	No		Yes	No	Acuerdo Vina del Mar

- Provision was taken to include countries that have significant fleet including ships to which MARPOL Annex VI regulations apply.
- Provision was taken to include countries that are both signatory or non-signatory to the MARPOL Annex VI:
 - MARPOL Annex VI signatory states (3): **Panama, Peru, Honduras**
 - MARPOL Annex VI non-signatory states (3): **Mexico, Ecuador, Colombia**
- Provision was taken to include countries that are both members and non-members of the IMO Council, and of various Categories of membership:
 - IMO Council Member – Category A (1): **Panama**
 - IMO Council Member – Category C (2): **Mexico, Peru**
 - Non IMO Council Members (3): **Ecuador, Honduras, Colombia**
- Provision was taken to include countries represented in both PSC MOUs to which Latin America Countries participate:
 - Acuerdo Vina del Mar (6): **Panama, Peru, Honduras, Mexico, Ecuador, Colombia**
 - Tokyo MOU (1): **Panama**

MTCC Latin America – Pilot Project 1

Breakdown of activities

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4. Development of questionnaires

Development of comprehensive questionnaires addressing each category of stakeholders separately, for gathering of data and information on the research subject.

5. Completion of questionnaires

Application and completion of questionnaires by the key stakeholders for collection of data;

MTCC Latin America – Pilot Project 1

Content of devised questionnaires for countries

General

Through specially devised questionnaire, an investigation was carried out to the six (6) selected countries, in order to establish:

- Classification/description of actors involved in:
 - the public sphere (Key Industry Players)
 - private stakeholders
- Country policies on climate change and energy efficiency
- Legal Framework of Maritime Administrations and any entity with competence and jurisdiction in the subject matter
- Climate change provisions
- Environmental provisions
- Provisions on emission reduction in the maritime transport sector
- Provisions on energy efficiency in the maritime field

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Content of devised questionnaires for stakeholders

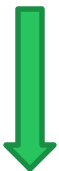
General

A set of questionnaires was created, each addressing a specific category of key stakeholders, with an aim of receiving detailed information, views and considerations by each category of stakeholders separately, thus ensuring accurate and complete insights.

In particular, the questionnaires were devised in a way to provide detailed insights on:

- organization details
- level of familiarization with adopted / implemented policies and regulations on both national & international level
- national & international policies & regulations affecting the organization
- organization's main activities and details on ships served / fleet
- whether a policy on Energy Efficiency implementation in place
- measures on Energy Efficiency for avoiding or reducing atmospheric pollution
- preparations and considerations adopted to meet requirements
- processes adopted / implemented

and finally views and considerations on:



1.Barriers/Challenges/Constraints



2.Opportunities



3.Lessons Learned



4.Recommendations

1. Literature review

2. Identification of key stakeholders

3. Selection of 6 countries to participate

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6. Analysis of collected data

Qualitative and quantitative analysis of data collected during this pilot project.

1. Quantitative Analysis:

for establishing level of engagement and participation.

2. Qualitative Analysis:

per participating country and stakeholders category, with an aim of receiving detailed information, views and considerations, thus ensuring accurate and complete insights.



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Sources of data

The sources of data for analysis are:

Participating Countries Reports

A literary review of the six (6) countries selected was conducted to tackle the regulatory framework of Annex VI of MARPOL 73/78. The countries were divided in two (2) groups of three (3) countries each one, one group for signatories to MARPOL Annex VI and the other non-signatories to MARPOL Annex VI.

Stakeholders Questionnaires

The detailed responses in the duly filled in questionnaires of all key stakeholders active in each selected participating country, including:

1. Maritime Administrations
2. Government Institutions
3. Ship Owners / Ship Operators
4. Port Authorities / Operators
5. Maritime Tr. Centers/Institutes
6. Marine Fuel Suppliers
7. Shipyards/Dry Docks
8. Recognized Organizations
9. National Policymakers

Ships Questionnaires

The detailed responses on energy efficient measures implemented onboard a total of 82 vessels (of over 500 GT), managed by companies from the participating countries.

TABLE 2 – Filled in questionnaires, in line with the requirements of PP-I

		Maritime	Government	Ships	Ports	Maritime	Marine	Shipyards	Recognized	National
		Administrations	Institutions	Owners Operators	Authorities Operators	Centers & Institutes	Fuel Suppliers	Dry Docks	Organizations	Policymakers
Distribution per country / participating organization	Panama	1	2	2	0	1	0	0	1	0
	Peru	1	5	3	0	2	2	1	0	0
	Mexico	1	1	1	0	0	0	1	0	0
	Ecuador	1	2	0	0	1	0	1	0	0
	Colombia	1	2	0	1	2	1	1	0	0
	Honduras	1	0	1	1	0	2	0	0	1
44	Totals	6	12	7	2	6	5	4	1	1



TABLE 3 – Summary on Energy Efficient Measures implemented onboard participating ships

No.	Ship (Type/No.)	GT	DWT	YOB	Last Hull Maint.	EEOI (g/DWT.nm)	Energy Savings Technologies Utilized During the Voyages within the reporting period													
							Hull Air Lubrication	Waste Heat Recovery	Solar Electricity	Wind Power	Weather Routing	Autopilot	Trim/Draft Optimization	Optimum Ballast Condition	Other : New Propeller	Other : PBCF/EPF	Other : Efficient hull coating	Other : Propulsion	Other : Popped	Other : Ducttail
1	Oil Tanker No.1	24048	38472	2005	01/02/2018	---	---	---	---	---	Yes	Yes	Yes	---	---	---	Yes	---	---	
2	Oil Tanker No.2	20121	33755	2010	08/01/2018	9.164	---	---	---	---	Yes	Yes	---	---	---	---	Yes	---	---	
3	Oil Tanker No.3	56172	105778	2004	13/06/2016	23.195	---	---	---	---	Yes	Yes	---	---	---	---	Yes	---	---	
4	Oil Tanker No.4	3248	4999	2005	11/08/2017	---	---	---	---	---	Yes	Yes	---	---	---	---	Yes	---	---	
5	Oil Tanker No.5	3248	4999	2005	08/11/2017	25.470	---	---	---	---	Yes	Yes	---	---	---	---	Yes	---	---	
6	Oil Tanker No.6	2865	3543	2006	23/06/2018	---	---	---	---	---	Yes	Yes	Yes	---	---	---	Yes	---	---	
7	Oil Tanker No.7	61888	11364	2017	01/03/2017	99.927	---	---	---	---	Yes	Yes	---	---	---	---	Yes	---	---	
8	Oil Tanker No.8	13666	22062	2008	06/06/2018	---	---	---	---	---	Yes	Yes	Yes	---	---	---	Yes	---	---	
9	Oil Tanker No.9	8848	14581	1999	09/02/2017	---	---	---	---	---	Yes	Yes	Yes	---	---	---	Yes	---	---	
10	Oil Tanker No.10	38997	68500	2008	26/03/2018	---	---	---	---	---	Yes	Yes	Yes	---	---	---	Yes	---	---	
11	Oil Tanker No.11	13425	21081	2003	16/05/2018	---	---	---	---	---	Yes	Yes	Yes	---	---	---	Yes	---	---	
12	Oil Tanker No.12	27505	46683	2004	20/07/2017	---	---	---	---	---	Yes	Yes	Yes	---	---	---	Yes	---	---	
13	Oil Tanker No.13	38997	63589	2008	07/12/2018	---	---	---	---	---	Yes	Yes	Yes	---	---	---	Yes	---	---	
14	Oil Tanker No.14	30109	51215	2009	06/07/2014	---	---	---	---	---	Yes	Yes	Yes	---	---	---	Yes	---	---	
15	Oil Tanker No.15	30010	49999	2009	15/09/2014	18.615	---	---	---	---	Yes	Yes	---	---	---	---	Yes	---	---	
16	Oil Tanker No.16	42096	74543	2006	08/12/2018	5.562	---	---	---	---	Yes	Yes	Yes	---	---	---	Yes	---	---	
17	Oil Tanker No.17	42096	74543	2006	22/12/2018	6.633	---	---	---	---	Yes	Yes	Yes	---	---	---	Yes	---	---	
18	Container No.1	6406	8715	1998	20/12/2018	20.032	---	---	---	---	Yes	Yes	---	---	---	---	Yes	---	---	
19	Container No.2	6385	8672	2000	02/02/2016	17.985	---	---	---	---	Yes	Yes	---	---	---	---	Yes	---	---	
20	Other Cargo No.1	9611	12798	2004	01/10/2018	26.163	---	---	---	---	Yes	Yes	---	---	---	---	Yes	---	---	
21	Bulk Carrier No.1	9961	17013	2007	09/09/2018	---	---	---	---	---	Yes	Yes	Yes	---	---	---	Yes	---	---	
22	Bulk Carrier No.2	7265	12274	2001	16/02/2016	---	---	---	---	---	Yes	Yes	Yes	---	---	---	Yes	---	---	
23	Bulk Carrier No.3	40040	76741	2006	05/11/2015	5.250	---	---	---	---	Yes	Yes	---	---	---	---	Yes	---	---	
24	Bulk Carrier No.4	40040	76737	2004	21/01/2018	4.869	---	---	---	---	Yes	Yes	---	---	---	---	Yes	---	---	
25	Bulk Carrier No.5	19920	32873	2000	01/11/2017	---	---	---	---	---	Yes	Yes	Yes	---	---	---	Yes	---	---	
26	Container No.3	37518	42966	1996	29/10/2015	1.297	---	Yes	---	---	Yes	Yes	---	Yes	---	Yes	Yes	---	---	
27	Container No.4	54304	68599	2004	04/06/2017	8.124	---	Yes	---	---	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---	
28	Container No.5	35954	42183	2004	28/12/2016	13.432	---	Yes	---	---	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---	
29	Container No.6	74071	74453	2002	10/07/2016	10.415	---	Yes	---	---	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---	
30	Container No.7	40108	52806	2002	25/11/2016	8.270	---	Yes	---	---	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---	
31	Container No.8	54304	68307	2004	07/08/2017	8.133	---	Yes	---	---	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---	
32	Container No.9	48220	56152	1993	04/06/2018	7.900	---	Yes	---	---	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---	
33	Container No.10	21586	21370	1982	21/11/2018	14.673	---	Yes	---	---	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---	
34	Container No.11	52181	60350	1990	22/02/2018	11.653	---	Yes	---	---	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---	
35	Container No.12	30280	35848	1998	27/11/2016	11.118	---	Yes	---	---	Yes	Yes	---	Yes	---	Yes	Yes	---	---	
36	Container No.13	53208	67678	1999	07/08/2017	9.296	---	Yes	---	---	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---	
37	Container No.14	21586	21370	1982	31/08/2016	14.287	---	Yes	---	---	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---	
38	Container No.15	36389	42465	1988	05/09/2016	10.285	---	Yes	---	---	Yes	Yes	---	Yes	---	Yes	Yes	---	---	
39	Container No.16	53208	67615	1999	14/09/2017	8.237	---	Yes	---	---	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---	
40	Container No.17	54881	68121	2004	02/05/2017	9.150	---	Yes	---	---	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---	
41	Container No.18	54304	68372	2004	25/05/2017	8.877	---	Yes	---	---	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---	
42	Container No.19	37579	45544	1997	08/09/2017	9.167	---	Yes	---	---	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---	



TABLE 3 – Continued...

43	Container No.20	52181	60350	1990	20/06/2017	10.771	---	Yes	---	---	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---
44	Container No.21	41225	53335	2008	22/06/2018	9.989	---	Yes	---	---	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---
45	Container No.22	52191	67639	1989	06/04/2018	9.025	---	Yes	---	---	Yes	Yes	---	Yes	Yes	Yes	Yes	---	---
46	Oil Tanker No.18	28278	46337	2000	00/01/1900	13.582	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	---	---
47	Chemical Tanker No.1	27533	45063	1999	08/11/2018	15.309	---	---	---	---	Yes	Yes	---	---	---	---	Yes	---	---
48	Chemical Tanker No.2	27530	44577	1999	12/06/2016	13.841	---	---	---	---	Yes	Yes	---	---	---	---	Yes	---	---
49	Oil Tanker No.19	23298	37269	2005	24/08/2015	16.135	---	---	---	---	Yes	Yes	---	---	---	---	Yes	---	---
50	Gas Carrier No.1	22352	37661	1997	29/01/2017	28.152	---	---	---	---	Yes	Yes	---	---	---	---	Yes	---	---
51	Chemical Tanker No.3	30099	51392	2008	26/09/2016	13.339	---	---	---	---	Yes	Yes	---	---	---	---	Yes	---	---
52	Gas Carrier No.2	23519	29378	1996	15/01/2016	40.951	---	---	---	---	Yes	Yes	---	---	---	---	Yes	---	---
53	Chemical Tanker No.4	8259	14298	2002	02/11/2016	16.842	---	---	---	---	Yes	Yes	---	---	---	---	Yes	---	---
54	Chemical Tanker No.5	25507	38847	2004	23/06/2017	13.749	---	---	---	---	Yes	Yes	---	---	---	---	Yes	---	---
55	Chemical Tanker No.6	25431	49358	2005	07/07/2018	13.203	---	---	---	---	Yes	Yes	---	---	---	---	Yes	---	---
56	LPG Carrier No.1	10692	13777	1998	2018	---	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	---	---
57	Passenger No.1	128052	10250	2012	30/04/2017	135.857	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	---	---
58	Passenger No.2	110239	10000	2002	14/10/2017	116.878	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	---	---
59	Passenger No.3	128251	13815	2009	10/02/2017	105.661	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	---	---
60	Passenger No.4	70526	7200	1991	23/01/2017	119.878	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	---	---
61	Passenger No.5	70390	7498	1998	27/09/2017	102.972	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	Yes	Yes
62	Passenger No.6	70367	7200	1990	19/02/2016	129.098	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	---	---
63	Passenger No.7	70538	7180	1994	16/02/2018	130.072	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	---	---
64	Passenger No.8	110320	12870	2007	03/05/2014	108.182	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	---	---
65	Passenger No.9	110239	11100	2003	10/03/2017	107.934	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	---	---
66	Passenger No.10	133500	11000	2018	2018	117.375	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	Yes	Yes
67	Passenger No.11	70367	7180	1995	19/09/2016	127.122	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	---	---
68	Passenger No.12	70367	7180	1996	03/02/2016	118.286	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	---	---
69	Passenger No.13	85942	8983	2002	15/05/2018	124.546	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
70	Passenger No.14	110320	13294	2005	15/12/2016	91.251	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	---	---
71	Passenger No.15	128048	13800	2011	04/03/2016	121.840	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	---	---
72	Passenger No.16	85942	7089	2004	19/03/2015	166.402	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
73	Passenger No.17	70390	6894	1998	24/03/2018	124.171	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	Yes	Yes
74	Passenger No.18	85920	7200	2001	08/11/2014	184.278	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	Yes	---
75	Passenger No.19	70538	6870	1993	22/02/2017	120.697	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	---	---
76	Passenger No.20	85920	7200	2001	06/06/2018	154.455	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	Yes	Yes
77	Passenger No.21	113323	11843	2008	19/03/2016	117.504	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	---	---
78	Passenger No.22	103881	11142	1996	19/05/2016	108.382	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	---	---
79	Passenger No.23	101509	10984	1999	02/04/2016	---	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	---	---
80	Passenger No.24	110000	13294	2004	07/05/2016	94.992	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	---	---
81	Passenger No.25	101509	11774	2000	20/01/2018	100.043	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	---	---
82	Passenger No.26	133500	11000	2016	2016	126.232	---	Yes	---	---	Yes	Yes	Yes	Yes	---	---	Yes	Yes	Yes

MTCC Latin America – Pilot Project I

Breakdown of activities

1. Literature review
2. Identification of key stakeholders
3. Selection of 6 countries to participate
4. Development of questionnaires
5. Completion of questionnaires
6. Analysis of collected data
7. Reporting on PP-1 findings
8. Dissemination of project results

7. Reporting on PP-1 findings

Report on the findings of the project together with description of methodologies used

MTCC Latin America – Pilot Project I

Breakdown of activities

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8. Dissemination of project results

Preparation of material and dissemination activities of project results throughout the project's implementation to build interest and engage stakeholders.



MTCC Latin America - Pilot Project 1

Dissemination activities

01

1st Regional Workshop
13th - 15th March, 2018

—
Panama City, Panama

02

1st National Workshop
13th - 15th June, 2018

—
Panama City, Panama

03

2nd National Workshop
22nd - 24th August, 2018

—
Cartagena, Colombia

04

3rd National Workshop
14th - 16th Nov., 2018

—
Lima, Peru

05

4th National Workshop
13th - 15th March, 2019

—
Mexico City, Mexico

MTCC Latin America – Pilot Project 1

Dissemination activities

01

Website

<https://mtcclatinamerica.com/>

Details on project development and obtained results, were shared through the dedicated MTCC Latin America website

02

Newsletter

Details on project development and obtained results, were shared through the issued MTCC Latin America newsletters

03

Social Media

Details on project development and obtained results, were disseminated through active presence in social media:

- Twitter
- LinkedIn
- Facebook
- Flickr
- Instagram

04

Other

Details on project development and obtained results, were disseminated also by the following ways:

- Emails
- Personal interactions with representatives of key stakeholders



MTCC Latin America – Pilot Project 1

Opportunities and Strengths detected

+ Dialogue and development space

The MTCC Latin America project has become an important forum for discussion and an enabling agent for development among the agencies involved in the study, at the regional level.

Synergies have been established and strengthened resulting in higher and more effective performance among the intervening countries.

+ Detection of training needs

The training of maritime administrations and authorities in the region has been achieved through the various national and regional forums, facilitated by the Centre.

From this academic exercise has emerged the initiative to launch a postgraduate program with specialization in Energy Efficiency in the Shipping Industry.

MTCC Latin America – Pilot Project 1

Obstacles or Limitations detected

■ **Plurality of maritime competences**

Different authorities share maritime competences ie civil authorities share responsibilities with armed forces units, with a thin dividing line between their respective jurisdictions that sometimes overlap, making it difficult to implement international standards, as is the specific case of the MARPOL Convention.

■ **Plurality of maritime competences**

The country-specific legal guidelines sometimes make it difficult to adopt international standards aimed at mitigating and addressing the problem of climate change.

The lack of uniformity of criteria between the executive and the legislature slows the efforts of maritime administrations that have been working on the ratification of instruments such as Annex VI to the MARPOL Convention.

From a technical point of view, everyone is aware of the need to take concrete measures to tackle the problem, however, these measures cannot be implemented without proper legal legitimacy.

■ ***Lack of effective coordination between governmental entities***

There is a perceived gap between the authorities called to tackle the climate change problem on the ground and those that must address it from the perspective of the maritime industry, without taking into account that, in the face of such a global problem, actions can not be taken on a sectorized manner.



MTCC Latin America – Pilot Project 1 Summary: PP-1 on a glimpse

Participating Countries:

6 countries

- Colombia
- Ecuador
- Honduras
- Mexico
- Panama
- Peru

Stakeholders engaged:

43 Organizations / 64 Persons

- Maritime Administrations
- Government Institutions
- National Policymakers
- Ship Owners / Operators
- Port Authorities / Operators
- Maritime Tr. Centers / Institutions
- Recognized Organizations
- Maritime Fuel Suppliers
- Shipyards / Dry Docks

Ships that provided details:

82 ships

of over 500 GT provided details on the energy efficient measures implemented onboard

Energy Efficient Measures assessed:

a. Mature technology

- Hull Coating
- Autopilot
- Weather Routing

b. Semi-mature technology

- Trim/Draft Optimization
- Speed management
- Hull Air Lubrication
- Waste Heat Recovery

c. Non-mature technology

- Solar Electricity
- Wind Power

Thank you for your attention!



MTCC LATIN AMERICA
Maritime Technology Cooperation Centre



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GMN The Global
MTCC Network
A global network for energy efficiency