United Nations Development Programme

Country: GLOBAL

IMO-GEF-UNDP PROJECT DOCUMENT[1]

Project Title: Transforming the Global Maritime Transport Industry towards a Low Carbon Future through Improved Energy Efficiency (GloMEEP)

UNDAF Outcome(s): Not Applicable

UNDP Strategic Plan Environment and Sustainable Development Primary Outcome: 2. Growth and development are inclusive and sustainable, incorporating productive capacities that create employment and livelihoods for the poor and excluded.

UNDP Strategic Plan Secondary Outcome: 1. Scaled up action on climate change adaptation and mitigation across sectors which is funded and implemented.

Expected CP Outcome(s): Not Applicable

(Those linked to the project and extracted from the country programme document)

Expected CPAP Output (s): Not Applicable

Those that will result from the project and extracted from the CPAP)

Executing Entity/Implementing Partner: UNDP

Implementing Entity/Responsible Partners: International Maritime Organization (IMO)

[1] For UNDP supported GEF funded projects as this includes GEF-specific requirements

Brief Description

The overall goal of the Global Maritime Energy Efficiency Partnership (GloMEEP) project is to contribute to significant reduction of GHG emissions from international shipping via enabling a number of pilot countries to take a lead in the respective developing regions to pursue relevant Legal, Policy and Institutional Reforms (LPIR), capacity building and enhance private-public partnerships for innovation and technology deployment.

The project aims to provide the long-term global environmental benefits by acting as a catalyst that will develop a truly global partnership that spurs government action and industry innovation to accelerate and support an effective implementation of IMO Maritime Energy Efficiency Framework (MEEF), particularly in the developing countries where shipping is increasingly concentrated. While the long-term goal is the reduction of GHG emissions, the project aims to achieve this through developing the necessary global guidance and methodology documents and templates, their national implementation, capacity building as well as information exchange platforms, and piloting these interventions with the assistance and involvement of selected GEF-eligible Lead Pilot Countries (LPCs) who have expressed commitment in supporting the implementation of this project.

GloMEEP will assist these developing states to implement sustainable methods for improving shipping energy efficiency and promotion of low carbon maritime sector within the IMO regulatory framework in order to minimize the adverse impacts of shipping emissions on climate change, ocean acidification and local air quality.

The project includes three main components as follows:

Component 1 - Legal, Policy and Institutional Reforms (LPIR) for GHG reductions through Improved Energy Efficiency within Maritime Transport Sector in Developing Countries. This component will support LPCs in undertaking national LPIR activities for effective implementation of the IMO MEEF, as well as acting as catalysts for increased ratification of such regulations by other developing countries at a global scale.

Component 2 - Maritime Sector Energy Efficiency Capacity-Building, Awareness Raising, Knowledge Creation and Dissemination: This activity will enhance awareness and capacity to ratify, implement and enforce MEEF-relevant regulations as well as the uptake of ship operational and design energy efficiency measures in the LPCs.

Component 3 - Public-Private Partnerships to Catalyse Maritime Sector Energy Efficiency Innovation, R&D and Technology Deployment: This primarily aims to catalyze the involvement of private sector in maritime sector energy efficiency activities in developing countries through knowledge-sharing, international forums; and collaborative pilot efforts in technology assessment and deployment.

As a result of this project, in the longer term significant global environmental benefits will be achieved due to enhanced global capacity in, and accelerated uptake of, technical and operational measures for a far more energy-efficient shipping sector and associated reductions in the sector's GHG emissions including:

- Global environmental benefits associated with significantly reduced CO_2 emissions and fuel use reductions by shipping includes reduced impact on climate change, reduced ocean acidification and improved port and coastal air quality due to reduced particulate matter, sulphur and nitrogen oxides emissions.
- It is estimated that this dedicated GEF support initiative and intervention would significantly raise the uptake of SEEMP-related shipping energy efficiency and, compared to the baseline scenario, would catalyze potentially an additional reduction of at least 38, 56 and 71 million tonnes/year of CO_{2e} by 2020, 2030 and 2050, respectively. This assumes nearly complete uptake and implementation of MEEF in the 10 LPCs which alone represent 33% of global shipping tonnage,.
- Global economic benefits associated with significantly reduced fuel consumption (the above CO_2 reductions of 38 million tonnes/year by 2020) is equivalent to 12 million tonnes/year reduction in shipping fuel consumption) or about $7 billion/year in terms of shipping fuel cost reductions.

GloMEEP is a small/medium size project that will be executed over a two year period. A large number of relevant activities are foreseen to be carried out within GloMEEP. These activities will mainly be carried out at global levels (includes aspects such as development of methodologies, guidance documents and templates) and national levels where most of the country assessments and capacity building will be carried out. Some elements of regional activities are foreseen in this project; however the aim is that upon full and successful completion of this project, further regional activities to be initiated via continuation of these efforts within future similar initiatives.

Programme Period:	24 Months (2 years)
Atlas Award ID:	00092137
Project ID:	00083865
PIMS #	5201
Start date:	1 February 2015
End Date	31 January 2017
Management Arrangements	TBD
PAC Meeting Date	TBD

Total resources required		13,775,600
Total allocated resources:		13,775,600
• Regular		
• Other:		
o	GEF	$1,900,000
o	IMO	$7,418,000
o	LPCs	$2,947,600
o	GIA	$175,000
o	GSPs	$1,260,000
o	UNDP	$75,000
In-kind contributions (included in above)		$11,181,600

Agreed by (Executing Entity/Implementing Partner): **International Maritime Organization**

STEFAN MICALLEF Date/Month/Year

DIECTOR, MARINE ENVIRONMENT DIVISION

Agreed by (UNDP):

ADRIANA DINU, Date/Month/Year

EXECUTIVE COORDINATOR

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ABBREVIATIONS AND ACRONYMS

Acronym	Extended
AHEWG-TT	Ad Hoc Expert Working Group on Technology Transfer (IMO)
APR	Annual Project Review
AWP	Annual Work Plan
BAU	Business As Usual
BL	Budget Line (UNDP)
CCM	Climate Change Mitigation
COP	Conference of Parties
CPAP	Country Programme Action Plan
CPD	Country Programme Document
DSS	Decision Support System
DWT	Dead Weight Tonnage
EA	(GEF) Executing Agency
EBRD	European Bank for Reconstruction and Development
EEDI	Energy Efficiency Design Index
EEM	Energy Efficiency Measure
EEOI	Energy Efficiency Operational Indicator
EETs	Energy Efficiency Technologies
EEZ	Exclusive Economic Zone
ERP	Enterprise Resource Planning
EU	European Union
Ex-Comm	Executive Committee
FAO	Food and Agriculture Organization
FE	Final Evaluation
FSP	Full-Sized Project
GDP	Gross Domestic Product
GEF	Global Environment Facility
GEFSEC	Global Environment Facility Secretariat
GESEE	Group of Experts on Ship Energy Efficiency
GHG	Greenhouse Gas
GIA	Global Industry Alliance
GIS	Geographic Information Systems
GISIS	Global Integrated Shipping Information System (IMO)
GIWA	Global International Waters Assessment (GEF project)
GloMEEP	Global Maritime Energy Efficiency Partnership
GPTF	Global Project Task Force
GSPs	Global Strategic Partners
GT	Gross Tonnage
IA	(GEF) Implementing Agency
IATF	(GEF International Waters) Inter-Agency Task Force
IBRD	(World Bank) International Bank for Reconstruction and Development
IC	Incremental Cost as defined by the GEF
ICS	International Chamber of Shipping
ICBWM	International Conference on Ballast Water Management
IMO	International Maritime Organization
ISS	Initial Scoping Study
ITCP	Integrated Technical Co-operation Program (IMO)
IW	International Waters (GEF focal area)
JIT	Just In Time
KOICA	(South) Korea International Cooperation Agency
LA	Lead Agency

LDCs	Least Developed Countries
LF	Logical Framework (Log frame)
LME	Large Marine Ecosystem
LPCs	Lead Pilot Countries
LPIR	Legal, Policy and Institutional Reforms
M&E	Monitoring and Evaluation
MAP	Mediterranean Action Plan
MARPOL	International Convention for the Prevention of Pollution by Ships (IMO)
MBM	Market Based Measures
MDG	Millennium Development Goals
MEEF	(IMO) Maritime Energy Efficiency Framework
MEPC	(IMO) Marine Environment Protection Committee
ME-SBTR	Maritime Energy Status, Baselines, Targets and Roadmaps
MFA	Multi Focal Area
MoE	Ministry of Environment
MoFA	Ministry of Foreign Affairs
MOU	Memorandum of Understanding
MSP	Medium-Sized Project
MTE	Mid Term Evaluation
MTF	Multi Trust Fund
NFP	National Focal Point (GloMEEP)
NGO	Non-Governmental Organization
NLA	National Lead Agency (GloMEEP)
NMEES	National Maritime Energy Efficiency Strategy
NPC	National Project Coordinator (GloMEEP)
NTF	National Task Force (GloMEEP)
OAS	Organization of American States
OFP	(GEF) Operational Focal Point
OPS	Onshore Power Supply
OPS2	(GEF) Overall Performance Study 2
PAC	Project Appraisal Committee (of UNDP)
PAL	Partnership Activity Lead (partner within PCT)
PC	Project Coordinator (GloMEEP)
PCU	Project Coordination Unit (GloMEEP)
PDF	Project Preparation and Development Facility
PDF-B	Project Preparation and Development Facility Block B Grant
PIF	Project Identification Form
PIR	Project Implementation Review
PIW	Project Inception Workshop
PMC	Project Management Cost
PPG	Project Preparation Grant
ProDoc	Project Document
PSC	Port State Control
PSO	Port and Shipping Organization
PTA	Principal Technical Advisor
R&D	Research and Development
RAP	Regional Action Plan
ROAR	Results-oriented Annual Report (UNDP)
SAP	Strategic Action Programme
SBSTTA	Subsidiary Body on Scientific, Technical and Technological Advise
SC	Steering Committee
SEEMP	Ship Energy Efficiency Management Plan

SIDS	Small Island Developing States
SOLAS	International Convention for the Safety of Life at Sea (IMO)
STAP	Scientific and Technical Advisory Panel
STCW	International Convention on Standards of Training, Certification and Watch keeping for Seafarers (IMO)
TA	Technical Advisor (GloMEEP)
TF	Trust Fund
TOR	Terms of Reference
UNCLOS	United Nations Convention on the Law of the Sea
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Program
UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Program
UNFCCC	United Nations Framework Convention on Climate Change
UNIDO	United Nations Industrial Development Organization

1 SITUATION ANALYSIS

1.1 The problem and efforts so far

1.1.1 Global environmental problem and role of maritime sector

Oceans cover 70% of our planet and nearly 50% of the world's population live in coastal areas. Therefore protection of the marine environment not only has implications for each country but also significant global benefits. This is especially true for environmental issues related to international shipping, which is truly global in nature; many benefits accrued by more environmentally sound shipping practices at national level will also contribute to delivering global benefits. Emissions from ships to the atmosphere not only impact local port or coastal air quality but also have implications for global warming, climate change and ocean acidification.

Global climate change due to anthropogenic emissions of GHG emissions (i.e. carbon dioxide, methane, chlorofluorocarbons, nitrous oxides, etc.) to the atmosphere represents the most important challenge to sustainable human development in the 21st century. Annual emissions of anthropogenic GHGs now exceed about 41 billion mt CO_2e per year[2]. Atmospheric concentrations of carbon dioxide, the most important GHG emission, have already surpassed 400 ppm[3] from pre-industrial levels of about 280 ppm, causing an average global temperature increase of about 0.74 ^{0}C. The impacts of climate change on ecosystems and human societies, many of which are already occuring, include increased average global temperature, sea level rise, water shortages, desertification, reduced agricultural output, melting of glaciers and ice caps, increased frequency and severity of extreme hydrological events, increased sea acidification and others. In the 'Business As Usual' (BAU) global GHG emissions scenario, average global temperatures are projected to increase an additional 1.8-4 ^{0}C by 2100, average global sea level is projected to increase 0.18 – 0.59 meters, and average global ocean pH is projected to decline by 0.3 to 0.4 units to 7.8 (e.g. up to 250% increase in ocean acidity)[4].

Ocean acidification due to increasing levels of anthropogenic carbon dioxide dissolving in the world's oceans has emerged as an increasingly urgent consequence of human-derived emissions of carbon dioxide from burning of fossil fuels. Globally, surface ocean pH has already declined by 0.1 pH units which is equivalent to a thirty percent increase in ocean acidity. This represents the fastest change in ocean pH in at least 25 million years. As ocean pH falls, the availability of carbonate (CO_3^{-2}) ion correspondingly decreases. Carbonate ion is vital to the wide range of macro- (corals, shellfish, etc.) and micro- (phytoplankton, zooplankton) organisms that fix calcium carbonate for their shells or skeletons. About 40 percent of global ocean primary productivity (fixing CO_2 and water to form organic material and oxygen) is derived from phytoplankton that fix calcium carbonate in their shells; this represents about 20 percent of the oxygen production on earth. As pH drops and carbonate ion availability decreases, these organisms face increasing difficulty in creating and maintaining their calcium carbonate shells/skeletons. Below certain pH levels, particularly for aragonite, one of the two mineral forms of calcium carbonate along with calcite, the corrosiveness of seawater increases to a level that the shells dissolve and the organism cannot survive.

Under the BAU climate change and CO_2 emission scenario, under which global ocean pH falls by an additional 0.3-0.4 units, by 2100 virtually all Arctic and Southern Ocean waters become 'under saturated' with respect to both forms of calcium carbonate (aragonite, calcite), basically bringing into question the survival of many calcifying organisms – and the broader ecosystems that depend upon them - in these ocean areas. Towards the end of this century, saturation levels of calcium carbonate will not yet be

[2] See: Mathew John Franchetti "Carbon Footprint Analysis", CRC Press, 2013.

[3] See: http://www.esrl.noaa.gov/gmd/ccgg/trends/weekly.html

[4] See various IPCC and other reports on climate change

corrosive to calcium carbonate on coral reefs. However it is likely that the rate of reef calcification will decline to a level such that coral reef erosion will exceed reef growth and reef habitat and the great biodiversity provided by them will no longer be sustained in many areas of the world.

While a number of activities and sectors such as agriculture, wastewater and deforestation contribute to GHG emissions, the dominant contributor is energy consumption via the combustion of fossil fuels (oil, gas and coal) which represents about 66% of global GHG emissions. More than a fifth of these emissions come from the transport sector (road, rail, air and marine). As of 2010, the contribution of international shipping to global GHG emissions was estimated at 2.7% (e.g. about 11% of total GHG emissions from transport). However, the International Maritime Organization's (IMO) GHG Study 2009 shows that for the mid-range emission scenarios, by 2050, in the absence of reduction policies and technology innovation, shipping sector GHG emissions may grow by 200 to 300 percent compared to 2007 emissions, due to an estimated 8-fold growth in world trade over this period, especially in the developing regions of the world[5].

Recognizing the potentially significant contribution that the shipping sector would be making to global climate change and ocean acidification under the BAU scenario, IMO member States moved to strategically act on these projections in a manner that would not impair shipping's important contribution to continued global prosperity nor the shipping sector's financial viability. In 2011, after a number of years of debate, IMO member States adopted a suite of technical and operational measures comprising an energy efficiency framework for ships, designed to limit GHG emissions from the international maritime sector. This will be referred to herein as IMO MEEF (Marine Energy Efficiency Framework). IMO estimates that successful implementation of the energy efficiency framework would reduce shipping GHG emissions by 1 Gt/year CO_2 by 2050[6] against the BAU scenario (Figure 1.3), a sizeable contribution to reducing the projected emissions gap in current emission projection models for a 2˚C outcome.

1.1.2 IMO MEEF and potential for shipping CO_2 reductions

The main components of the IMO MEEF are shown in **Figure 1.1.** This includes a mandatory Energy Efficiency Design Index (EEDI) for new ships, a mandatory Ship Energy Efficiency Management Plan (SEEMP) for all ships plus a voluntary Energy Efficiency Operational Indicator (EEOI). The link between these three elements is also shown in **Figure 1.1**.

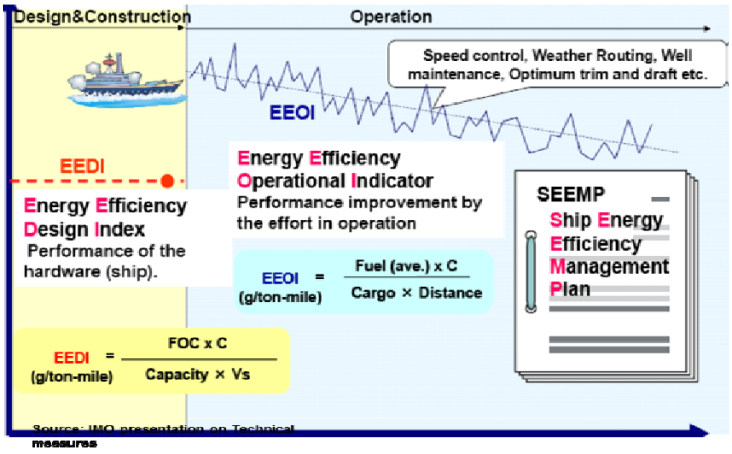


Figure 1.1 - Main components of the IMO MEEF

Figure 1.2 shows the level of mandated future EEDI reduction for a number of ship types; as foreseen within the IMO regulations.

[5] 2nd IMO GHG Study 2009

[6] "Assessment report on CO2 reduction potential due to IMO Energy Efficiency Regulations", MEPC 63/INF.2, October 2011

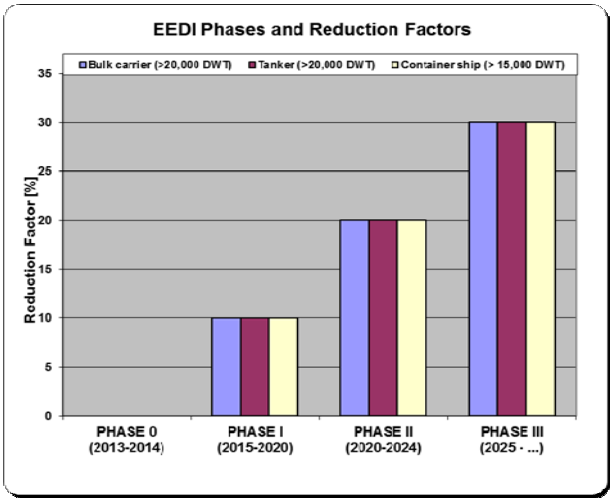
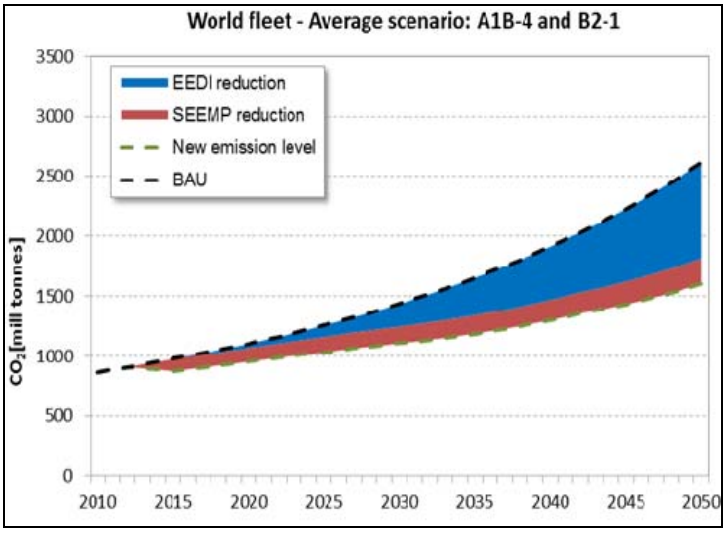


Figure 1.2 - Level of mandated EEDI reduction factor for a number of ship types

A number of studies[7] indicate that the impact of IMO MEEF on future shipping GHG emissions will be significant; if it is implemented properly. **Figure 1.3** shows the impact of the IMO MEEF on future shipping GHG emissions, based on a study that was jointly undertaken by Lloyd's Register (UK) and DNV (Norway).



Scenario A1B-4 represents a scenario with high economic growth, high uptake of the regulations and high fuel prices; and scenario B2-1: represents low global economic growth, low uptake of regulations and reference fuel prices.

An average 1,013 million tonnes/year CO2 reduction from international shipping is foreseen by 2050 due to effective implementation of IMO MEEF

Figure 1.3 - Impact on shipping CO_2 emissions of implementation of IMO MEEF[8]

Because of the long lifetime of most large ships, the impact of EEDI is foreseen to be in the long term while SEEMP will produce reductions in the short to medium term. Also, the level of uptake of SEEMP and relevant energy efficiency measures is not clear and with lack of catalysts or incentives, it is likely that it may not achieve its objectives in particular in the developing countries. This is an important element of GloMEEP strategy - to enhance the uptake of SEEMP by international shipping in the developing countries in order to realize, at a minimum, a high uptake of SEEMP and achievement of relevant CO_2 reduction potentials.

[7] See for example "Assessment report on CO2 reduction potential due to IMO Energy Efficiency Regulations", MEPC 63/INF.2, October 2011

[8] "Assessment report on CO2 reduction potential due to IMO Energy Efficiency Regulations", MEPC 63/INF.2, October 2011

1.1.3 Root causes, opportunities, barriers and threats

In general, the overall root cause of shipping's increasingly significant contribution to global climate change and ocean acidification is the same as that for other GHG-emitting sectors – the lack of internalizing the climate change externalities into global energy policy and thereby shipping sector operations. By adopting the first global transport regulatory framework on climate change mitigation through the IMO MEEF, the shipping industry has demonstrated leadership in taking significant steps towards internalizing its sizeable contribution to the climate change externality. It is time for further action to ensure a successful implementation of IMO MEEF and achievement of its objectives. There are barriers and threats that in particular identify the need for significant involvement of developing countries in shipping industry that are outlined in this section.

Although shipping is already by far the most energy efficient method of international transport on a per tonne cargo basis, there remain substantial opportunities to improve on its historical energy consumption patterns while continuing to grow apace with the global trade it serves. The significance of shipping is that more than 90% of world trade and its associated prosperity-building rely on healthy growth of international maritime transport. To support this healthy process and responding to a more globalized economy, the international shipping fleet is projected to continue to grow by 2-5% per year depending on ship type.

Shipping industry is global in nature; it is heterogeneous, from specialised ships to general utility vessels, serving both large, busy ports and more remote harbours with infrequent voyages; commonly with vessels 15+ years old alongside newer vessels, all with diverse operation and crewing programmes. Also, international shipping is highly dependent on developing countries as outlined later on.

While high energy-efficiency ship operation and design, with well documented resource-efficient practices, is more prevalent among larger ship operators from developed countries, smaller operators in developing countries seldom have the equivalent know-how and capacity, nor the requisite policies, legislation and institutional frameworks, to facilitate delivery of improved energy efficiency. This situation puts less efficient, smaller operators at a disadvantage against larger, more efficient operators, both operationally and in terms of the preservation of the capital value of their vessels.

Similarly, Flag State or Port Authorities in developing countries remain constrained in their capacity for practices which require coordination on ship traffic management and port administration to promote energy efficient ship operations. This constraint at the level of the local authorities can translate into a material difference in the costs associated with the use of their port by ships invested in higher efficiency measures. Such constraints could range from access to propeller polishing techniques or hull coating facilities, to traffic management, weather and route planning intelligence, and even to elements related to cargo logistics and planning for port maintenance, dredging and other elements.

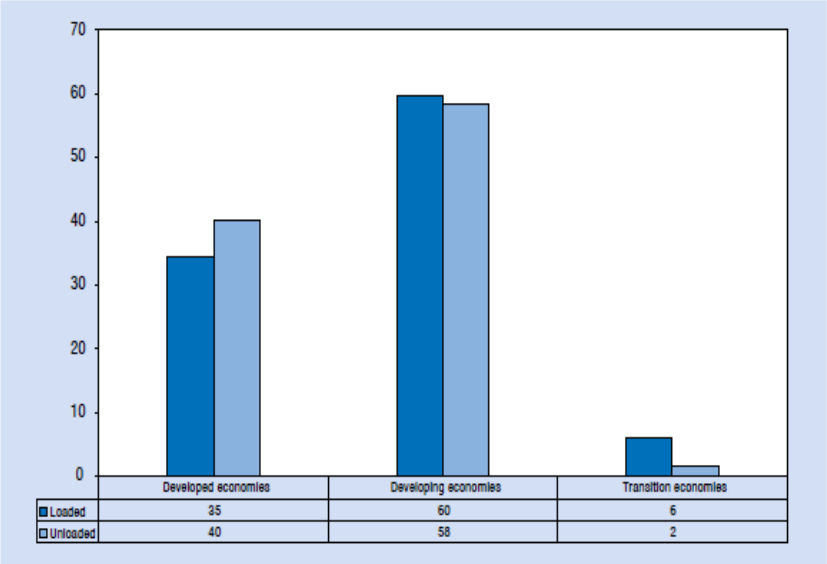
Because of these capacity issues and constraints in developing countries, global scale compliance with the adopted IMO MEEF, and thereby the foreseen significant GHG emissions reduction benefits, is very unlikely to be achieved without additional support to address the needs of developing countries. Moreover, developing countries often do not have access to participation in global and other relevant capacity building and knowledge sharing initiatives, both on the implementation and on the enforcement sides, lessening their opportunities to acquire and incorporate new knowledge and experience into their national maritime sector policy and other frameworks.

The importance of addressing these root causes and barriers for high uptake of the IMO MEEF by developing countries can be seen in **Table 1.1** below – which shows the high percentage of vessels registered in developing countries (75.49%), underscoring the transformational role that suitably capacitated developing countries can play in achieving a substantial reduction in shipping sector GHG emissions (against BAU) through a high uptake of MEEF. This creates significant opportunities within sector for mitigating the impact of shipping on climate change and ocean acidification.

Group	Percentage by DWT
Developing economies	75.49%
Developed economies	23.36%
Transition economies	0.72%
Unknown and other flags	0.42%
Total	100%

Table 1.1 – Distribution of ships' DWT capacity by country group of registration for early 2013 [Source UNCTAD 2013 report]

UNCTAD estimates also indicate, that as of 2012, 66% of global seaborne trade (by volume) was loaded in developing and transition economies and 60% of trade was unloaded in these economies, underscoring the continued increase in the share of global shipping imports and exports to and from developing countries; see **Figure 1.4**.



Sources: Compiled by the UNCTAD secretariat on the basis of data supplied by reporting countries, as well as data obtained from relevant government, port industry and specialist sources. Estimated figures are based on preliminary data or on the last year for which data were available.

Figure 1.4 – World seaborne trade by country group, 2012
(Percentage share in world tonnage) [Source: UNCTAD 2013 report]

These data further underscores the significant role that developing countries are playing in the international shipping sector and the significant potential that exists for shipping CO_2 reductions via a focus on developing regions. This creates a good opportunity for a large CO_2 reduction; thus creates a timely opportunity for a global action.

With the MEEF being in force since January 2013, the focus has now moved to the implementation and enforcement sides. To take advantage of the momentum created and to catalyze the effective implementation of the IMO MEEF, there is a need for activities, in particular in developing countries, for not only identifying current status, barriers and how to remove these barriers for achieving a significant reduction in shipping GHG emissions; but also to enhance the institutional reform and capacity building for this purpose.

Some of the barriers to effective implementation of IMO MEEF include:

- Global nature of shipping and large numbers of organizations / countries involved.

- Heterogeneous nature of ships in terms of types, applications, ports operated, age and diverse operation and crewing cultures.
- Structural aspects that cause split incentives between stakeholders.
- The significant role that developing countries play in shipping while their capacities for dealing with relevant issues may need to be improved.

There is clearly a need for a comprehensive program to build public and private sector capacity in a sector increasingly dominated by developing countries as flag states, ship builders, and exporters and importers of seaborne goods and commodities. If not adequately addressed, the lack of institutional capacities, legal arrangements, knowledge/information sharing mechanisms and access to technologies will continue to remain as major barriers to the effective implementation of the IMO MEEF in the developing countries in which the majority of shipping sector activity is increasingly managed and concentrated. This constitutes the main threat; that could result in the loss of momentum in achieving significant shipping energy efficiency improvement if the issues related to developing countries are not properly addressed.

Based on the above analysis, the issue of upgrading the status of developing countries via removal of some of the barriers would provide significant opportunities. The priority areas to deal with include aspects such as:

a) Improving the policy and regulatory environments;
b) Knowledge/informational and human capacity aspects;
c) Institutional capacity building; and
d) Promoting the deployment of new technologies and processes for energy efficient ship operation.

The need to address the above issues and especially to support developing countries to implement MEEF has been recognized by the IMO through adoption of Regulation 23 of MARPOL Annex VI on “promotion of technical co-operation and transfer of technology relating to the improvement of energy efficiency of ships”. This regulation strongly advocates support for developing countries to enable them to implement and comply with IMO MEEF. Based on this, IMO took action to provide resources to address the key issues.

Against this background, initial efforts have been focused on technical cooperation and capacity building through the IMO's regular Integrated Technical Cooperation Programme (ITCP) activities to raise awareness of the new energy efficiency regulations to support a smooth and effective implementation and enforcement. As part of this effort, $400,000 was allocated for various national and regional capacity building activities under the 2012 to 2013 ITCP work plan. Furthermore, the IMO completed a major technical cooperation project on "Building capacities in East Asian countries to address GHG emissions from ships" with funding support ($700,000) of the Korea International Cooperation Agency (KOICA).

1.1.4 GEF-UNDP consultations

The above described initial efforts, the significant potential for reduction of shipping GHG and the significant size of the task ahead in transforming maritime industry to low carbon operation lead to IMO seeking further international support through its “major projects”. For this purpose and in order to catalyze the effective implementation of the IMO MEEF, in particular in developing countries which play a central role in international shipping, IMO approached the United Nations Development Programme (UNDP) and the Global Environment Facility (GEF) with a view to mobilize GEF resources to undertake a medium-size global project to lay the foundation for capacity building in developing countries to promote legal, policy and institutional reforms, human resource developments as well as establishing global partnerships which will accelerate and support the effective implementation of the MEEF.

During the concept development of the GloMEEP project, a series of consultations took place between IMO, UNDP and the GEF Secretariat (GEFSEC) to analyse the provisions of the newly adopted IMO MEEF and arrive at a common understanding of the possible approaches the GEF could support to take advantage of momentum created by the adoption of the IMO MEEF to accelerate the reduction of GHG emissions from global shipping. Through these consultations, the GEF and UNDP emphasized:

- The need for national level Legal, Policy and Institutional Reforms (LPIR) as a catalytic approach.
- Importance to develop financially and institutionally sustainable maritime energy efficiency policies at the national level.
- Incremental and strategic focus of GEF intervention with regard to a number of pilot countries.
- Objective of enhancing developing and developed countries (North-South) collaboration;
- Desire to have the project foster a close partnership with industry and private sector.

The items highlighted above by GEFSEC were taken as the main framework for defining the GloMEEP project. Additionally, as part of this initial consultation, it was agreed that the legal, policy and institutional reform will be chosen as the major focus of this coordinated effort with partnering countries.

In summary, the key recommendations received from GEF and UNDP, which have been incorporated into the design of GloMEEP project, are:

- Financially sustainable strategies are to be a central feature in the development of national maritime energy efficiency efforts.
- The regions in which the partnering countries reside should be selected for their high impact in terms of ship registration, ship and port operations and shipbuilding activities.
- Each of the partner countries should be GEF-eligible developing country. Their involvement should spur South-North collaboration, recognizing the interest also amongst developed countries to participate at their own cost.
- The main objective should be to ultimately establish permanent, self-sustaining legal, policy and institutional arrangements in participating countries to ensure uniform application of the IMO MEEF and its future developments.
- The project should seek to catalyse LPIR at the national level and utilize a regional element to bring country representatives together for training and to discuss issues of mutual concern.
- The project should have a truly global reach. Within this global approach, the results obtained and disseminated to wider maritime community and GloMEEP is expected to pave the way for a broader global partnership to expand efforts to tackle this important issue going forward.
- The IMO and its member States would take the burden of activities for implementation of the MEEF with GEF providing support for incremental activities in important maritime developing countries.

1.2 Policy Contexts

Reducing climate change via the mitigation of GHG emissions is a truly global challenge that is dealt with under the auspices of UNFCCC. IMO has been internationally mandated to deal with GHG emissions from international shipping. Shipping industry crosses jurisdictional boundaries in the conduct of trade whilst contributing significantly to world trade and globalised production activities. Consequently, international and regional co-operation, in addition to strong national-level activities, are key elements of the strategy developed to address the shipping GHG emissions.

GloMEEP has been designed to span all institutional levels – with coordinated activities at the global and national levels, with attention paid particularly not only to ship operation, shipbuilding and energy efficiency technologies but also ports that are an integral part of shipping global trade.

The impact on climate change, ocean acidification and port air quality from shipping energy use and fuel consumption necessarily spans the maritime transportation and environmental sectors. Thus solutions require a coordinated effort between government, industry and other stakeholders across these sectors.

GloMEEP stakeholders include all relevant maritime sectors such as government agencies, international organizations, industry groups, training and R&D institutes and environmental organizations. To facilitate this wider participation of stakeholders, the GloMEEP project management structure is defined in such a way so that each party could play its role; be it at national or global levels or both. The GloMEEP work plan would provide, inter alia, workshops and training opportunities that will encompass participation from a variety of disciplines and all maritime players (shipping, shipbuilding, ports authorities, maritime administrations, marine equipment suppliers and environmental protection agencies).

1.2.1 International policy context

The project builds from a strong base in international policy, including first and foremost the newly adopted Chapter 4 of MARPOL Annex VI on "Energy Efficiency Regulations for Ships", adopted by the IMO MEPC in July 2011 and came into force in January 2013 (IMO MEEF). This is also in-line with subsequent discussions and debates at the IMO level on data collection and reporting of fuel consumption and "Technology Transfer for Ship Energy Efficiency"; all of which are trying to consolidate commitments under the IMO MEEF via encouraging the removal of some of the barriers as stated under the previous section.

The above IMO regulatory activities for control of shipping GHG emissions is in-line with the responsibility given to the IMO by the UNFCC under the Kyoto Protocol as indicated in **Figure 1.5**.

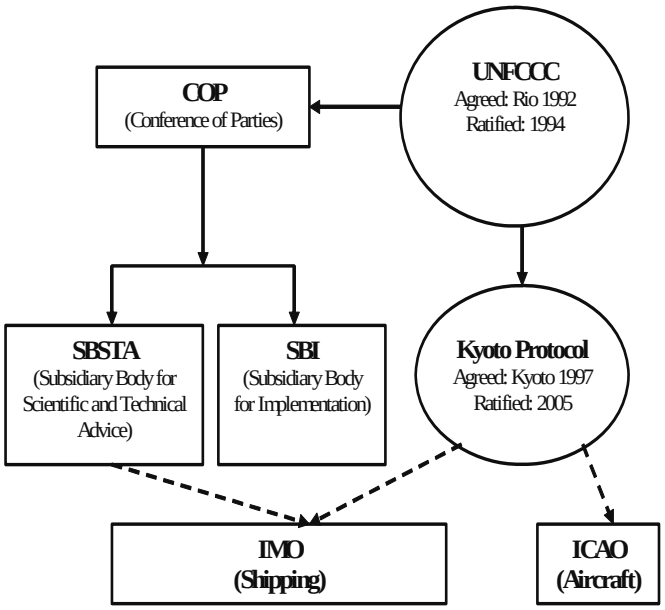


Figure 1.5 – IMO international mandate on dealing with maritime GHG emissions[9]

The IMO MEEF focuses on both ship building and ship operation but also require cooperation of all States to achieve the MEEF objectives. IMO coordinates the global processes for encouraging technical cooperation and capacity building if requested. However, the ultimate responsibility of implementing the conventions lies with member States and the very large majority of the costs related to the implementation process are absorbed by the respective governments, shipping industry and interested donors.

The project will also provide an opportunity for the participating countries to establish a link between the national discussions on shipping and GHG emissions to the wider international debate on the subject. Emissions from fuel used for international maritime transport have been addressed under the UNFCCC process since the first meeting of the relevant Conference of the Parties (COP). COP requested the

[9] Bazari, Z. and Reynolds, G. "Sustainable Energy in Marine Transportation" IMarEST Conference, 2005.

Subsidiary Body for Scientific and Technological Advice (SBSTA) and the Subsidiary Body for Implementation (SBI) to address the issue of allocation and control of emissions from international bunker fuels and to report on this work to COP (see **Figure 1.5**).

In response to this request, emissions from fuel used for international maritime transport have been continuously addressed under the SBSTA. In addition Article 2.2 of the Kyoto Protocol states that the Parties included in Annex I shall pursue limitation or reduction of emissions of GHG emissions not controlled by the Montreal Protocol from aviation and marine bunker fuels, working through the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO), respectively.

In accordance with the IPCC Guidelines for the preparation of GHG (GHG) inventories and the UNFCCC reporting guidelines on annual inventories, emissions from international maritime transport should be calculated as part of the national GHG inventories of Parties, but should be excluded from national totals and reported separately.

The above shows the international context of shipping GHG emissions and the need to address them via IMO in an effective way. The link between international aspects and national efforts are highlighted and GloMEEP will assist developing states on how GHG emissions from international shipping should be considered when developing national strategies to address GHG emissions.

1.2.2 Regional policy context

The implementation and enforcement of the IMO regulations is the responsibility of the member States. This is done via flag State survey and certification and Port State Controls (PSC) periodic inspections. On IMO MEEF, the survey and certification of EEDI poses a significant challenge due to its regulatory complexity. This has been the subject of debate within major industry players that have formed a maritime sector Joint Industry Working Group[10] to promote harmonious application of EEDI. The regional context of EEDI activities is relatively strong in East Asia where shipbuilding (cargo ships) is primarily located as well as Europe with strong shipbuilding (passenger and cruise ships), classification industry and ship equipment manufacturing.

The PSC aspect has a particular regional context and IMO has encouraged the establishment of regional PSC organizations and agreements. Regional Memoranda of Understanding or MoUs have been signed covering all of the world's oceans including:

- Europe and the north Atlantic (Paris MoU);
- Asia and the Pacific (Tokyo MoU);
- Latin America (Acuerdo de Viña del Mar);
- Caribbean (Caribbean MoU);
- West and Central Africa (Abuja MoU);
- the Black Sea region (Black Sea MoU);
- the Mediterranean (Mediterranean MoU);
- the Indian Ocean (Indian Ocean MoU);
- the Riyadh MoU

A large number of countries are members of each regional MOU.

These aspects of energy efficiency regulations will form the regional policy context for the project. Regional activities will be encouraged to not only achieve the above two important aspects but also seed and promote the idea of regional “centres of excellence” for promotion of energy efficiency for ships. The

[10] This Joint Industry Group was set up in 2012 and comprises a large number of associations including class societies, shipbuilders, shipowner, towing tank test facilities and so on. It has so far submitted relevant Industry Guidelines to IMO.

idea of developing regional institution to act as future "Centres of Excellence" for ship energy efficiency purposes is an important regional policy aspect that will be promoted within GloMEEP.

1.2.3 National policy context

To achieve meaningful reduction in international shipping's GHG emissions, robust and sustainable national and corporate activities are needed. This requires the adoption of strong shipping emissions mitigation policies at one hand and legal and institutional frameworks to sustain policy implementation on the other hand. Both of these strategic elements are built into the GloMEEP programme.

Two other main elements are included in this programme i) capacity building in relevant areas and ii) national ownership of activities; most of the relevant activities, be it improvements in ship design or ship operation and technologies, will need to be driven at national levels. All these ask for strong aspects of policy making for instigation and sustainability of activities at national level.

As part of GloMEEP country consultations (see **Section 1.3**), it became clear that the policy context in the developing countries in relation to maritime GHG emissions is still evolving or non-existent. Some of the countries already have in place general maritime policies but not maritime energy efficiency policies. The need for development of strategies/policies for GHG emissions in developing countries exists and will be addressed within this project. All the countries consulted expressed interest in developing national maritime energy efficiency strategies/policies through concerted national and global actions.

1.3 Stakeholder/Partnership Analysis

1.3.1 Maritime stakeholders

Climate change, ocean acidification and air quality problems are inter-disciplinary in nature, so the success of the project depends on the full involvement of a broad group of stakeholders at both national and global levels. Without precluding the participation of additional partners, the following institutions and organizations are likely to be involved and interact during the GloMEEP implementation based on findings from the stakeholders' consultations:

- Maritime administrations and coastguard agencies
- Ministries of transport, environment and climate change
- National environmental agencies and national GEF Country Focal Points
- Parliamentary committees for environmental protection
- Shipping companies and associations
- Shipbuilding companies and associations
- Port authorities
- Marine fuel suppliers/bunkering
- National maritime R&D and training institutions
- International technology developers and marine equipment suppliers
- International organizations involved in energy management and climate change
- Relevant NGOs and local government agencies
- Donor governments, communities and international financial institutions.

For GloMEEP project development and as part of the PPG phase, a full consultation with the partner countries was conducted (see **Section 1.3.3**). As part of these LPCs' consultations, representatives from the above institutions and agencies from 10 LPCs took part in the relevant meetings; thus not only are aware of the GloMEEP objectives but has agreed, in general terms, to GloMEEP aims and plans.

1.3.2 GloMEEP LPCs and their status

Altogether, 10 LPCs have committed to join in the GloMEEP project following a series of country stakeholders' consultations that were carried out. A short description and significance of these LPCs is given in **Table 1.2**.

No.	LPC	Significance in maritime industry [See Tables that follows for source of ranking, etc.]
1	**Argentina**	• Category B[11] membership to IMO • Major coastal State • Major in-land waterways • Very active in IMO's regulatory debates on ship energy efficiency
2	**China**	• Ranked No. 1 in world shipbuilding (40.59%) • Ranked No. 3 in world ship ownership • Ranked No. 9 in world Flag registration • Category A[12] membership to IMO • Very active in IMO's regulatory debates on ship energy efficiency • Ranked No.1 in container port throughput amongst 76 developing countries/territories and economies in transition • Major world importer of iron ore (65%) and coal (17%) (2012)
3	**Georgia**	• Member of major UN and IMO conventions on transport and maritime • Ranked No.21 in container port throughput amongst 76 developing countries/territories and economies in transition (2012).
4	**India**	• Ranked No. 16 in world ship ownership • Ranked No. 18 in world Flag registration • Category B membership to IMO • Very active in IMO's regulatory debates on ship energy efficiency • Ranked No.8 in container port throughput amongst 76 developing countries/territories and economies in transition
5	**Jamaica**	• A major Small Island Developing State (SIDS). • Category C[13] membership to IMO • Very active in IMO's regulatory debates on ship energy efficiency
6	**Malaysia**	• Ranked No. 19 in world ship ownership • Category C membership to IMO. • Very active in IMO's regulatory debates on ship energy efficiency • Ranked No.5 in container port throughput amongst 76 developing countries/territories and economies in transition
7	**Morocco**	• Category C membership to IMO. • Major coastal State with 3,500 km of coastline. • Significant strategic plan in port development and transshipment
8	**Panama**	• Ranked No. 1 in world Flag registration • Category A membership to IMO • Panama Canal as a major water way. • Very active in IMO's regulatory debates on ship energy efficiency • Ranked No.13 in container port throughput amongst 76 developing countries/territories and economies in transition
9	**Philippines**	• Ranked No. 1 in supply of seafarers to maritime industry. • Ranked No. 4 in shipbuilding (2.83%). • Category C membership to IMO • Very active in IMO's regulatory debates on ship energy efficiency
10	**South Africa**	• Category C membership to IMO. • Major coastal State • Strong future maritime strategy. • Very active in IMO's regulatory debates on ship energy efficiency • Major world exporter of iron ore (5%) and coal (7%) (2012)

Table 1.2 – LPCs maritime status

Table 1.3 shows the top shipbuilding nations; this includes two of GloMEEP LPCs (the #2 and #3 are not GEF-eligible).

11 States with the largest interest in international seaborne trade

12 States with the largest interest in providing international shipping services

13 States which have special interests in maritime transport or navigation, and whose election to the IMO Council will ensure the representation of all major geographic areas of the world

Country	China	South Korea	Japan	Philippines	Rest of world	World total
Total 1000 Gross tonnage	38677	31491	17429	2696	4994	95287
Total %	40.59%	33.05%	18.29%	2.83%	5.24%	100%
World ranking	1	2	3	4	-	-

Table 1.3 – Shipbuilding: Deliveries of new buildings, countries of built in 2012

[Source: UNCTAD 2013 report]

Table 1.4 shows the world ranking of the LPCs in the top 35 flag State nations; this includes 5 of GloMEEP LPCs in top 32 nations.

Flag of registration	Number of vessels	Share of world total, vessels	1000 DWT	Cumulated share (% DWT)	World ranking
Panama	8580	9.87	350506	21.52	1
China	3727	4.29	68642	4.21	9
India	1385	1.59	15876	0.97	18
Malaysia	1539	1.77	10508	0.65	24
Philippines	1383	1.59	6417	0.39	32

Table 1.4 – LPCs in the top 35 Flag Registration States as of 1 January 2013

[Source: UNCTAD 2013 report]

Figure 1.6 shows that the GloMEEP partnership's ship registration shares as compared to the rest of the world; this shows that a third of global international shipping operate under the flag of the GloMEEP LPCs.

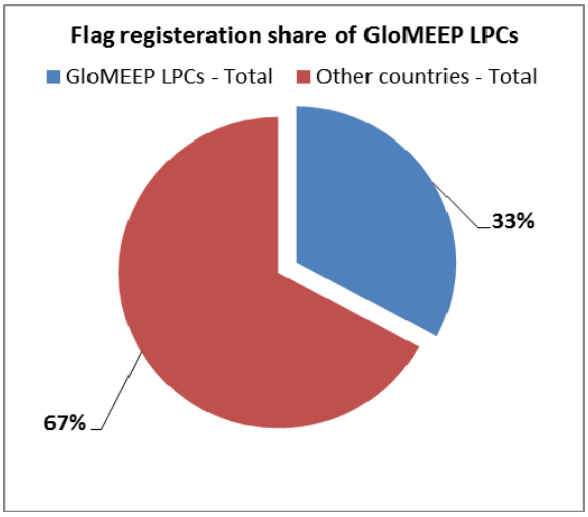


Figure 1.6 - Vessel registration share of GloMEEP partners in % Gross Tonnage

[Source: IMO data for 2013 (printed on 11 August 2014)]

Table 1.5 shows the world ranking of the LPCs in the top ship ownership nations; with 3 of the GloMEEP LPCs' in top 20 nations.

Country	Number of vessels	1000 DWT	Total as percentage of world fleet (DWT)	World ranking
China	5,313	190,078	11.78	3
India	742	22,441	1.39	16

Malaysia	614	17,114	1.06	19

Table 1.5 – LPCs in the top 35 ship ownership States as of 1 January 2013

[Source: UNCTAD 2013 report]

All the above statistics shows that the selected LPCs are playing major roles in international shipping, shipbuilding and trade; thus removing the barriers to ship energy efficiency in these strategically targeted LPCs will have significant positive impact on international shipping energy use reduction and therefore on reducing shipping-related GHG emissions.

1.3.3 LPCs' Stakeholder consultation

All the aforementioned LPCs and their national stakeholders have been consulted prior to preparation of this ProDoc. The consultation meetings were conducted in two stages. Stage 1 was with wider LPC's stakeholders with the main objective of describing the full scope of the GloMEEP and receiving their feedback and their specific requirements. Stage 2 was with the National Lead Agency and those stakeholders that will get engaged in the GloMEEP implementation in order to identify the LPCs specific activities and their in-kind support.

Efforts were made to include the following national organisations in the consultation process:

- Maritime Authority (normally as the National Lead Agency)
- Ministry of transport
- Ministry of environment
- GEF Operational Focal Point in the Country
- Agencies that deal with GHG emissions and climate change.
- Shipowners associations
- Shipbuilders association
- Port authority representatives
- Marine R&D institutes and maritime universities representatives
- Marine fuel suppliers/bunkering
- NGOs.

The main aim was to inform the stakeholders of the GloMEEP scope and share with them information on the full scope of the project, learning about LPC's maritime stakeholders and their activities, LPC's maritime status, policies and national priorities in area of MARPOL Annex VI and GHG emissions from shipping, agreeing on how to take into account the LPC's requirements as part of ProDoc development process and finally agreeing on the LPC's co-financing levels for the project

These series of the consultation meetings proved to be very useful with the following main outcomes:

- All stakeholders in LPCs are now aware of the scope of the GloMEEP project and its general schedule.
- The stakeholders' views on relevant topics are recorded and included in this ProDoc.
- In the majority of cases, the national project management team including the National Lead Agency, National Focal Point and National Project Coordinator were agreed during this consultation process (see **Table 1.6**). This means that the start-up of the project could now be handled smoothly and quickly.
- The LPCs discussed and agreed to the project activities as outlined in this ProDoc. This helped for LPCs to take ownership of the process.

- The LPCs agreed to the level of their co-financing and their commitment has already been provided through letters and co-financing tables as annexed to this ProDoc (see relevant **Annexes**).

LPC	National Lead Agency	National Focal Point	National Project Coordinator
Argentina	Prefectura Naval Argentina	Decided	Decided
China	Maritime Safety Agency	TBC	Decided
Georgia	Maritime Transport Agency	Decided	Decided
India	Directorate General of Shipping	TBC	TBC
Jamaica	Maritime Authority of Jamaica	Decided	TBC
Malaysia	Marine Department	Decided	TBC
Morocco	TBC	TBC	TBC
Panama	Panama Maritime Authority	Decided	Decided
Philippines	Maritime Industry Authority – MARINA	Decided	Decided
South Africa	TBC	TBC	TBC

Table 1.6 – LPCs' Lead Agency, focal point and coordinator

As a result of the consultation meetings, all the LPCs have committed to take a lead in carrying out legal, policy and institutional reforms and associated capacity building. All the LPCs have expressed their commitment to participate and contribute to the global endeavour. All the countries have expressed their willingness to share their experience and their commitment to foster technical cooperation. GEF support can ensure that the growing interest of developing countries in the marine energy management leads to action. Specifically, with GEF support, sustainable mechanisms to properly address the issues will be established and concrete moves towards a target of significant reduction in maritime GHG emissions via enabling the developing countries will be undertaken.

1.3.4 LPCs status on legal and policy aspects

Table 1.7 gives an overview of the status of LPCs with regard to legal and policy development issues that relate to shipping energy efficiency.

LPC	**National Status Assessment (Baselines, Targets & Roadmap)**	**National Policy/ Strategy**	**National Legislation**	**MARPOL Annex VI ratification**
Argentina	Not available	Not available	In-progress	In-progress
China	Not available	Not available	In-place	Ratified
Georgia	Not available	Not available	In-progress	In-progress
India	Not available	Not available	In-place	Ratified
Jamaica	Not available	Not available	In-progress	In-progress
Malaysia	Not available	Not available	In-place	Ratified
Morocco	Not available	Not available	In-progress	In-progress
Panama	Not available	Not available	In-place	Ratified
Philippines	Not available	Not available	In-progress	In-progress
South Africa	Not available	Not available	In-progress	In-progress

Table 1.7 – LPCs status on relevant legal and policy requirements

1.3.5 Stakeholders engagement

As indicated earlier, a significant number of LPCs and their stakeholders exist at global, regional and national levels. Their positive engagement is crucial for the success of project and is one of the risk factors that need to be managed. To achieve this, provisions are made within project strategy and M&E for various stakeholders to get involved in project implementation, steering and monitoring activities. The following will ensure the full stakeholders engagement:

- Stakeholders' consultation meetings: These meetings have already been conducted and have been quite successful in ensuring the buy-in by national stakeholders early in the project concept (see **Section 1.3.4**). As discussed, this will ensure not only smoother inception phase of the project but also future willingness by stakeholders in the project through the sense of ownership that was promoted during the consultation.
- Project M&E structure and reports: M&E structure in particular the setting up of the task forces (e.g. GPTF and NTF) would ensure wider participation and contribution by stakeholders as well as review of project deliverables. Additionally, provisions for organising ad hoc National Stakeholder Workshops (NSWs) are foreseen; not only to disseminate the information but also to receive feedback on the project activities.
- Setting up of the GloMEEP GIA: This will be formed via participation of major industry partners and will promote wider stakeholders engagement via actively taking part in industrial oriented activities such as technology assessment and deployment within the GIA framework.

During the implementation of the project, guidance will be provided on the stakeholder involvement method and the roles, responsibilities and relationships among the stakeholders; and mechanisms for their optimal involvement in the project activities. Clear roles and responsibilities can ensure ownership and facilitate smooth implementation. The stakeholders will benefit throughout the project from studies, workshops, trainings, reviews and legal and institutional analysis. They will be granted access to the GloMEEP dedicated webpages and documents that will be launched under the project.

At the global level, all the LPCs and other key stakeholders will be invited to sit on the Global Project Task Force (GPTF) as foreseen under project monitoring. IMO acting as the host for the PCU, will take responsibility for the overall coordination of the project and will engage LPCs through GPTF and other dedicated events to ensure smooth coordination amongst stakeholder. Additionally, IMO, through organisation of Marine Environment Protection Committee (MEPC) and its relevant working groups will facilitate wider international debates and stakeholders engagements. In particular, MEPC meetings provide a big opportunity for dissemination of project activities to IMO member states, private sector and NOGs.

1.4 Baseline and Action Scenarios

1.4.1 Baseline scenario – Business As Usual (BAU)

The baseline scenario starts with the global Maritime Energy Efficiency Framework (MEEF) recently adopted by IMO member States which came into force on 1 January 2013. The MEEF calls for substantial improvements in ship energy efficiency including both ship design (Energy Efficiency Design Index – EEDI) and ship operation (Ship Energy Efficiency Management Plans – SEEMP) and represent the first ever mandatory global CO_2 reduction regime for an international industry sector. The EEDI requires a minimum energy efficiency level per capacity mile (e.g. gCO_2/tonne mile) for different ship type and size segments. With the level being tightened over time, the EEDI is intended to stimulate continued technical development of all the components influencing the energy efficiency of a ship. Reduction factors are set until 2025 when a 30% reduction in CO_2 emissions per capacity mile is mandated over the average efficiency for ships built between 1999 and 2009. The EEDI has been developed for the largest and most energy intensive segments of the world merchant fleet and will embrace about 70% of emissions from new oil and gas tankers, bulk carriers, general cargo, refrigerated cargo and container ships as well as combination carriers (wet/dry bulk). The SEEMP is an operational

measure that establishes a mechanism to improve the energy efficiency of a ship in a cost-effective manner and also provides an approach for monitoring ship and fleet efficiency performance over time using, for example, the Energy Efficiency Operational Indicator (EEOI) as a monitoring and/or benchmark tool. Studies indicate that uptake of SEEMP measures (mainly operational) will have an effect mostly in the medium term (e.g. 2020) whilst EEDI measures (technical) should have significant impact on the long term (e.g. 2030-2050) as fleet renewal takes place and new technologies are adopted (See **Figure 1.7**). Some examples of shipping energy efficiency measures and the impacts of both design and operational technology innovations expected to be catalyzed through effective EEDI and SEEMP implementation are summarized in **Table 1.8** (Note - the saving levels will vary from one ship type to others and some reductions will not be mutually exclusive).

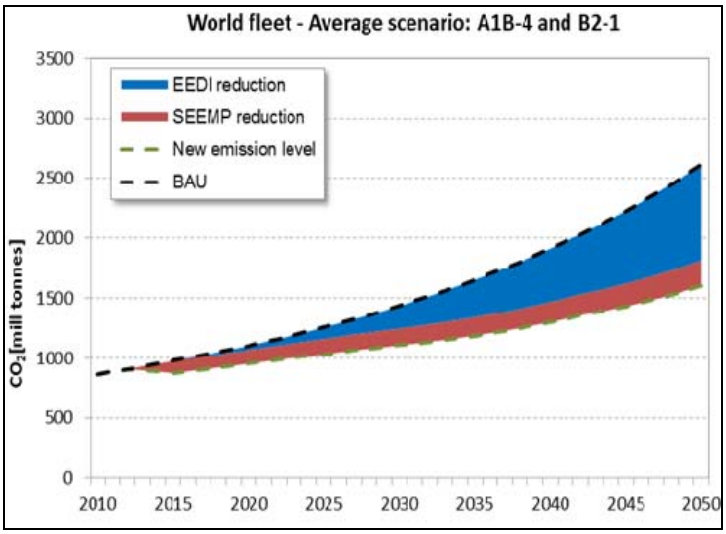
EEDI reduction measure	Potential efficiency gain (%)	SEEMP related measure	Potential efficiency gain (%)
Optimized hull dimensions & form	Up to 9%	Engine tuning & monitoring	Up to 4%
Lightweight construction	Up to 7%	Hull condition	Up to 10%
Hull coating	Up to 5%	Propeller condition	Up to 10%
Hull air lubrication system	Up to 15%	Reduced auxiliary power	Up to 1%
Contra-rotating propeller	Up to 12%	Speed reduction (operation)	Up to 23%
Waste heat recovery	Up to 10%	Trim/draft	Up to 8%
Variable speed drive for pumps, fans, etc.	Up to 1%	Voyage execution	Up to 10%
Waste heat recovery	Up to 10%	Weather routing	Up to 10%
Wind power (sail, wind engine, etc.)	Up to 20%	Advanced hull coating	Up to 5%
Solar power	Up to 4%	Propeller upgrade and aft body flow devices	
Design speed reduction (new builds)	Up to 23%	Port turnaround time	Up to 10%
Design for reduced ballast operation	Up to 7%	Propeller efficiency monitoring	Up to 5%
Automation	Up to 10%	Efficient propeller speed modulation	Up to 5%
Bulbous bow	Up to 20%	Fuel additives	Up to 2%
Diesel electric drives	Up to 5%	Overall energy efficiency awareness	Up to 10%
Waste heat recovery	Up to 10%		

Table 1.8 – Typical technical and operational measures for EEDI and SEEMP reductions

As indicated in previous sections, the shipping sector is dominated by public and private stakeholders in the developing world. A consequence of the adoption of the international regulations has been the growing interest in GHG issues in an increasing number of developing countries which have expressed their interest to integrate this global framework into national policy and legislation. However, these are only expressions of good intentions, and are not likely to generate sustainable national actions to properly implement the regulations without incremental GEF support.

Under the baseline scenario, it is anticipated that without further technical cooperation, capacity building and mobilization of private sector interests, MEEF implementation in the developing countries, where most international ships are flagged and traveling to and from, will only be partially achieved, leading to continued rapid increases in global GHG emissions from shipping and associated impacts on both climate change and ocean acidification. Such a scenario would also result in losing much of the momentum generated by the adoption of the international energy efficiency regulations. Under the baseline scenario, without further intervention, capacity building and development of global tools and information exchange platforms, there is little hope for substantial technology and skills transfer from developed countries to the developing world. Without creating guidance and models for IMO MEEF implementation in developing countries, capacity building tools, and information and knowledge sharing forums targeting the needs of developing countries, the significant progress achieved by the global community will not be capitalized on and a sizeable fraction of the global benefits (avoided GHGs, reduced ocean acidification) that could be

realized under full MEEF implementation will be lost. GEF support is being sought to build on, optimize benefits from and maintain the momentum generated by the adoption of a global regulatory framework.



Scenario A1B-4 represents a scenario with high economic growth, high uptake of the regulations and high fuel prices; and scenario B2-1: represents low global economic growth, low uptake of regulations and reference fuel prices.

An average 1,013 million tonnes/year CO2 reduction from international shipping is foreseen by 2050 due to effective implementation of IMO MEEF

Figure 1.7 - Impact on shipping CO_2 emissions of implementation of IMO MEEF[14]

In summary, the baseline scenario:

- Despite the general awareness[15] and the international momentum generated by the IMO MEEF and also related projects such as IMO KOICA capacity building, the knowledge base, legal/policy framework and technical, financial and institutional capacities required of developing countries to establish robust programs for the control and management of ships' GHG emissions remain challenging. This is partly due to a number of factors such as lack of relevant human capacities and awareness on importance/ priority of the subject, lack of national policies and strategies; technical and structural barriers, and lack of relevant institutions and mandates in this regard.
- The absence of an integrated approach means that efforts to address the maritime GHG issues will prove difficult without focused international assistance in particular for the developing countries. Also, because of the major technical, scientific, environmental, and economic implications as well as well-known barriers; the implementation of ship energy efficiency and management has proved to be more complex.
- Under the baseline scenario, existence of certain barriers to use of energy efficiency technologies and operational best practice hampers the full implementation of MEEF strategies. For example, this is particularly true for segments where split incentive[16] is regarded as the normal major barrier for use or technology transfer of high value energy efficiency technologies.
- Additionally, under the baseline scenario, there is little hope for substantial technology and skills transfer from developed countries to the developing world. The much-needed exchange of information and concerted action at the global level has been insufficient, lacking in consistency and internationally agreed standards.

[14] "Assessment report on CO2 reduction potential due to IMO Energy Efficiency Regulations", MEPC 63/INF.2, October 2011

[15] This is mainly awareness on existence of MEEF and relevant regulatory requirements, mainly by maritime administration and shipping industry, rather than deep understanding of the implementation, enforcement and best practice issues.

[16] Split incentive refers to cases where the fuel cost is not paid for by ship operator or owner, thus they loose incentive to improve energy efficiency from economic point of view.

In conclusion, under the baseline scenario, rapid and effective implementation of the MEEF, in particular its SEEMP element in the nearer term, could be severely restricted by existing barriers and also a lack of capacity in developing countries. It is anticipated that without further technical cooperation, and the proper mobilization of existing resources, the MEEF implementation will remain at shipbuilding phase and much of the great potential for reducing the energy use of ships in operation may not be realised. Such a scenario would also result in wasting the momentum generated by the IMO MEEF and other relevant non-regulatory drivers. Thus, the full potential of the IMO MEEF for existing ships will not be realised unless other forms of interventions are foreseen; thus alternative scenarios need to be in place.

1.4.2 Alternative scenario

In the alternative scenario, a high uptake of IMO MEEF in particular the operational element (e.g. the SEEMP) is advocated and advanced via policy making, institutional reforms, incentivisation, capacity building and South-North technical cooperation. This scenario will yield significant benefits in terms of both reductions of shipping CO_2 emissions and ocean acidification as well as shipping fuel costs; with both environmental and economic benefits. In this alternative scenario, this project positions the GEF to play a key catalytic role in transforming the global shipping sector towards a significantly reduced climate and ocean acidification footprint against the 'business as usual' scenario' for shipping GHG emissions through 2050.

As noted earlier and in **Figure 1.7**, full and effective MEEF implementation could deliver total GHG emissions reductions (vs. BAU) of 359 million tonnes/year CO_2e by 2030, and 1,013 million tonnes/year CO_2e by 2050. Such projections are also based on the fact that a significant portion of the reductions in CO_2e will be resulting from improving energy efficiency related to existing ships' operations (in particular in the short to medium term up to 2025) with indicators such as Energy Efficiency Operational Indicator (EEOI) to be used for actual energy efficiency calculation:

$$\text{EEOI} = \frac{\sum_j FC_j \times C_{F\,j}}{m_{cargo} \times D}$$

Where: j is the fuel type; i is the voyage number; $FC_{i\,j}$ is the mass of consumed fuel j at voyage i; C_{Fj} is the fuel mass to CO_2 mass conversion factor for fuel j; m_{cargo} is cargo carried (tonnes) or work done (number of TEU or passengers) or gross tonnes for passenger ships; and D is the distance in nautical miles corresponding to the cargo carried or work done.

While it is impossible to make precise predictions regarding the fate and ultimate outcome of MEEF implementation with regard to SEEMP effectiveness, given the increasing dominance of developing countries in the shipping sector and significant gaps in developing country technical, policy, legal and institutional capacities in this area, we assume that in the absence of a developing country support mechanism, such as that proposed under this project, would result in the relevant SEEMP-related element of MEEF that corresponds to share of developing countries in international Flags (75.49%) is not realized (BAU scenario). Whereas a dedicated GEF support initiative over an appropriate time frame would raise SEEMP-related element of MEEF implementation in developing countries beyond the BAU scenario and to a level close to that forecast by the IMO commissioned report. This level of SEEMP uptake is referred to as the alternative scenario. .

Table 1.9 gives an estimate of the potential GHG emission reductions from **full scale** implementation of MEEF (EEDI and SEEMP) in the near-term, medium-term and longer-term, based on the comprehensive assessment undertaken (Ref: IMO-MEPC 63/INF.2) and taking into consideration the average of two extreme global GHG emission scenarios in terms of MEEF uptake.

Year	Emission reduction from EEDI (million tonnes/year)	Emission reduction from SEEMP (million tonnes/year)	Total Emission Reduction (million tonnes/year)
2020 (near-term)	37	115	152
2030 (medium-term)	189	170	359

2050 (longer-term)	799	214	1013

Table 1.9 - Emission reductions for EEDI, SEEMP and Totals, 2020, 2030 and 2050

Scenario Used: Average of A1B-4 (IMO study scenario) / A1B (IPCC growth scenario) and B2- (IMO study scenario) / B2 (IPCC growth scenario): EEDI uptake scenario – Regulation/Regulation, SEEMP uptake: High/Low, Fuel price scenario: High/Reference; Waiver scenario: 5%/5%)

Since it is expected that the "low-hanging fruits" in terms of achieving immediate energy efficiency objectives and resulting GHG emission reductions would be related to implementation of SEEMP (mainly operational), it can be seen from the above table that the majority (approximately 75%) of the avoided CO_2e emissions in the near-term (2020) would be as a result of operational measures (SEEMP), an area that the proposed GEF intervention would be targeting. As shown in **Table 1.9**, this represents an approximate reduction of 115 million tonnes/year CO_2e by 2020. In view of the potentially quite limited uptake of SEEMP without GEF intervention in developing countries, and the percentage of ships under developing country flags (75%), it can be estimated that under BAU scenario, the numbers shown in Table 1.9 will largely not be realized. **Table 1.10** shows the estimated emissions reduction under this BAU scenario.

Under alternative scenario, the GEF intervention would catalyze potentially a reduction of CO_2 emissions as shown in Table 1.10 based on the assumption that GEF intervention will at least realize the estimated emissions reductions for the registered international ships flagged to GloMEEP's LPCs (a third of world fleet are registered to GloMEEP LPCs).

Year	Potential SEEMP CO2 emissions reduction forecast[17] (million tonne/yr)	Baseline scenario (no GEF intervention and lack of action in developing countries)[18] (million tonne/yr)	Alternative scenario (Baseline+GloMEEP intervention with no spill over beyomd LPCs)[19] (million tonne/yr)	CO_2 reduction estimates for GloMEEP intervention[18] (million tonne/yr)
2020	115	28	66	38
2030	170	42	98	56
2050	214	52	123	71

Table 1.10 - Emissions reduction due to SEEMP with various scenarios (million tonne/year)

The estimates in **Table 1.10** are based on the statistics that 75.49% of international ships are registered in developing countries and 33% are registered to GloMEEP LPCs. Based on **Table 1.10**, the GEF intervention is estimated to realize at least 38 million tons/year reduction of CO_2e by 2020 and larger numbers for the longer term of 2030 and 2050. The above is based on the assumption that the project activities at the pilot (LPC) country level will not result in spill-over incremental global benefits, thus the estimates are considered as conservative as there will no doubt be some spill over due to dissemination efforts.. The forecast CO_2 reduction level of 38 million tonnes by 2020 for alternative scenario, would also represent a reduced cost of fuel to the shipping sector on the order of $7.12[20] billion/year (2020).

[17] "Assessment report on CO2 reduction potential due to IMO Energy Efficiency Regulations", MEPC 63/INF.2, October 2011

[18] Under this scenario, the SEEMP related CO_2 reduction will not be realised for the global fleet registered to developing countries (75.49% of global flagging). Column 3 therefore calculated as (1-.7549) x column 2.

[19] Under this scenario, the 10 LPCs are assumed to realise the SEEMP forecasted reductions for their registered fleet. Column 5 therefore calculated as LPC global flag (33%) x column 2. Column 4 calculated as column 3 + column 5.

[20] Bunker oil price of 600USD/tonne assumed

1.5 GEF Intervention

1.5.1 Need for intervention

As indicated above, the shipping sector has become increasingly dominated by public and private stakeholders in the developing world. A consequence of the adoption of the IMO MEEF has been the growing interest in GHG issues in an increasing number of developing countries which have expressed their interest to integrate this global framework into national policy and legislation. However, these are only expressions of good intentions, and are not likely to generate sustainable national actions to properly implement the regulations without incremental GEF support. Under the baseline scenario, it is anticipated that without further technical cooperation, capacity building and mobilization of private sector interests, IMO MEEF implementation in the developing countries, where most international ships are flagged and traveling to and from, will only be partially achieved, leading to continued rapid increases in global GHG emissions from shipping and associated impacts on both climate change and ocean acidification.

Such a baseline scenario would also result in losing much of the momentum generated by the adoption of the IMO MEEF, as regards the effective CO_2 reduction from shipping due to SEEMP implementation. Under the baseline scenario, without further support for developing nations and development of global tools and information exchange platforms, there is little hope for substantial technology and skills transfer from developed countries to the developing world, where the shipping sector is increasingly concentrated. Without creating guidance and models for IMO MEEF implementation in developing countries, capacity building tools, and information and knowledge sharing forums targeting the needs of developing countries, the significant progress achieved by the global community will not be capitalized on and a sizeable fraction of the global benefits (avoided GHGs, reduced ocean acidification) that could be realized under full MEEF implementation will be lost.

GEF support will build on, optimize benefits from and maintain the momentum generated by the adoption of the IMO global regulatory framework. In the same manner that the GEF-UNDP-IMO GloBallast programme played a major role in catalysing the adoption and anticipated implementation of the global convention on ship's ballast water and sediments, built capacity in over 70 developing countries for convention compliance, and helped to stimulate private sector R&D and investment in ballast water treatment technology, the GloMEEP project aims to catalyse a similar global transformation in the area of ship energy efficiency.

1.5.2 Intervention scope

With GEF providing its catalytic support, it is anticipated that a global, regional and country-based programmatic framework for the sustainable replication of energy management and emissions control measures will be adopted; ensuring that maximum benefits accrue from the foundation work achieved under IMO MEEF and subsequent initiatives such as IMO-KOICA capacity building, IMO Technical Cooperation activities and alternative marine fuels studies.

The GEF intervention will bring about additional incremental measures via relevant governments' actions planned, and co-financing offered by the GloMEEP LPCs and other stakeholders. Likewise, the co-financing support from industry, for pilot showcasing of ship energy efficiency solutions, and the holding of dissemination events, are considered additional activities, with an expectation that GloMEEP stakeholders will help set the legal, policy and institutional framework for LPCs and the formation of a GIA that will facilitate technology adoption and diffusion among the shipping industry worldwide, in response to the requirements and timetables set out in the IMO MEEF.

The aims and objectives of GloMEEP stakeholders will be a logical extension of their commitments under IMO MEEF, with a focus on national policy and legal reforms in targeted developing countries and an emphasis on integrated management. The GEF intervention and adopted approach envisages:

- Building on the achievements and momentum, and utilising the capacity and talent generated by the KOICA initiative;
- Replication of best-practices and technical activities with the view to stimulate policy reforms at national level;

- Supporting specially the LPCs in their efforts to enact legal and policy reforms to implement the MEEF and achieve significant reduction of GHG emissions from their flagged vessels;
- Promoting collaboration with industry to facilitate the successful transfer of new technologies from developed to developing countries.

Support for appropriate national institutional, policy and legal reforms will be provided and IMO MEEF implementation and enforcement will be enhanced in accordance with the requirements of the IMO instrument. Formalized global communication systems through identified lead agencies will be developed. Standardised protocols and methodology for conducting country assessments, policy development, future road mapping will be provided with direct assistance in building capacities in relevant areas.

Specific training and workshops on IMO MEEF, implementation and enforcement, best practice ship and port management for energy efficiency and LPIR activities will be provided, based on the training courses developed during the KOICA initiative, with emphasis on recently debated topics such as operational data collection and technology transfer for energy efficiency. Sustainable financial and institutional arrangements for the long-term management of ships' energy use will be identified and progressed via the mobilization of public and private sector funding.

A dedicated website with intranet facilities will be organised in support of a uniform approach by participating LPCs. Strategies to integrate the ship energy management with existing port management schemes will be developed and advocated.

In essence, the proposed GEF project will use the highly successful GloBallast model to build on the existing IMO MEEF momentum, as well as capacities developed under the previous IMO-KOICA initiative. The results of this GEF intervention will include a measurable reduction in ship GHG emissions relative to the baseline scenario with a significant mitigation of the detrimental effects of climate change impacts such as changes in sea levels, acidification, desertification and so on.

Without this GEF intervention, the extremely significant progress made by the IMO in regulatory instruments will not be capitalized on, and the global benefits may not be realised. GEF support is being sought to build on, optimize benefits from and continue the momentum generated by the IMO MEEF and KOICA initiatives. The GEF intervention will demonstrate how GEF financing of some incremental costs can massively catalyse major achievements at national level relating to one of GEF's key strategic priorities.

1.5.3 Project benefits

This project positions the GEF to play a key catalytic role in transforming the global shipping sector towards a significantly reduced climate and ocean acidification footprint against the 'BAU' scenario' for shipping GHG emissions through 2050. This sector transformational initiative primarily focuses on the GEF-5 Climate Change Mitigation Focal Area (but with strong linkages to International Waters Strategic Objective 2), by removing barriers to market transformation and creating an enabling policy environment for promoting the demonstration, deployment and access to innovative low-carbon maritime sector technologies and promoting best practices that may include incentives for maritime industry to invest in energy efficiency measures.

The proposed project will enhance global capacity in, and accelerate uptake of, technical and operational measures for far more energy-efficient shipping. The project also delivers other global environmental benefits associated with significantly improving ship energy efficiency, including reduced ocean acidification (and associated reductions in stress on all of the world's 64 Large Marine Ecosystems and high seas), reduced particulate matter, sulphur and nitrogen oxide emissions and the related benefits of improved coastal and port air quality. The project also delivers socio-economic benefits by instilling an enhanced maritime sector culture of efficiency in terms of commercial advantage at the ship, port, and sector-operation levels, for sustainable benefits into the future.

As stated earlier, the project will also provide an opportunity for the participating countries to establish a link between the national discussions on shipping and GHG emissions to the wider international debate under the UNFCCC. In accordance with the IPCC Guidelines for the preparation of GHG (GHG) inventories and the UNFCCC reporting guidelines on annual inventories, emissions from international

maritime transport should be calculated as part of the national GHG inventories of Parties, but should be excluded from national totals and reported separately. In short, GEF intervention will have a significant catalytic role, mobilize significant incremental activities view in-kind supports and is expected to yield significant CO_2 reduction potential in the shipping sector.

2 STRATEGY

2.1 Project Rationale

The importance of mitigating the shipping GHG emissions, root causes, barriers and opportunities discussed in previous section form the main reasons why GloMEEP project is needed to catalyse the international efforts for a move to a low carbon shipping sector. Also, issues relating to oceans covering 70% of our planet and nearly 50% of the world's population living in coastal areas were highlighted to signify the global dimensions of the project and its international benefits. Also, it was indicated that climate change has a truly international dimension as CO_2 and other GHG cross all boundaries and the impact of temperature rise, sea levels, ocean acidification, etc. are impacting all the nations in particular those with maritime interests. The above forms the global context and rationale under which GloMEEP project is advocated.

The GEF intervention in supporting GloMEEP is needed in order to catalyse the effective uptake of the IMO MEEF in developing countries as the dominance of shipping by developing countries is not likely to generate sustainable national actions to properly implement the IMO MEEF, in particular for existing ships, without incremental GEF support. Under baseline and no GEF intervention scenario, it is anticipated that without further technical cooperation, capacity building and mobilization of private sector interests, IMO MEEF implementation in the developing countries, where most international ships are flagged and traveling to and from, will only be partially achieved and that is clearly not desirable if the shipping sector is to contribute to global efforts to minimize the impacts of climate change.

Such a baseline scenario would also result in losing much of the momentum generated by the adoption of the IMO MEEF, in particular on effective implementation of the SEEMP element of regulations. Also, under this scenario, without further support for developing nations and development of global tools and information exchange platforms, there is little hope for substantial technology and skills transfer from developed countries to the developing world. Within this context, the GEF support is sought to build on, catalyse shipping energy efficiency, optimize benefits from and maintain the momentum generated by the adoption of a global regulatory framework. The above forms the main rationale for seeking GEF funding on this important issues with significant benefits as described in **Section 1.5.3**.

To be effective, the GloMEEP project will concentrate on three key important areas:

- Policy development and legal and institutional reforms to prepare the groundwork and relevant infrastructures for significantly enhanced ship energy efficiency activities in related areas.
- Build the capacity; both human and institutional, to enable the selected countries to push forward the national agenda within the global IMO MEEF framework.
- Strengthen regional collaborative activities in relevant areas.
- Include ports to facilitate an integrated approach to the maritime energy efficiency issues.
- Enhance public-private partnership at national and international levels to back national capacity developments via securing support from major technology owners and private industry worldwide; ensuring a sustainable competitive approach to GloMEEP objectives and wider mitigation processes.
- Contribute to the implementation of the IMO MEEF in an effective way.

Based on the above rationale, it is expected that GloMEEP project will generate effective and sustainable outcomes and outputs.

2.2 Policy Conformity

2.2.1 International

GloMEEP follows directly the IMO international rules for ship energy efficiency as described under IMO MEEF (i.e. EEDI and SEEMP) that is now part of the MARPOL Annex VI of the MARPOL Convention. To date, MARPOL Annex VI has 76 Parties; representing about 95% of global shipping tonnage so in this respect the sectoral commitment to reducing the climate footprint of the shipping sector is truly at a global scale.

As a significant contribution to mitigating global climate change and ocean acidification, it also supports the commitment of countries participating in the project to meet relevant obligations under the UNFCCC. Specifically, the project directly supports UNFCCC Article 4(c), Commitments on "all Parties, taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances, shall….(c) Promote and cooperate in the development, application and diffusion, including transfer, of technologies, practices and processes that control, reduce or prevent anthropogenic emissions of greenhouse gases not controlled by the Montreal Protocol in all relevant sectors, including the energy, **transport**, industry, agriculture, forestry and waste management sectors;". All the beneficiary countries (i.e. LPCs) are those that have ratified/are parties to the UNFCCC.

2.2.2 IMO

As stated earlier, the GloMEEP project will directly support the wider implementation of international regulations and initiatives for improving the energy efficiency of maritime transport and reduction of shipping GHG emissions. This will mainly concentrate in effective implementation of the IMO MEEF that provides significant potential for reduction of shipping GHG emissions (see **Table 1.9**).

IMO recently launched the concept of "Sustainable Maritime Transport"[21] that identifies a number of key areas of development to achieve this including:

1. Safety culture and environmental stewardship
2. Education and training in maritime professions, and support for seafarers
3. Energy efficiency and ship-port interface
4. Energy supply for ships
5. Maritime traffic support and advisory systems
6. Maritime Security
7. Technical co-operation
8. New technology and innovation
9. Finance, liability and insurance mechanisms
10. Ocean governance

As can be seen, GloMEEP is in-line with the above policy context and supports items 1, 2, 3, 4, 7, and 8 from the above list and with significant relevance to items 2, 3, and 4.

2.2.3 GEF

GEF focal areas supported

The GloMEEP project primarily contributes to the Climate Change Mitigation (CCM) focal area and its GEF-5 Results Framework. However, due to the nature of the transport sector involved, the project also contributes to the International Waters (IW) Results Framework. A summary of these aspects are discussed.

[21] "A Concept of a Sustainable Maritime Transportation System", IMO publication, World Maritime Day, September 2013

Climate Change Mitigation Results Framework: Overall goal is to support developing countries and economies in transition towards a low-carbon development path. The long-term impact of GloMEEP will be the effective implementation of the IMO MEEF by the GEF eligible recipient countries and an improved energy efficiency culture in maritime industry; resulting in slower growth in shipping GHG emissions to the atmosphere and contribution to the ultimate objective of the UNFCCC, which is to achieve "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system."

- Aligning with **CCM-4 Energy Efficient, Low-carbon Transport**, GloMEEP is directly aligned to the promotion of energy efficient, low-carbon transport through an integral, global policy and regulatory framework, and promotes innovation and investment in less-GHG intensive transport for world trade. As discussed in **Section 1.4.2** on alternative scenario, GloMEEP is expected to catalyze the further uptake of IMO SEEMP in developing countries with significant quantitative GHG reduction potentials.
- Aligning with **CCM-1 Demonstration, Deployment and Transfer of Low-carbon Innovative Technologies,** the project will also deliver a work-stream of global industry alliances to set up global forums and technology deployment showcases; highlighting best practices, research and technology showcasing, technology orientation for ship design, case studies and guidance documents, as well as a forum to stimulate debate amongst stakeholders. Also, covering existing ships operational optimisation for energy efficiency including broader issues of marine ports management, vessel route planning and optimisation, just in time operation, fleet management as well as technology upgrade for existing international fleet. This work-stream, via the formation of a global industry alliance, will also aim to deliver a platform where technological development for efficient shipping championed by developed countries such as Republic of Korea and Japan will be showcased in North-South interactions, principally supported by the industrial developers of such technologies.

International Waters Results Framework: Promoting collective management of transboundary water systems and implementation of a full range of policy, legal and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services.

- Aligning with **IW-2 Large Marine Ecosystems** (LMEs) to catalyse multi-state cooperation to rebuild marine fisheries and reduce pollution of coasts and Large Marine Ecosystems (LMEs) while considering climatic variability and change. Specifically, the project supports IW-2 Outcome 2.3**: Innovative solutions implemented for reduced pollution**, rebuilding or protecting fish stocks with rights-based management, ICM, habitat (blue forest) restoration/conservation, and **port management and produce measureable results**.
- Under ocean acidification, excess anthropogenic CO_2 in the atmosphere accelerates acidification (pollution) in all of the world's LMEs (as well as the high seas) with associated impacts on LME and high seas ecosystems functioning and integrity. As the single largest ocean sector contributing to GHG emissions, climate change and ocean acidification, efforts to mitigate the climate footprint of international shipping will have substantial impacts on protecting all of the world's LMEs and the trillions in market and non-market ecosystem services derived from these ecosystems. At a more local level, the project also delivers benefits to LMEs and adjacent communities via reduced sulphur and nitrogen oxide emissions as well as decreased particulate matter emissions in localised areas with associated benefits to local air and seawater quality.
- The principal **IW-2 Outputs** being supported are **policy/legal/institutional reforms adopted**, e.g. the newly adopted national policies and legislation that meet the agreed international ship operation and design standards and serve to significantly reduce the carbon footprint of shipping and associated reduction in acidification of LMEs and the high seas, and **technologies and measures implemented in local demonstrations and investments**, e.g. the intial shipping energy efficiency technological deployment catalysed under Component 3. In the same manner that the GEF-UNDP-IMO GloBallast programme supported widespread national governance reform towards compliance with the new international regime and catalysed R&D innovation in ballast water treatment technologies, this project, through a number of concrete interventions, is

expected to help drive a global maritime sector transformation towards much more energy efficient ship design and operations

GEF Results Architecture

The GEF-5 results architecture identifies four broad, high-level strategic goals, each with a selected number of indictors and accompanying targets. Four strategic goals cover all activities under the mandate of the GEF; these strategies include:

- **Strategic Goal 1** - Conserve, sustainably use, and manage biodiversity, ecosystems and natural resources globally, taking into account the anticipated impacts of climate change.
- **Strategic Goal 2** - Reduce global climate change risks by: 1) stabilizing atmospheric GHG concentrations through emission reduction actions; and 2) assisting countries to adapt to climate change, including variability.
- **Strategic Goal 3** - Promote the sound management of chemicals throughout their lifecycle to minimize adverse effects on human health and the global environment.
- **Strategic Goal 4** - Build national and regional capacities and enabling conditions for global environmental protection and sustainable development.

The GloMEEP goals and objectives align to the strategic goals 1, 2 and 4 above via dealing with reduction of CO_2, via promoting ship energy efficiency, thus helping all the above strategic objectives in the form of:

- Mitigating the risk of climate change
- Reduced air pollution in coastal and port areas
- Less fuel consumption by shipping; thus reduced use of natural resources
- Building national capacities in 10 developing countries with strong international maritime impact.

2.2.4 GloMEEP implementation policy

Based on the above policy conformity, the GloMEEP project will provide an opportunity for GEF to pursue its environmental mandate related to reduction of GHG emissions and to follow up on its own strategic priorities related to enabling long-term policy reforms at country level. Without this GEF intervention, the extremely significant progress achieved by the IMO regulatory developments in the form of MEEF will not be capitalized via full participation of developing countries, and the global benefits may well be lost. Also, the project will provide additional confirmation of the catalytic role of GEF in demonstrating ways to overcome the barriers to the adoption of best practices for shipping energy use and GHG emissions reductions and will prove the effectiveness of GEF policy when addressing global problem.

GloMEEP project will provide a practical framework for the sustainable replication of marine energy management, ensuring that maximum benefits accrue from the foundation work achieved by the IMO through the adoption of MEEF. The aims and objectives of GloMEEP project will be a logical approach at MEEF implementation, with a focus on national policy and legal reforms in targeted developing countries and an emphasis on capacity building, technology deployment and an integrated management. The approach envisaged for the project would involve:

- Building on the achievements and momentum of IMO MEEF, and utilizing the capacity and talent generated during other initiatives such IMO-KOICA and IMO Technical Cooperation.
- Replication of best-practices and achievements in the LPCs with the view to stimulate legal, policy and institutional reforms at national level.
- Promoting international collaboration to facilitate the successful case examples of transfer of maritime energy efficient technologies from developed to developing countries.

Support for appropriate national institutional arrangements will be granted and regional mechanisms will be used as catalysts for supporting national policy reforms. Formalized communication systems through

identified national lead agencies will be developed. Some incremental investments will be supported by the project to support technology deployment for port and ship energy efficiency. Standardized protocols and methodology for conducting various national-level tasks such as country assessment and port energy surveys and analysis will be provided with assistance through instigating industrial partnerships.

Specific training on ship energy management and port operations will be provided, based on the training courses developed under IMO-KOICA initiative, with emphasis on various responsibilities under the new IMO MEEF international regulatory frameworks. Sustainable financial and institutional arrangements for the long-term management of ships' energy efficiency will be defined, including the mobilization of public and private sector funding.

In essence, the proposed GEF project will build on the findings, institutional settings and capacity developed under IMO MEEF developments, IMO-KOICA capacity building activities and IMO Technical Cooperation awareness-building so far. The results of this GEF intervention will include a reduction in the risk of air emissions from international shipping, a reduction in effect of shipping on climate change and better protection of marine and coastal ecosystems from the effects of ocean acidification.

The project will demonstrate practical ways of overcoming barriers to the adoption of best practices that minimise the GHG emissions through shipping vectors and will harness involvement of the UN agency (IMO) in implementation of its regulatory framework via enabling the most important developing countries in maritime affair.

2.3 GloMEEP Partnership

The process of selecting the LPCs to participate in GloMEEP has been open, inclusive and participatory; based on the interest of IMO Member States to take a lead pilot role, and assessment criteria as set out below.

The IMO Secretariat initially presented the project idea at MEPC 64 (October 2012) during a lunch time presentation and invited member Governments to indicate their preliminary interest in participation in the Project. Seven countries (Argentina, China, India, Jamaica, Malaysia, Panama and Philippine) officially expressed preliminary interest in participating in this pilot project. Based on this preliminary interest, subsequent analysis was done taking into account the following criteria:

- Geographical representation
- Role in maritime sector
- Existing capacity to implement such a project

As a result, three more countries (Georgia, Morocco and South Africa) confirmed that they would like to join in; thus taking the total partnership to 10 countries. The full analysis of this partnership with regard to various aspects of their maritime effort is provided in **Section 1.3**; indicating a strong partnership with significant global reach.

All LPCs have been consulted on the project during the development of this ProDoc. More details of consultation meetings are given in **Section 1.3.3**. LPCs have expressed commitment to GloMEEP via provision of "Letter of Commitment" as shown in **Section 7.3 (Annex 3)** to this ProDoc. The full list of the LPCs, their maritime status and role they have played is shown in **Table 1.2** (Also, refer to **Section 1.3** on LPCs analysis).

2.4 Project Description

2.4.1 Overview

GloMEEP project is formed as a truly global partnership that spurs government action and industry innovation and know-how in order to reduce the GHG emissions from international shipping and mitigate the adverse impacts of climate change and ocean acidification. While the reach is global, all of the intended outcomes, outputs and activities are directly focused at national levels towards improving

maritime institutions, technologies and operations as well as improved monitoring and impact mitigation in the participating developing countries.

The strategy takes its basis from the IMO MEEF development and the need to support developing countries in achieving goals set within the IMO MEEF. The vision includes at its core the Legal, Policy and Institutional Reform (LPIR) that need to be implemented in order to pave the way for effective use of resources for the purpose. The LPIR reform and implementation process is conceptualised in **Figure 2.1** where the requirement for capacity building and knowledge sharing and technology solutions are also highlighted at its central theme.

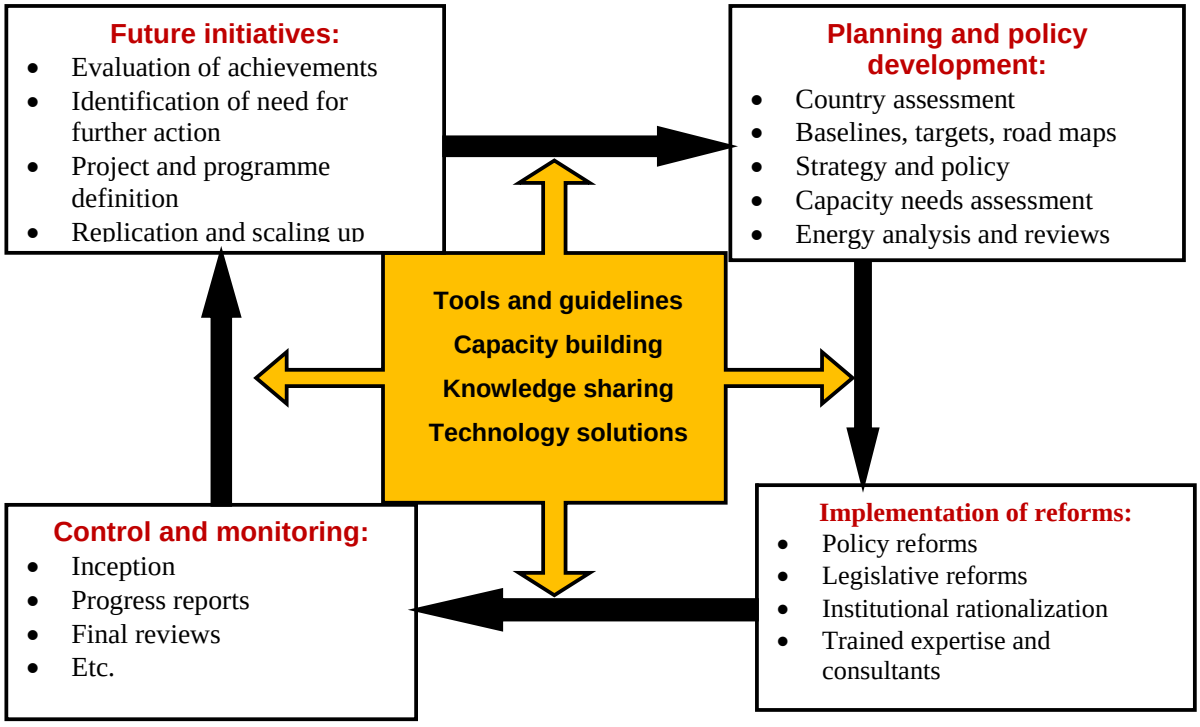


Figure 2.1 – LPIR process and need for capacity building and technology solutions

The project strategy therefore includes capacity building in a wider sense as relates to legal, policy, institutional and human capacities; all directed towards a long-term sustainable implementation of IMO MEEF; primarily in the developing countries.

2.4.2 Three-Tier implementation approach

To implement this policy, similar to the approach of the very successful GloBallast Partnerships project, a three-tier approach will be followed that would include:

1. A global component, managed through IMO, providing international coordination and information dissemination, including the development of toolkits and guidance documents, and establishing a strong cooperation with international maritime industry and NGOs[22].

[22] NGO engagement in project governance via inviting relevant NGOs, at international and national levels, respectively, to take part in GPTF (Global Project Task Force) that acts as a steering committee at global level and NTF (National Task Force) and NSW (National Stakeholder Workshops) at national levels. All efforts will be made to ensure the presence of NGOs at these levels.

2. A small regional component, providing regional activities that again will be managed through IMO. The regional activities are mainly in areas of information sharing, training, and capacity building in the application of ship energy management tools and guidelines plus energy efficiency technologies.

3. A significant country (national) component that establishes a fast track implementation for a number of GEF-eligible LPCs in the priority regions.

The three-tier approach is schematically represented in **Figure 2.2**.

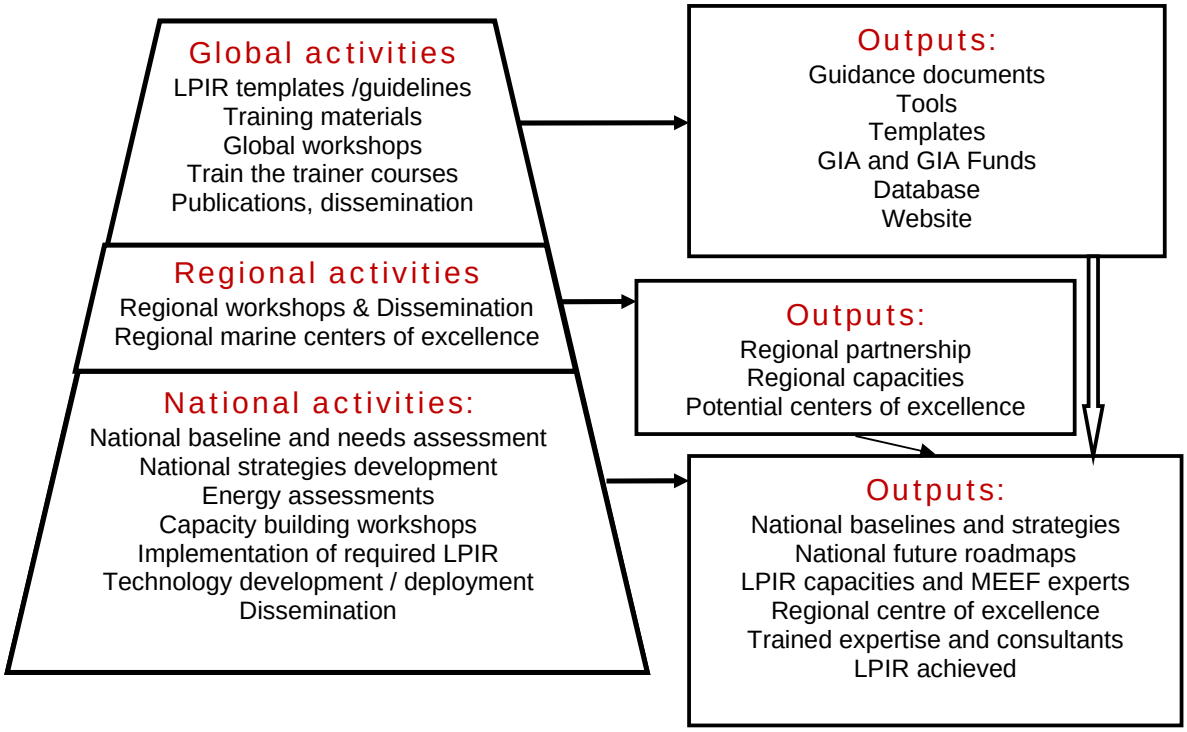


Figure 2.2 – Schematic of three-tier project activities and execution approach

Global component

The global component focuses on providing guidance documents, methodologies, templates and relevant capacity building to LPCs officials and experts on strategic planning and legal, policy and institutional reform, on the management of risk based compliance systems, and the carrying out of country assessments and baselines. In addition, global level activities include development of capacity building materials such as training courses, public awareness raising and the development of knowledge management systems including the development of a GloMEEP website. Of special note, the global component includes a major partnering effort with industry to form a Global Industry Alliance (GIA) that would aim to push for promoting energy efficiency technology deployment /showcasing efforts and widely disseminate the outcomes.

Regional component

The regional component of this project is relatively small due to the size of the project. Nevertheless, some regional activities such as capacity building activities (e.g. training workshops) will be undertaken at regional level. There will be no regional management structure or organisation for the project but decision on who will lead the regional efforts will be taken globally and executed by the national coordination entities in countries who undertake to host the regional activities.

Another regional aim of the project is to support identification of regional institutions that could act as centres of excellence for shipping energy efficiency. GloMEEP aims to identify such potential institutions and IMO is in negotiations with strategic partners that would support the development of the identified regional centres of excellence; with concerted regional efforts on various aspects of ship design,

technology, capacity building and operational GHG emissions monitoring; all aimed at improving shipping energy efficiency.

National component
The pre-eminent focus of GloMEEP activities is at the national level. It is recognized that international measures, such as the IMO MEEF, can set the stage and prepare the ground rules but it is at the national (and industry) levels where the real actions are taken to reduce the risks from ship-borne emissions including those detrimental to air quality and climate change. In particular, the national level activities are designed to provide the tools and techniques to enable LPCs to reform their legal, policy and institutional structures in order to establish a cost-effective approach to improved maritime energy management that will reduce the risks of shipping GHG emissions. GloMEEP will also help LPCs to carry out an assessment of the country status, develop country maritime energy efficiency policies as well as "roadmaps" on how to achieve LPIR, then by assisting pilot countries with their implementations as well as assisting them with partnering with leading industries in promoting the deployment of ship energy efficiency techniques and technologies.

Within the GloMEEP, a series of nation level actions will be carried out as given in detail in the next sections of this ProDoc. The relevant toolkits and guidance documents are foreseen to be developed at global level and then be rolled out to national level for implementation. Additionally, capacity building and private-public collaborations will be promoted for each LPC.

2.4.3 Project goals and objectives

The overall objective of GloMEEP project is to build capacity in developing countries for implementing the technical and operational measures for energy efficient shipping and to catalyze overall reductions in GHG emissions from global shipping,

The specific objectives of the project include the creation of a strong partnership and coordinated actions between 10 developing countries and, at each country level, systematically pursue:

- Legal, policy and institutional improvements via country assessment, policy development and future planning and road mapping.
- Building capacity (human and institutional) in area of shipping GHG reduction
- Create the foundation for public-private partnership for future energy efficient technology assessment and deployment.
- Accelerate and assure effective implementation of IMO MEEF, particularly in the developing countries where shipping is increasingly concentrated

The ultimate objective of GloMEEP is to assist developing states to implement sustainable methods and create an enabling national environment for reduction of shipping energy use and promotion of low carbon maritime sector in order to minimize the adverse impacts of shipping emissions on climate change, ocean acidification and local air quality.

While the long-term reach of GloMEEP is global, the project specifically aims to achieve this through developing the necessary guidance and capacity building tools as well as information exchange platforms, and piloting these interventions with the assistance and involvement of 10 GEF-eligible pilot countries who have already expressed official interest in joining this project.

The project will help to establish a long-lasting energy efficiency culture change by key maritime and other actors at national level and in addition transform these pilot countries to centres of excellence whose expertise and successful models can then be drawn on for regional and global replication of these efforts. These reforms and cross-cutting initiatives within the pilot countries will include not only demonstration of benefits of IMO MEEF implementation, but also compliance monitoring and enforcement for environmental integrity, and port and infrastructure planning for future low carbon shipping growth.

2.4.4 Project key Components and Outcomes

The GloMEEP project main components are:

Component 1 - Legal, Policy and Institutional Reforms (LPIR) for GHG reductions through Improved Energy Efficiency within Maritime Transport Sector in developing countries

GloMEEP will undertake a pilot-scale implementation of the IMO MEEF with the involvement of LPCs that will develop, adopt and implement legal, policy and institutional reforms related to MEEF. The global tools and guidance for LPIR will include guidance documents on country assessment, model legislations and guidance on compliance monitoring and enforcement methodologies and best practice. The national efforts will encompass a suit of activities relating to country assessment, maritime energy policy/strategy development, targeting and road mapping and legal reforms.

Component 2 - Maritime Sector Energy Efficiency Capacity-Building, Awareness Raising, Knowledge Creation and Dissemination

At the core of the project is long-term capacity-building and orientation in developing countries for the accelerated implementation of the IMO MEEF and adoption of best practice ships' technical and operational energy efficiency measures, leading to a material contribution to the reduction in the rate of growth of global GHG emissions from international shipping.

IMO has already begun laying the foundation for advancing this work through the development of comprehensive training packages on maritime energy efficiency and fuel economy through previously implemented IMO-KOICA project and other Technical Cooperation initiatives. While this will act as the basic tool for generating general awareness of the requirements and introductory training, through the GEF funded GloMEEP project, advanced training packages will be developed for the benefit of wider industry; and through their delivery capacitate national institutions and train a cadre of energy efficiency experts to champion energy efficiency imperative in the modern maritime sector.

Given that the majority of crews in international shipping come from developing countries, that about half of the constructed cargo ships tonnage is built in developing countries such as China, and that more than two third of all ships are registered in developing countries, advancing capacities in these countries is an overriding priority. This work-stream will engage in an evolving process of orientation, through workshops, case-studies and written materials, apace with innovation and technology, making use of the best practices highlighted in the other work-streams, as well as highlighting combinations of processes improvements and practices which work best for specific circumstances; and demonstrating real commercial benefits from implementation of such measures.

All topics including IMO energy efficiency regulations, implementation and enforcement, best practice ship design and operation, energy efficiency technologies and techno-economic assessment of such technologies will be covered as part of the capacity building workshops. This project component will also explore and identify successful green initiatives in developed countries in particular in relation to ports operation and will showcase those examples that are appropriate for developing countries, and convert energy efficiency into a commercial value proposition to be maximised by the sector at all levels.

Component 3 - Public-Private Partnerships to Catalyse Maritime Sector Energy Efficiency Innovation and R&D

The project will also aim to deliver a work-stream of global forums and partnerships highlighting best practices and research and development for maritime energy efficiency, technology orientation for ship design, case studies and guidelines, as well as promoting best practice ship operational energy efficiency measures including broader issues of ports management, vessel operation optimisation, fleet operation planning, and their application to specific circumstances of the participating LPCs.

This work-stream will be heavily biased towards engagement of private sector in order to deliver incremental support for a variety of shipping energy efficiency activities; primarily targeting the existing ship operational improvement for specific case of developing countries. As part of this work component, engagement with academia and the ship design and operation research-and-development community will take place via support from the private sector, delivering awareness of energy efficiency practices and

technologies across a broader audience, through a Global Industry Alliance (GIA) mechanism following the successful partnership model of the GIA for Marine Biosecurity developed by GEF, UNDP and IMO under the GloBallast Partnership project.

This work-stream will aim to deliver a platform where technological development for efficient shipping championed by developed countries will be showcased in North-South interactions, principally supported by the developers of such techniques. As part of this process, GloMEEP will aim to set up partnerships for deployment of energy efficient technology solutions, and removing related technology deployment barriers through GIA activities.

Under the auspices of the GIA, the project will encourage the development of a global database on energy efficient ship technologies, which will assist industry stakeholders to use it for related activities.

Component 4 – Monitoring, Learning, Adaptive Feedback and Evaluation

The project will establish global and national management structures to pursue the monitoring of the project via engaging the stakeholders, receiving their feedback, prepare and review various progress reports such as periodical reports and annual reports, carry out independent evaluation of the project and put in place communication system for feedback and learning from the GloMEEP experience. This structure will also ensure the involvement of various international and national stakeholders in steering the project's work plan in a collaborative and efficient way.

2.4.5 Project Outcomes, Outputs and Activities

The above project components will produce outcomes and outputs based on implementation of a number of activities. A detailed description of outcomes, outputs and activities is provided in this section.

The elaboration of outcomes, outputs and activities in this ProDoc have been developed consistent with the initial PIF document (reference GEF Project ID: 5508), taking into account the recommendations of the GEFSEC, and also comments and recommendations received during the LPCs consultation meetings that were organised in all the LPCs.

Table 2.1 presents the list of project components, expected outcomes and expected outputs in tabular form compatible with the original PIF.

Project Component	Expected Outcomes	Expected Outputs
1. Legal, Policy and Institutional Reforms (LPIR)	1. Pilot countries undertaking LPIR for MEEF implementation and acting as catalysts for increased uptake of MEEF by other developing countries at a global scale	1.1 Global tools and guidance for LPIR development including model legislations, guidance on compliance monitoring and enforcement methodologies and best practices; and guidance on energy efficiency calculation and analysis tools. 1.2 LPCs drafted national legislation in line with the international regulations on GHG emissions from ships; 1.3 LPCs integrated MEEF into port and infrastructure planning for future growth; 1.4 Global Tools (output 1.1.1) and pilot country experiences will be shared and disseminated at global level, thus laying the foundation for global actions on ships' energy efficiency, taking advantage of the unique opportunities due to international nature of shipping.
2. Capacity-	2. Enhanced awareness[23] and	2.1 Developed capacity-building tools and training courses on ships' EEDI and SEEMP;

[23] Enhanced awareness herein refers to promoting, as part of various capacity building, knowledge sharing and project's dissemination activities (e.g. under Output 2.2 on page 56), to wider maritime community nationally and globally, the importance of shipping GHG mitigation as a priority area, its high potential and feasibility and as the win-win scenario for environment and ship operation economy.

building, awareness raising, knowledge creation and dissemination	capacity to implement ship energy efficiency measures (operational, design) in the pilot countries	2.2 Created global knowledge sharing forums on energy efficiency within maritime sector including port infrastructure and logistics facilities; 2.3 Developed a pool of global trainers who have successfully completed trainer certification through "train-the-trainer" workshops 2.4 Conducted training workshops at national levels and integrated into national maritime academic and practical training curriculum 2.5 Capacity building for port management and port developments for energy efficiency
3. Public-private partnerships to catalyse innovation and R&D and technology transfer to meet the needs of developing countries	3. Enhanced dissemination of maritime Energy Efficiency related innovations through catalyzing knowledge sharing and collaborative efforts between international stakeholders.	3.1 Establishment of Global Industry Alliance (GIA) for MEEF as a private-sector collaboration platform; 3.2 Under the auspecies of GIA, catalyze the development and maintenance of a global database on energy efficient ship technologies and port facilities 3.3 Facilitate forums for private sector and technology developers for demonstrating application of energy efficiency measures and dissemination of particularly notable improvements in maritime transport efficiency technology and practices.
4. Monitoring. Learning, adaptive feedback and evaluation	4. Adaptive project management and coordination for implementation, monitoring and evaluation	Output 4.1 Project Management and coordination structures is in place at global and national levels Output 4.2 Project monitoring, evaluation and reporting systems established and implemented

Table 2.1 – Project's outcomes and outputs

To achieve the above outcomes and outputs, a number of specific activities will be undertaken within the course of the project. These activities were decided using the expected outputs, the outcome of consultation meetings; with consideration of project budget. **Figure 2.3** gives an overview of the GloMEEP components, outcomes, outputs and activities.

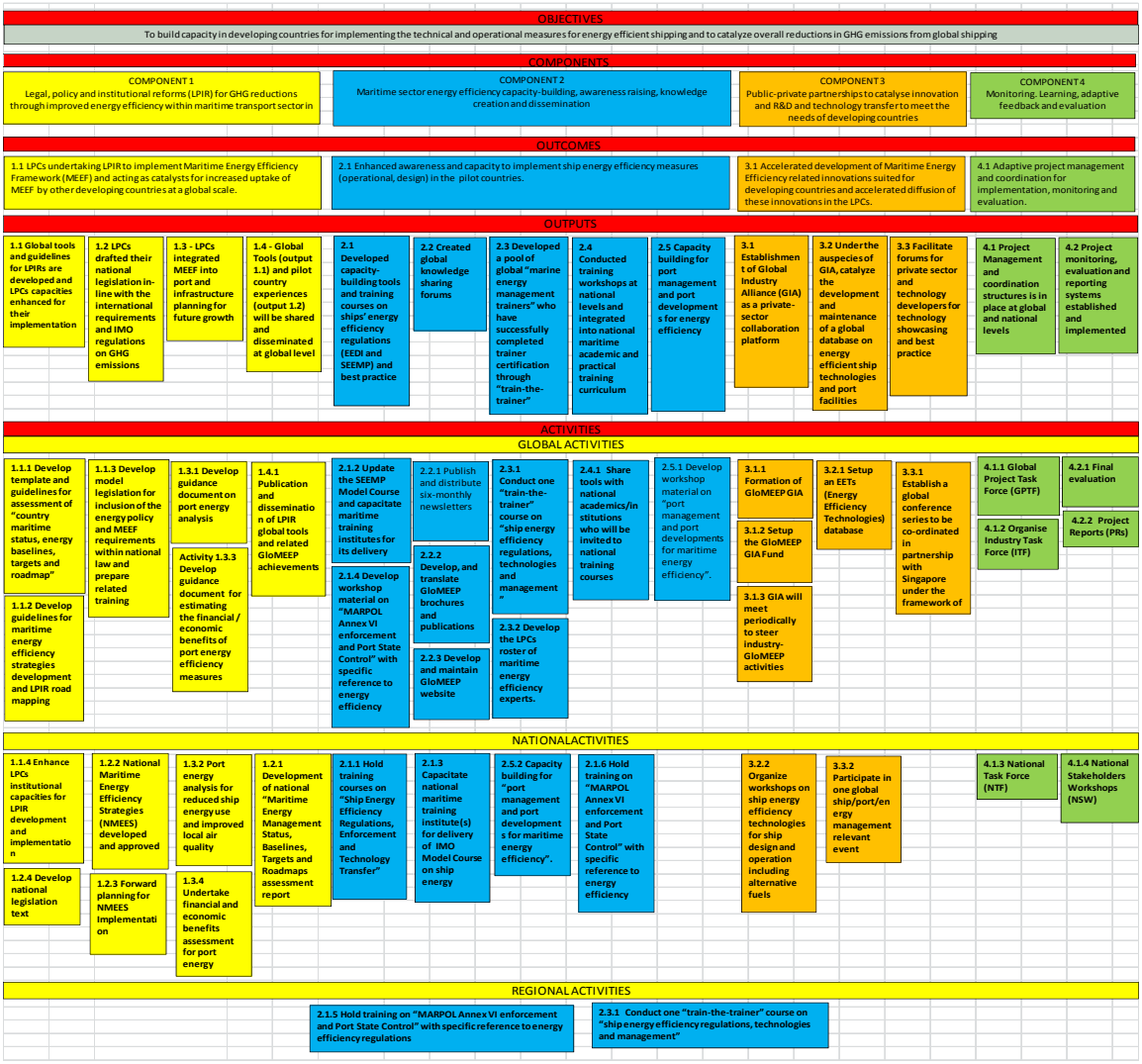


Figure 2.3 – Overview of project's outcome, output and activity

Outcome 1 - Pilot countries undertaking Legal, Policy and Institutional Reforms (LPIR) to implement Maritime Energy Efficiency Framework (MEEF) and acting as catalysts for increased uptake of MEEF by other developing countries at a global scale

The project is designed to assist the LPCs to develop, implement and enforce LPIR in order to improve the shipping energy efficiency and thereby mitigate the risk of ship exhaust emissions on climate change, local air quality, and ocean acidification. At project conclusion, each LPC is expected to have developed reports that clarify the country current status with regard to shipping and maritime energy efficiency and air emissions, future aspirations and a roadmap on how to enhance the country's status. Also, each LPC will develop its National Maritime Energy Efficiency Strategies/Policies (NMEES) in conformity with IMO MEEF and its other national or international obligations/requirements. This will then need to be translated into required legal and legislative requirements, development and implementation as well as an enhanced compliance, monitoring and enforcement system. This outcome is expected to be based on measures that ensure financial sustainability of the policies and legal system developed with consideration of market drivers with a view to internalising external cost of shipping.

To accomplish these, tools, methodologies and guidance documents will be developed first globally. Then LPCs' relevant capacity building activities will be provided to enable them to implement these global tools. Also support will be given to those national experts that are going to implement the developed tools

and guidance documents and undertake to prepare the country's status reports, future roadmaps and implement the LPIRs and other requirements. Additionally, the results achieved will be widely shared with international maritime community, subject to consent by relevant LPCs, in order to catalyse the implementation of similar activities in other developing countries.

Output 1.1 - Global tools and guidelines for LPIRs are developed and LPCs capacities enhanced for their implementation

Within the GloMEEP, all LPCs will undertake to do a number of studies in relation to their maritime status, policy, legal and other relevant baselines as well as gap analysis to identify future actions needed to enhance the LPC's status internationally and within the IMO MEEF current regulations and future developments. To support this process, initially and at global level, relevant generic guidance documents, tools, calculation methods and assessment processes will be developed. The tools and guidance for LPIR development will include model legislation texts, guidance on country assessment and baselines, policy development and road mapping, compliance monitoring and enforcement methodologies; these will be developed and the LPCs capacities will be enhanced for their implementation.

At the global level, the project will engage international consultants to develop and produce the tools, methodologies and guidance documents. It is expected that the same pool of consultants will be used to develop relevant capacities at each LPCs on the subject via rolling-out of the global tool as well as provision of base information on IMO MEEF to those who are going to be involved in various LPIRs activities. Additionally, the experience gained within KOICA project and in the GloBallast Partnership on LPIR developments will be utilised. Accordingly, the IMO will play a significant role in this Output; and will also use its internal resources as well as IMO MEPC as a vehicle to deliver this important Output.

Activity 1.1.1 Develop template and guidance for assessment of "country maritime status, energy baselines, targets and roadmap"

All LPCs will be assisted to prepare a country report on their "Maritime Energy Status, Baselines, Targets and Roadmaps (ME-SBTR)" (see *Activity 1.2.1*). For this purpose, global templates and guidance documents for the preparation of the report will initially be developed. The countries will then carry out their assessments using these resources.

These generic but detailed templates and guidance documents for country assessments will be developed early in the inception phase of the project and are likely to include guidance and methodologies for gathering the following for each LPC:

- General maritime data for the country:
    - General information on status of maritime industry.
    - Key national maritime stakeholders (e.g. ship owners, shipbuilders, class society, government agencies, R&D institutes, training institutes), their status and their national economic impacts, relevant institutional gaps, etc. Development of stakeholder maps will also be carried out.
    - Ship owners, their fleet characteristics, tonnages, trades involved, economic contribution, etc.
    - Ship builders or repair yards, their capacity, location and contribution to national economy.
    - Number, location, capacity etc. of international maritime ports and their traffic mix (e.g. oil, minerals, containers, tourists, etc.).
    - Maritime training centres and maritime education institutes and identification of those that can get involve in GHG mitigation from shipping.
    - Other segments of industry (e.g. bunker suppliers).

- LPIR aspects of the project:

- Identification of current policies and legislation governing energy management and GHG emissions and climate change.
- Identification of country's maritime policies and legislation including shipping, shipbuilding, and port developments.
- Key country's regulation-making and enforcement stakeholders' maps with regard to GHG emissions and maritime energy efficiency including those involved in LPIR.
- Country status with regard to MARPOL Annex VI ratification, relevant national legislation, actions already planned and in progress, etc.
- Gap analysis and identification of potential targets for LPIR and improvements.
- Development of the regulatory and legislative road map for the country's LPIR development.

- Maritime energy efficiency aspects:
  - Optional estimation of maritime energy use and emissions inventory including both national and international elements; if feasible. Also, types, quantities and sources of energy used by shipping.
  - Identification of the potential for reduction of maritime energy use and air emissions from national coastal vessels, deep sea ships and international vessel. Also, the roles that various stakeholders could play.
  - Relevant technology transfer and technical cooperation requirements.
  - Road-mapping for improving the LPCs status with regard to marine energy management, ships' energy efficiency, regulatory compliance and enhanced technology transfer environment.

The template and guidance documents would include sufficient details to enable the LPCs' experts to prepare their country report as stipulated in *Activity 1.2.1*.

The templates and guidance documents will be developed at global level and will include consultation with LPCs before finalisation. These are scheduled to be ready by end of Q2/Y1 of the project (see project's Work Plan). The templates and guidance documents will then be rolled out to each LPC via capacity building activity as outlined under *Activity 1.1.4* to prepare them for implementation. The roll out is scheduled to be complete by Q3/Y1. The PCU is tasked to carry out this activity, using international consultants, but will draw upon expertise from the PCU itself, IMO secretariat and LPCs, where deemed necessary or feasible.

Activity 1.1.2 Develop template and guidance for maritime energy efficiency strategies development and LPIR road mapping

In order for LPCs to launch their national policy-making and planning efforts (see *Activity 1.2.2*), it is important to provide them, early in the project, with a set of methodologies and recommendatory guidance documents on the strategic planning process, gap analysis and policy developments for mitigating GHG emissions and reducing shipping energy use. The guidance documents will address the following as a minimum:

- Country status with regard to maritime strategy / policy in general and maritime energy efficiency in particular.
- Identification of baseline data needed for developing maritime energy efficiency strategy/policy.
- The methodology for collection of baseline data; for use under *Activity 1.1.1*.
- A description of how the baseline data is going to be used for development of maritime energy efficiency strategy/policy.
- Templates and sample of typical maritime energy efficiency strategies/policies.
- Step by step guide for development of the maritime energy efficiency strategy/policy.

As indicated, templates and guidance documents will clarify how LPCs could carry out the activities that would lead to the development of the maritime energy efficiency strategy/policy for the LPC.

The templates and guidance documents will be developed at global level and will include consultation with LPCs before finalisation. These are scheduled to be ready by end of Q2/Y1 of the project. The templates and guidance documents will then be rolled out to each LPC via capacity building active as outlined under *Activity 1.1.4* prior to their use. The roll out is scheduled to be complete by Q4/Y1. The PCU is tasked to carry out this activity, most likely through international consultants, but will draw upon expertise from the PCU itself, IMO secretariat and LPCs, where deemed necessary or feasible.

Activity 1.1.3 Develop model legislation for inclusion of the energy policy and MEEF requirements within national law and prepare related training manuals

To support the LPCs with legislation-making and institutional reforms, model legislation together with relevant national "implementation/enforcement regulations" will be developed. The model "legislation" and "implementation/enforcement regulations" will be accompanied by guidance documents on how they should be customised to specific requirements.

This model legislation and relevant guidance documents will subsequently need to be customised for relevant countries as the legislative environment differs from one country to the other. The model legislation will therefore provide more a general framework rather than a detailed legislative text.

A significant effort was made and experience gained within the GEF-UNDP-IMO GloBallast Partnership project in the past on the development of guidance on LPIR. This experience will be fully utilised within GloMEEP to develop a legal roadmap for shipping energy efficiency as well as to develop a robust set of guidance documents on how to put in place the legal framework to mandate relevant activities.

The templates and guidance documents will be developed at global level and will include interaction with LPCs before finalisation. These are scheduled to be ready by end of Q2/Y1 of the project. The templates and guidance documents will then be rolled out to each LPC via capacity building active as outlined under *Activity 1.1.4* to prepare them for implementation. The roll out is scheduled to be complete by Q3/Y1. The PCU is tasked to carry out this activity, most likely through international consultants, but will draw upon expertise from the PCU itself, IMO secretariat and LPCs, where deemed necessary or feasible.

Activity 1.1.4 Enhance LPCs institutional capacities for LPIR development and implementation

Two national level capacity building workshops will be carried out in order to train experts from LPCs on implementation of the developed templates, guidance documents and model legislation as stated under previous activities. The delivery of these workshops will effectively mean the roll out of all the developed templates, guidance documents, methodologies under *Activities 1.1.1*.to *1.1.3* to the LPCs. The capacity building would include, inter alia, aspects such as:

- Shipping energy efficiency regulations, compliance and enforcement aspects. This will aim to raise awareness of experts, including legal experts, on MEEF and other related issues.
- Maritime energy policy and road mapping for LPIRs. The relevant parts of the developed templates and guidance documents will be included in this training activity and will be fully described with an step-by-step guide for implementation.
- Model legislation, implementation/enforcement regulation and relevant guidance with emphasis on how it could be customised to each country's requirements.
- Maritime energy analysis methodologies, emissions inventory calculation methods and ship and port energy reviews. The relevant parts of the global templates and guidance documents developed for this purpose will be included in this training activity.
- Maritime energy efficiency targets, technological and technology transfer aspects, road-mapping and their implementation.

The above will be organised such that LPIR experts and MEEF/SEE (Ship Energy Efficiency) experts could cover the relevant topics that relate to their specific expertise. This capacity building will aim to be interactive and hands-on so that it prepares the LPCs' experts for implementation of global templates and guidance documents for national LPIR.

The training will be carried out at national level. Efforts will be made to use the national experts as facilitators to the extent possible. At least one international expert per workshop will take part as facilitator and rolling out of the developed global templates, methodologies and guidance documents. Also, efforts will be made to invite experts from other IMO member states that are pioneers in establishing regulatory controls in similar circumstances. The involvement of maritime institutes in providing energy efficiency and legal expertise will also be encouraged. A short description of content of the workshop is provided below; however, the details will be developed during the GloMEEP implementation.

Workshop 1 - Maritime energy efficiency analysis, baselines, targets and road mapping

The main objective of this workshop is to prepare the LPC's experts to carry out related maritime energy efficiency technical activities and assessments within GloMEEP project. Fundamentals of IMO MEEF, shipping energy efficiency assessment methodologies, definition of baselines, development of technologically oriented policies for energy efficiency, technology transfer and GHG emissions abatement will form part of this workshop. The templates/guidance documents developed under *Activity 1.1.1* as well aspects of *Activity 1.1.3* will be included in this workshop.

The workshop content will generally include:

- Introduction to GloMEEP project: This will provide an overview of the GloMEEP and its objectives.
- Raising awareness on IMO MEEF (Chapter 4 of MARPOL Annex VI) including implementation and enforcement: This will be based on previously organised workshops under IMO-KOICA project. In any case and depending on the LPC status, this part of the workshop will be customised in consultation with the relevant LPC.
- Ship energy management: Including operational energy efficiency measures and barriers and their uptake. An overview of energy audit and ISO 50001 energy review processes will also be included.
- On maritime energy efficiency aspects:
    - Methodologies for estimation of maritime energy use and emissions inventory including both national and international elements.
    - Methods for quantification of the potential for reduction of maritime energy use and air emissions from national coastal vessels, deep sea ships and international vessel.
    - Relevant technology transfer and technical cooperation requirements.
    - Road-mapping techniques for improving the LPCs ships' energy efficiency.

Workshop 2 - LPIR development and implementing legal frameworks for shipping energy efficiency

One national workshop will be conducted per each LPC and will consist of the following major parts:

- Introduction to GloMEEP project: This will provide an overview of the GloMEEP and its objectives.
- Raising awareness on IMO MEEF (Chapter 4 of MARPOL Annex VI) including implementation and enforcement: This will be based on previously organised workshops under IMO-KOICA project. In any case and depending on the LPC status, this part of the workshop will be customised in consultation with the relevant LPC.
- LPIR development and implementation: This part of the workshop will address all issues related to development of the legal system, policy making, institutional reforms and how to implement them. The material for this part of the workshop will mainly be those developed under *Activities 1.1.2* and *1.1.3*.

The main purpose of this part of the workshop will be to train LPC policy developers and lawyers on developing legal frameworks for IMO MEEF implementation at country level and acquaint those involved in LPIR development on ship energy efficiency and climate change regulations and enforcement. Also make them fully familiar to relevant templates, guidance documents and model legislation.

Due to the overlap between the two workshops, and to save resources, the two workshops will run back to back with sharing of national consultants' expertise between the two workshops. Flexibility will be exercised on format of running the workshops from one LPC to other based on their specific requirements. These series of workshops will mainly run in Q3/Y1 and Q4/Y1. All efforts will be made to run these workshops as early as possible.

Output 1.2 LPCs drafted their national legislation in-line with the international requirements and IMO regulations on GHG emissions from ships

The status of LPCs in relation to ratification of MARPOL Annex VI and its embodiment in national legislation was discussed before and is shown in **Table 1.6.**

To fill the regulatory and legal gaps, relevant regulations and processes need to be developed and institutions assigned for their implementation. To achieve this, a number of activities will be carried out. The outputs of these activities will be a number of "national assessment reports", "national shipping energy efficiency strategy/policy" and "national legislative and regulatory" texts.

To produce the above documents in an efficient and at the same time inter-related way, this process will be encouraged via formation of an informal "National Project Team (NPT)" that would be a group of national experts in related matters. The NPT will comprise of the experts who will be considered responsible for final drafting and production of each deliverable for activities under this Output; however, the choice of NPT members will be left to each LPC to decide. The NPT will be a multi-disciplinary team with expertise of the following domains:

- MARPOL Annex VI expert with specific knowledge on IMO MEEF and ship energy efficiency
- Maritime law (MARPOL), policy and institutional development expert.

Additionally, the project's National Task Force will provide a close supervisory role on preparation of the deliverables via systematic review and discussion of the activities under this Output. To support the LPCs, relevant guidance documents are prepared at the global level (see ***Activities 1.1.1 to 1.1.3***), early in the project, for use by LPCs. Also, relevant expert capacity building will be made as outlined under ***Activity 1.1.4***.

Activity 1.2.1 Development of national "Maritime Energy Management Status, Baselines, Targets and Roadmaps (ME-SBTR)" assessment report

Country's maritime energy efficiency assessment will be carried out in terms of Status, Baselines, Targets, and Roadmaps (SBTR). A report will be developed by each of the LPCs clarifying the above elements of its national status. The report will include the following aspects:

- General status of the LPC in the maritime field.
- LPC's status with regard to MARPOL Annex VI, IMO MEEF implementation, national marine GHG emissions activities and national stakeholder in related areas.
- A discussion on LPC's contribution to international marine GHG emissions. As a minimum, a qualitative assessment should be provided but any quantitative approach will be welcome.
- Shipping energy efficiency status, characteristics, future targets, development needs and roadmap.
- LPC's status with regard to LPIR, gaps and future needs and roadmap.
- LPC's need for technology transfer and relevant requirements.

- Qualitative economic assessment of implementation of developed roadmaps.

It is expected that all LPCs in their ME-SBTR reports will have identified their key national issues with regard to shipping energy efficiency in the context of their contribution to marine GHG emissions, global fight against climate change, national undertakings for a healthy maritime industry and their top priorities and plans for reforms and technological advancement. Each will have developed relevant roadmaps and action plans for their future activities in areas of technical/technological/operational aspect as well as LPIR.

The ME-SBTR report is scheduled to be completed by end of Q1/Y2 of the project. National stakeholder consultation and securing their cooperation is fundamental to successful preparation of this report. National Stakeholder Workshops are foreseen as part of the national monitoring processes (see *Activity 4.1.4*) in order to set the stage for the strategic planning exercises by determining current status and key issues.

Also, as part of wider knowledge sharing, the LPCs will share their results and lessons learned with the other LPCs during the relevant meetings including as part of various project meetings or regional activities. Also, such sharing and dissemination of information will take place with wider global community using GloMEEP dissemination framework.

To carry out this activity in an effective way, each LPC will hire a national expert consultant to prepare the report; supplemented by local staff for data gathering and support. The costs associated with the hiring of external consultant will be borne by the GloMEEP central funds. All other relevant costs including stakeholders' engagement will be in-kind support through the LPC.

As part of any planning, consideration of economic consequences is important. Any reduction in shipping fuel consumption will have direct and significant economic and climate change impacts on the LPC and its stakeholders. To bring these benefits into perspective for each of the LPCs, it is intended that economic benefits of implementing the LPC roadmap needs to be assessed. This aspect will need to be highlighted in the country assessment report; albeit not in quantitative details as full quantification is out of scope of this activity.

Activity 1.2.2 National Maritime Energy Efficiency Strategies/Policies (NMEES) developed and approved

Each LPC will develop and approve its NMEES to demonstrate national directions, priorities as well as the political will for implementation of shipping energy efficiency. The NMEES should cover all major facets of shipping energy efficiency and management including legal and policy issues, institutional strengthening, regional cooperation, technical cooperation and technology transfer, port management, PSC enforcement, Flag State implementation, ship owners and ship management, ship builder and port and transport chain infrastructure and management. The NMEES should specifically address the steps needed for ratification and enforcement of the MARPOL Annex VI in particular its Chapter 4 on energy efficiency. Also, the NMEES should state strategies that the LPC will use to improve energy efficiency of its national and international ships. GloMEEP globally will provide support; training, tools and techniques, to help LPCs design and implement their NMEES (see *Activities 1.1.2 and 1.1.4*).

The LPCs will complete NMEES report by the end of Q1/Y2 of the project. It is assumed that the developed strategies will need to be approved by authorities to demonstrate a reasonable level of political will for their implementation. During LPCs' consultations, concerns were raised that due to short time span of project, this will not be possible to happen at ministerial levels or above. The NMEES in approved form shall be in place by end of Q3/Y2 of project.

This outcome will be achieved through a step-wise process that starts from the development of guidance documents (*Activity 1.1.2*), followed by capacity building (Activity 1.1.4) and assignment of consultants. The strategy/policy will need to be linked to national ME-SBTR assessment report as well as to other national requirements and the country's international obligations relating to GHG emissions abatement or mitigation efforts. In developing the shipping energy efficiency strategy/policy, due consideration should be given to economic justifications and address issues such as economic impacts, implementation costs

and resources requirements, legislative reforms, compliance monitoring and enforcement, and the likely institutions involved in driving the NMEES. Approval of NMEES by country's authorities will indicate that political objectives and determination is in place; this will give a strong signal for implementation of the strategies at other levels.

Flexibility will be exercised in the GloMEEP with respect to the timing of NMEES development and drafting of national legislation/regulations. Countries may take the path of approving strategies that drive legislative change, or may implement new legislation that enables the strategy to be approved and implemented. The LPC's ME-SBTR assessment should identify the procedure that the LPC plans to take. It should be noted that status of ratification of the MARPOL Annex VI will have a bearing on the route that LPCs decide to take.

Strategies should include a summary of the ME-SBTR assessment findings, a set of strategy options considered, the preferred options for government approval, and the means to continue the program after the conclusion of GloMEEP project. The PCU will provide global support to the LPCs for technical assistance on the NMEES effort. NMEES, inter alia, should have specific references to the following aspects:

- For LPIR:
    - Institutional controls, coordination, capacities and their evolution
    - Current and proposed legislation and regulatory revisions
    - PSC requirements and enforcement mechanisms

- For wider maritime industry:
    - Future position/vision for the LPCs maritime industry nationally and internationally.
    - Evolution of ship operation and ship building sectors energy efficiency
    - Port management aspects including energy use and GHG generation by ports and green port initiatives

- For economics consideration:
    - Methods of raising financial means to administer the implementation of strategies.

To reach to a successful NMEES, it is important to seek views of the national stakeholders. For this purpose, LPCs will organise the National Stakeholders Workshop (NSW) as specified under *Component 4* of the project.

Activity 1.2.3 Forward planning for NMEES Implementation

With national ME-STBR and approved NMEES in place for each LPC, the task of implementation of NMEES will concentrate on LPIR, capacity building and national-international private sector involvement; all aiming at improving the LPCs status with regard to implementation of IMO MEEF and wider market-driven shipping energy efficiency. The plan is to start the implementation of the NMEES elements related to GloMEEP within the course of the project. However, due to the short-term and medium-size nature of the GloMEEP versus the significantly more efforts needed beyond GloMEEP in achieving low-carbon shipping as a medium-term to long-term approach, it is expected that implementation of the developed strategies will go beyond the course of GloMEEP. Based on this, GloMEEP intends to achieve the planning aspects needed for the future strategies/policies implementation.

Under this activity, the developed ME-STBR and NMEES will be used to do forward planning for the LPCs' activities beyond the GloMEEP pilot project. LPCs together with PCU will be responsible for this activity and undertakes to review the above two reports and do the planning at national level (by each LPC) and a consolidated forward plan for a follow-up global effort by the IMO potentially in partnership with the GEF. The outcome will be discussed at global project meetings (e.g. GPTF meetings, see **Section 4.1.1**) to ensure consensus on the forward plan.

Activity 1.2.4 Develop national legislation text

The implementation of effective shipping energy management strategies will in most cases entail the need to enhance national legal and institutional structures. The GloMEEP project includes development of a generic legal framework for implementation of MARPOL Annex VI with specific reference to IMO MEEF and shipping energy efficiency (see *Activity 1.1.3*), supported by legal training on maritime and climate change and maritime legal issues (see *Activity 1.1.4*).

Developing and implementing proper national legal instruments will enable countries to implement the strategies, plans, roadmaps in support of shipping as a whole and its contribution to mitigating climate change risks due to international shipping. As part of this development, efforts will be made at the national level, to link the shipping energy management regulations to national and international GHG emissions control conventions/regulations; and improve ship energy management compliance and enforcement.

While the short-term output will be the development of a draft text of a national legislation, the longer-term objective is to develop effective legislative frameworks in each of the LPCs backed up by "national regulation" for "on the ground" implementation and enforcement. This will ideally include ratification of the MARPOL Annex VI, its implementation and enforcement. In this way, LPCs can enhance their legal systems and develop strategies that enable an efficiency-based approach to mitigating climate change and impact of shipping.

The LPCs are expected to complete this task no later than the Q3/Y2 of the project. It should be noted that there are differing legal structures in different LPC country. Also, based on **Table 1.6**, the participating LPCs are at different stage of adopting MARPOL Annex VI and its implementation and enforcement. Therefore, this activity is expected to have a varied scope of work from one LPC to the other.

Output 1.3 Pilot countries integrated MEEF into port and infrastructure planning for future growth

Ports and logistic organisations are important to shipping. In order to include this important sector into shipping energy efficiency efforts, a number of activities are foreseen for those LPCs that may be keen to link port and infrastructure development to growth of their shipping. Many countries, in particular developing countries, are involved in port and infrastructure developments to support global trade. Such a development has impacts on shipping activities and maritime GHG emissions. Ports could be an important element of maritime energy strategies in terms of ship management for just-in-time operations, provision of environmentally friendly fuels, in-port energy efficiency, in-port renewable energy production and so on.

A number of activities are foreseen as the starting point for a close investigation of ports and their impact on shipping energy efficiency. For this purpose, a limited number of ports will be selected and analysed in relation to their emissions and impacts on shipping energy efficiency. The relevant Energy Efficiency Measures (EEMs) will be identified through a technical energy analysis/review and economically analysed to estimate their cost-effectiveness.

The choice of countries for relevant port-related activities is based on the PPG consultation process results and included the following criteria:

- LPCs with important and strong maritime policies on port development and pot business (e.g. Jamaica and Morocco) are given priority.
- LPCs where there is strong link between Maritime Administrations and Port Authorities are given priority. In some LPCs, and due to the way shipping and ports are managed, there is a disconnect between port authorities and maritime administrations governance, thus these countries could not commit carrying our significant activities in this area due to governance issues (e.g China and India).
- LPCs where there is already port-related activites and they expressed to extend these to energy efficiency activities (e.g. Malaysia).

- Resources constraints of the project that did not allow for a large number of port-related investigations in all; thus generally limited activities to one country in each region.
- For port-related energy efficiency capacity building, the above criteria were relaxed so that more countries could take part in such activities.

To carry out relevant activities, the global guidance documents and templates will be developed and then used for "port energy efficiency analysis and reviews" and other purposes.

Activity 1.3.1 Develop guidance document on port energy analysis

Under this activity, guidance documents, procedure, templates will be developed in support of carrying out the operational management and infrastructure developments analysis of a port from a ship's energy efficiency point of view. This analysis will include, inter alia, the following areas:

- Port ship traffic including statistics on number of ship calls, types of ships, their flag, etc.
- Times in port (possibly according to ship type and size) including port stays and its breakdown, level of deviation from just in time operation and main reasons for these deviations.
- A simple model for quantification of fuel consumption and exhaust emissions for the ships while in port jurisdiction; using ship traffic data.
- Guidelines for identification of relevant EEMs and their techno-economic analysis.
- A list of port financial incentives and other green port initiatives including their financial implications.
- Best practice port management for just-in-time ship operation.

These guidance documents will support the port operators and developers in considering ship energy efficiency as part of their operation management and future investments.

The guidance documents will be developed globally by international consultants, with expertise in port development/management with collaboration with a MEEF/SEE expert. The guidance documents will be disseminated to LPCs via a national capacity building activity (workshop) for each LPC as outlined in *Activity 2.5.2*.

Activity 1.3.2 Port energy analysis for reduced ship energy use and improved local air quality

Under this activity, a limited number of ports will be the subject of detailed energy analysis with a view of proposing methods to support ships energy saving, improving port air quality and making port greener with regard to air emissions. The energy analysis will be carried out according to guidance provided in deliverable of *Activity 1.3.1*.

As a result of this activity, relevant ship-related port EEMs will be identified, analysed, documented and proposed for future actions. Issues relating to infrastructure development and port management systems will also be included in this port energy review. One of the outcomes of this energy analysis will deal with infrastructure development and how it could support MEEF compliance and other shipping energy efficiency initiatives.

Within GloMEEP, port energy analysis will be carried out for 3 ports (Jamaica, Malaysia and South Africa; each country one port). This list is chosen based on the consultation meetings held with each LPC. In executing this activity, support from international consultants will be provided using GloMEEP funding. Additionally, as the demand for this activity is expected to be extended as a result of resource availability, the plan is to seek additional industry support via GIA (see *Component 3*); either cash or in-kind expert support. For the purpose, some port authorities will be approached to join in the GloMEEP GIA as explained under Component 3.

The PCU, with consultation with the respective LPC's National Lead Agency (NLA) will decide on the exact course of action for each port. In any case, local experts will be included in supporting this study. The reports will be shared with other LPCs and wider GloMEEP stakeholders; subject to consent by the corresponding LPC and their port authority (otherwise, the documents will be shared within GloMEEP only). Also these deliverables would be used for the relevant capacity building activities (*Activity 2.5.2*); subject to the aforementioned consent.

Activity 1.3.3 Develop guidance document for estimating the financial / economic benefits of port energy efficiency measures

Under this activity, guidance documents, procedure, templates will be developed in support of carrying out the financial and economic benefits of port energy efficiency measures. The guidance documents should include economic elements such as shipping fuel cost and CO_2 emissions, impacts on port air quality, investment requirements by various parties, system development for collaborative working practices between ships and ports as well as slow steaming in approach to ports and territorial waters.

These guidance documents will support the port operators and developers to evaluate the proposed energy efficiency and emissions reduction options. The guidance documents will be developed globally by international consultants; contracted by PCU. It will be disseminated to LPCs via the national capacity building workshop under *Activity 2.5.2*.

Activity 1.3.4 Undertake financial and economic benefits assessment for port energy efficiency

The reports prepared as a result of *Activities 1.3.2 and 1.3.3* will form the basis for carrying out this economic analysis. Under this activity, the EEMs identified for the ports under *Activity 1.3.2* will be the subject of detailed economic assessment. These EEMs will be further analysed via estimating their impacts on reduction of fuel consumption and exhaust emissions as well as the cost elements. The financial analysis will be carried out according to guidance document developed as a result of *Activity 1.3.3*.

Within GloMEEP, the financial analysis of port-related energy efficiency measures will be limited to two ports (Jamaica and Malaysia). This list is chosen as a result of LPCs consultation meetings. In executing this activity, support from international consultants will be provided using GloMEEP funding. Additionally, in-kind support from local experts will be provided (from port for which this analysis is going to be performed). The local expert will provide support with port details and information.

The PCU, with consultation with the respective LPC's NLA, will decide on the exact course of action for each port. The reports will be shared with other LPCs and wider GloMEEP stakeholders; subject to consent by the corresponding LPC and their port authority (otherwise, the documents will be shared within GloMEEP only).

Output 1.4 - Global Tools and pilot country experiences (output 1.2) will be shared and disseminated at global level

All the developed global templates, methodologies, guidance documents and national deliverables (country assessment, strategies/policies, legislative framework, LPIR results, etc.), all developed under *Component 1* of the project, will be shared between LPCs themselves, and wider maritime community. A number of methods will be used for dissemination of these deliverables:

- Publication of developed global tools and guidance documents wide circulation to global maritime community; in both soft and hard copies.
- Inter-project workshops: A large number of capacity building workshops are foreseen within the project. These gatherings will be used as a vehicle for dissemination of relevant documents to participants as well as the host country. Formal presentations on important and relevant topics will be planned for each workshop to inform the participants of the deliverables content.

- Use of project website and other dissemination activities as outlined under *Component 2* of the project.

Activity 1.4.1 Publication and dissemination of LPIR global tools and related GloMEEP achievements

This activity will concentrate on documenting and disseminating the achievement of the GloMEEP LPIR achievements and documents. The relevant documents will be published by the IMO centrally and will be disseminated to wider international maritime industry. As a minimum, the developed tools and guidance documents will be shared widely for future use by those countries that are outside of the GloMEEP. They will also be used for developing countries that plan to become a party to MARPOL Annex VI. LPCs' reports will be circulated to wider maritime stakeholders if consent by the LPC is granted; otherwise they will remain within GloMEEP partnership.

MEPC meetings will be used to disseminate the GloMEEP achievements to wider maritime community as this creates a significant opportunity for dissemination purposes. During GloMEEP, three MEPC meetings will be organised by the IMO with a general participation of about 900 maritime experts and officials plus staff from ministries of environment, transport and climate change from member states, industry associations, NGOs and so on.

Outcome 2 – Enhanced awareness and capacity to implement ship energy efficiency measures (operational and design) in the pilot countries

Within GloMEEP, human capacity building and knowledge-sharing is an expected outcome. This will be directed not only to increase public awareness, improve understanding of shipping GHG emissions impact on climate change and ocean acidification but also aims to enable enhanced communication and knowledge-sharing between key stakeholders at national, regional and global levels.

GloMEEP capacity building will have a major element of developing expert knowledge at national levels with a main target of promoting a "Group of Experts on Shipping Energy Efficiency (GESEE)" in various LPCs that could act as the main human resource to champion sustainable future activities on the subject at national and regional levels.

The capacity building activities will be a natural progression of the previously IMO-KOICA project that ran from 2011-2013, and has been judged as a successful initiative for its awareness raising efforts in a number of countries in the South East Asian region. Also, it will build on the IMO ITCP activities worldwide on issues relating to MARPOL Annex VI, energy efficiency regulations, best practice and technology transfer. All relevant resources, workshop materials and the already created capacities will be used within the GloMEEP project.

Recognizing the expertise that was developed during the IMO-KOICA and IMO ITCP initiatives, a number of new training offerings will be developed and delivered; using international experts as well as those from the participating LPCs. To enable full use of the capacities developed under IMO-KOICA and IMO ITCP initiatives, a roster of those from LPCs who has so far participated in energy efficiency related workshops will be compiled. As part of preparation of this roster, potential national candidates (at each LPC level) will be identified for participation in GloMEEP implementation; with specific capacity building plan for these candidates as part of general capacity building activities of the GloMEEP project.

This human capacity building and knowledge-sharing outcome is subdivided into three discrete outputs:

- The first involves efforts to build a better understanding of the MARPOL Annex VI, IMO MEEF (EEDI and SEEMP), best practice eco-ship design and operation and socio, ecological and economic impacts of shipping and climate change. This involves continuation, refinement and expansion of the IMO-KOICA and IMO ITCP capacity building activities.
- The second output will establish the GloMEEP website and other communication and publicity mediums, designed to provide useful data and information to various stakeholders, both inside and outside of GloMEEP, including the shipping industry using electronic / internet formats and platforms.

- The third output involves dissemination of information and knowledge developed within GloMEEP across LPCs as well as GIA members for a more effective implementation of GloMEEP.

The training aspects of capacity building activities will generally be conducted as workshops with full interaction via participants. There will be pre-workshop activities and post-workshop evaluations in each case to ensure active participation of trainees in debates and ensure future improvements via feedback and learning.

Output 2.1 Developed capacity-building tools and training courses on ships' energy efficiency regulations (EEDI and SEEMP) and best practice

Under this output, a number of activites will be carried out to update/enhance the already existing training materials developed under IMO-KOICA and IMO ITCP initiatives. Also, new training and worshop materials will be developed for the new capacity building activities. The full list of trainings that will be offered within the GloMEEP, based on consultation meetings with the LPCs, are given in **Table 2.2;** this includes a summary description of each course and main characteristics. The details programme and sylabus of each training workshop will be prepared as part of the GloMEEP implementation.

Title	Type (no.)	Main aim and description	Participants profile
MARPOL Annex VI - Ship energy efficiency regulations and flag State implementation (2 days) with an optional extra day on technology transfer for ship energy efficiency	National	• Raise awareness amongst stakeholder. • Provide details of regulations on Attained EEDI, Required EEDI, SEEMP, relevant guidelines and compliance options. • Deal with flag State surveys and certifications; requirements, procedures, ship model testing, speed trials, industry guidelines and best practices. • Introduce the IMO regulations and activities on technology transfer and technical cooperation, technology transfer fundamentals and its application to shipping, regional or national needs assessment for technology transfer.	• LPC's GloMEEP implementation resources and project team. • Maritime administration staff in particular those involved in survey and certification. • Ship builders • Class societies • Towing tank organisations
Capacitate national maritime training institute(s) for delivery of IMO Model Course on ship energy efficiency	National	• Targets the "maritime training centres" engaged in seafarer training. • Explain the full details of the model course including technical aspects and pedagogic aspect. • Deliver a set of training material and make sure that participants become familiar to deliver locally.	• LPC's GloMEEP implementation resources and project team. • LPC training centres' trainers/lecturers
MARPOL Annex VI enforcement and Port State Control with specific reference to energy efficiency regulations	Regional / National	• Raise awareness amongst stakeholder. • Provide an overview of MARPOL Annex VI with specific reference to regulations on ship energy efficiency. • MARPOL Annex VI enforcement • Introduction to PSC MOUs and how they operate.	• LPC's GloMEEP implementation resources and project team. • Maritime administration staff in particular those involved in PSC inspections • Ship owners and managers. • Port personnel.

		• PSC procedures and case studies.	
Train-the-Trainer course on "ship energy efficiency regulations, technologies and management"	Global by WMU and regional	• Training for GESEE developments. • Provide technical and pedagogic training combined. • Provide an overview of MARPOL Annex VI with specific reference to regulations on ship energy efficiency. • Technical and operational measures for ship energy efficiency.	• Maritime administration staff in particular those involved in training activities on MARPOL Annex VI. • LPC national experts who are involved in maritime training.
Port management and port developments for maritime energy efficiency	National	• Role of ports in ship energy efficiency. • Onshore Power Supply. • Bunkering and ports • Shipping air emissions to ports. • Port management and operation for reduced shipping air emissions. • Port developments for shipping energy efficiency • Green port initiatives	• Port staffs who deal with ship operation management or loading/unloading. • Ship owner and managers personnel.

Table 2.2 – Energy efficiency capacity building activities

The upgrade of existing training packages and the development of new training packages will be done at the global level under the auspices of the PCU. The execution of the training workshops will be facilitated by international consultants, IMO technical officers and local members of GloMEEP GESEE as joint facilitators.

Activity 2.1.1 Hold training courses on "Ship Energy Efficiency Regulations and Flag State Implementation" including an optional extra day on technology transfer for ship energy efficiency

This course aims at awareness-raising and knowledge enhancement for mainly the following groups of experts:

- Candidates that are going to be engaged in GloMEEP project implementation.
- Maritime administration staff in particular those involved in MARPOL Annex VI survey and certification.
- Ship builders and Class Societies personnel who are engaged in EEDI compliance and certification.

It will be offered as a national workshop; aligned to specific requirements of each LPC. In general, the training content will include, inter alia, the following topics:

- An overview of MARPOL Annex VI, GHG emissions and climate change issues.
- Details of IMO MEEF regulations including Attained EEDI, Required EEDI, SEEMP, relevant guidelines and compliance options.
- Flag State surveys and certifications including requirements, procedures, ship model testing, speed trials, industry guidelines and best practices.
- Technology transfer for ship energy efficiency including IMO technical cooperation, technology transfer fundamentals and its application to shipping, industry views, intellectual property and financing issues, regional and national needs identification via group brainstorming, etc.

Based on the LPCs' consultations, a total of 7 training workshops are planned within GloMEEP and a total of 30 people are expected to participate in each. The workshops will be facilitated by an international expert, the PCU itself, IMO technical officers and local members of the GloMEEP GESEE.

Activity 2.1.2 Update / refine /translate the IMO Model Course on ship energy efficiency

For maritime training institutes worldwide, IMO has also developed a series of model courses which provide suggested syllabus, course timetables and learning objectives to assist instructors develop training programmes to meet the STCW Convention standards for seafarers

Within the IMO MEPC activities, a "Model Course on Energy Efficient Operation of Ships" has already been developed[24]. This Model Course aims to assisting training providers and their teaching staff in organising and introducing new training courses or updating and supplementing the existing training materials. The model course is more like a training guide with the course duration given as indicative; allowing for parties to modify to suit a respective training scheme.

With the flexibility and generality provided by existing Model Course, within GloMEEP, this Model Course will be evaluated, customised to GloMEEP requirements and teaching material will be prepared. The aim will be to make it mainly for ship-board staff training purposes by the maritime training institutes. The resultant course will be delivered in all the LPCs as national workshop to capacitate the national institutes in this area (*Activity 2.1.3*). Lessons learned and the training material then will be passed to IMO for consideration of improving the existing Model Course or create a new Model Course. The IMO Model Course development is not foreseen as a GloMEEP activity.

It is worth noting that IMO does not approve training courses or training institutes. This is a privilege and responsibility of Member Governments who are Parties to the STCW Convention. Nevertheless, it is possible under the GloMEEP project to identify and encourage maritime institutes to expand their capacities in order to be prepared for providing training services for ship energy management, once this Model Course is developed under IMO STCW. These institutes can also investigate other courses delivered by GloMEEP and choose to deliver them as part of the regular curriculum. It is expected that by the end of GloMEEP, each LPC will have one training institute with capacity to deliver energy efficiency related trainings.

Activity 2.1.3 Capacitate national maritime training institute(s) for delivery of "Energy Efficient Operation of Ships" Model Course

The capacity building of the national maritime institutes to deliver trainings on ship energy efficiency to seafarers will be carried out under this activity. The outcome of *Activity 2.1.2* on "energy efficient operation of ships" Model Course plus other relevant GloMEEP training materials will be delivered to relevant trainers of the maritime institutes to enable them to provide such trainings to seafarers.

The content of this training will be decided during the GloMEEP implementation; however, it will be aimed at energy efficient ship operation and relevant trainers for seafarers.

One national training workshop per LPC is planned with a participation of 30 people. As per other GloMEEP workshops, it will be facilitated by an international expert consultant and local members of the GloMEEP's GESEE.

Activity 2.1.4 Develop workshop material on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations

This training course aims at awareness-raising and knowledge enhancement for mainly the following groups of experts:

[24] Model Course 4.05 "Energy Efficient Operation of Ships", 2014 Edition, IMO.

- Candidates that are going to be engaged in GloMEEP project implementation.
- Maritime administration staff in particular those involved in PSC inspections.
- Ship owners, ship managers and port staff dealing with environmental regulatory compliance.

The training will be offered mainly as a regional workshop funded by the IMO ITCP and other related donor funds provided to IMO. In general, the training content will include, inter alia, the following topics:

- An overview of GHG emissions and climate change issues.
- MARPOL Annex VI regulations: Chapters 1 to 3.
- MARPOL Annex VI Chapter 4 regulations on EEDI, SEEMP and certification and compliance documentation.
- MARPOL Annex VI PSC guidelines and processes.
- Step by step procedure and checklists review for MARPOL Annex VI PSC.
- Methods of dealing with non-compliances.

The training materials will be developed globally by experts in the field.

Activity 2.1.5 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations

The training course developed under *Activity 2.1.4* will be delivered in 3 GloMEEP regions (Central and South America, Africa and South East Asia) as regional workshops. This is compatible with the nature of PSC that require significant regional coordination as embodied in the PSC MOUs as has already been explained.

As indicated, a total of 3 regional workshops, one per GloMEEP region (Latin America, Africa and Asia), are planned within GloMEEP and a total of 20 participants per workshop will get trained. The workshops will be facilitated by an IMO staff, an international expert consultant and regional members of the GloMEEP's GESEE.

Activity 2.1.6 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations

This activity is similar to *Activity 2.1.5*; but the implementation will take place at national level as two countries requested, during national consultations, one extra national training on this subject. The same training material as that of *Activity 2.1.5* will be used for this purpose but will be customised to requirements of individual countries.

Output 2.2 Created global knowledge sharing forums on energy efficiency within maritime sector including port infrastructure and logistics facilities

This output is designed to ensure that interested stakeholders and the industrial players and general public in all LPCs stay informed of the shipping GHG issues, regulatory developments, GloMEEP progress, activities and status. This output will serve to capture all project activities, create and disseminate related printed and visual media, including newsletters, pamphlets and posters. In particular, these series of activities are designed to provide wider exposure to the previous documentations produced under IMO-KOICA project as well other identified publicity products in-line with GloMEEP objectives.

Activity 2.2.1 Publish and distribute six-monthly newsletters

The PCU will take responsibility to publish the GloMEEP newsletter on a six-monthly basis. The newsletters will provide updates and features, with each issue spotlighting different LPCs activities,

highlighting important aspects such as technology showcasing, featuring LPCs that are ratifying and implementing the energy efficiency regulations, updating regulatory developments and so on.

A mailing list will be developed for wider circulation. Also the GloMEEP website will be used for wider availability of GloMEEP produced public documents in order to minimize printing costs. The newsletters will be sent to regional and local partners with a request that they make additional translated and printed copies available through their mailing lists.

Activity 2.2.2 Develop and translate GloMEEP brochures and publications

A number of publications (posters, videos, reports, booklets, etc.) are already in existence on shipping, energy efficiency and climate change. For example, some of these originated from IMO-KOICA initiative. This activity will entail use of these materials as well as the development of GloMEEP specific brochures and their circulation to wider audience and global maritime industry. In particular, it is planned that many of the existing publications will be updated and translated into additional languages. The emphasis will be on public awareness building as well as showcasing of project achievements and ship energy efficiency best practices.

Activity 2.2.3 Develop and maintain GloMEEP website

GloMEEP project will launch a dedicated website, which will integrate and make available data/documents collected during the course of the project. It is likely that some website sections will be password protected, to enable its use for segments of the maritime community requiring detailed and potentially sensitive information (i.e. which may include proprietary, patented and copyrighted information). The experience of GloBallast will be used in this regard.

The website is intended for daily use by experts and officials in particular for GloMEEP purposes. During project Year 1, the website will be setup, and during the course of the project, it will get updated as new data and information is made available.

The website is expected to include:

- A linked map providing global, regional and national information,
- Dedicated pages for EETs (Energy Efficiency Technologies), technology transfer and the working of GIA. The developed EETs database and conference series (see *Outcome 3*) will be promoted under this section.
- A password protected intranet for LPCs, PCU and other affiliated parties such as GIA members will be set up based on requirements.
- A dedicated page for each LPC; giving general information on their status and efforts; this will give them an increased international visibility in area of shipping energy efficiency.

The development of the website will be subcontracted; however, the content will mainly be developed by the PCU with support from IMO staff and the LPCs project teams.

Output 2.3 Developed a pool of global "marine energy management trainers" who have successfully completed trainer certification through "train-the-trainer" workshops

The objective is to develope a pool of Global Experts on Ship Energy Efficiency (GESEE) who have either successfully completed the "trainer the trainer" course and certification through previous "train-the-trainer" workshops or are recognised experts by their peers as MEEF and SEE experts. As part of the IMO-KOICA initiative, two of such train-the-trainer workshops were executed by World Maritime University (WMU) and a number of participants were trained from various countries. Some of these participants have already supported relevant activities either as support consultant to IMO or as national experts. This positive experience is going to continue under GloMEEP.

A consolidated list of those who have received various trainings will be developed and their engagement in future capacity-building activities will be facilitated. Also, at LPC level, an effort will be made to

identify the relevant MEEF experts that could be subsequently engaged into GESEE mebership and engaged in various GloMEEP related activities.

Activity 2.3.1 Conduct one "train-the-trainer" course on "ship energy efficiency regulations, technologies and management"

The WMU's successful "train the trainer" course on ship energy efficiency will be delivered once more under GloMEEP. The previous two workshops were delivered under the IMO-KOICA initiative and proved to be very popular and successful.

Within GloMEEP one of this workshops will be delivered via updating of the previous workshop material. This course runs for 5 days and includes mostly information on energy efficienct ship operation, port related measures and technology upgrades. Part of the workshop is devoted to teaching styles and padegogic aspects with expert input from this field. All the participants are required to prepare teaching material in a group and then make presentation in the full group to consolidate the technical and padogogic aspect. Participation of 1-2 persons from each LPC is foreseen. The course will be delivered globally by WMU in Malmo, Sweden. At the completion of this activity, LPCs experts will demonstrate that they could act as national experts in delivery of capacity building activities.

Activity 2.3.2 Develop the LPCs roster of maritime energy efficiency experts

A consolidated list of those who have received the MEEF "train-the-trainer" certification or are judged by peers to have expertise in ship energy efficiency will be developed and their engagement in future capacity-building activities will be facilitated. This activity is intended to lead to the formation of the GloMEEP GESEE whose mebers will subsequently undertake various ship energy efficiency activities at national and regional level.

The roster will be set up by the PCU at global level. This will merely be a database of names and CVs that both PCU and LPCs can utilize to identify potential resources for national and regional GloMEEP related activities. The roster will also help to identify experts that may be interested to participate in the relevant capacity building activities. The results will be promoted via GloMEEP website.

Output 2.4 Conducted training workshops at national levels and integrated into national maritime academic and practical training curriculum

Activity 2.4.1 Share tools with national academics/institutions who will be invited to national training courses

As indicated, a number of tools and capacity building materials will be developed as part of various activities in GloMEEP in particular those under *Components 1 and 2*. To increase national capacities, these tools will be systematically shared with national academic institution(s) for follow-on national efforts.

A number of national institutions will be identified by each LPC to take part in this effort. Expert members of these institutions will be invited to GloMEEP national efforts and in particular they will participate in capacity building activities. The same members will be tasked to act as "focal point" for the institution in disseminating the GloMEEP materials internally and promoting GloMEEP related activities in the institution.

To carry out this activites, a list of relevant experts from national institutions will be gathered by the PCU via LPCs. Each LPC will facilitate the participation of these experts in national capacity building efforts. The PCUs will systematically share the tools and training material developed within GloMEEP with the institutions via its identified "focal point".

Output 2.5 Capacity building for port management and port developments for energy efficiency

Port management and its interface with ship operation plays a key role in overall ship operational management and thus ship energy efficiency. As a simple rule for example, Just In Time (JIT) operation in ports can reduce delays and improve the ship passage performance via reduced speed thus reduced fuel consumption. This measure is one of the very effective ways of improving the ship operational energy efficiency. However, ports could do more including optimised management in terms of infrastructure development, awareness raising and promotion of alternative fuels; thus not only reducing GHG emissions but also improving the local air quality.

To increase awareness and learn relevant techniques on how this could be achived, this Outcome will concentrate on capacity building on "port management for energy efficiency" via development of a training package and its delivery in each of the LPCs. The participants is expected to be mainly the port staff and ship staff that need to work together to achieve best practice. Also, regulatory enforcement staff will be invited to this course as they also have impact on ship-port operations.

Activity 2.5.1 Develop workshop material on port management and port developments for maritime energy efficiency

This is a global activity, under the auspices of the PCU, that will be delivered via procurement of international consultants with background on port operation and ship energy efficiency. The course content will generally include:

- Role of ports in ship energy efficiency.
- Onshore Power Supply.
- Bunkering and ports
- Shipping air emissions to ports.
- Port management
- Port development
- Green port initiatives

The detailed programme of the training will be decided at the development stage.

Activity 2.5.2 Capacity building for port management and port developments for maritime energy efficiency

This capacity building activity will be carried out at national level. It will be conducted as a 2-day workshop and the training material developed under *Activity 2.5.1* will be delivered in an interactive way.

This workshop is designed for those personnel working in ports and aims to increase their awareness on MEEF and how port management, port infrastructure development and port logistical system contribute to overall maritime energy efficiency and air quality. The participants will mainly include the following categories of staff:

- Port staff with related responsibilities
- Ship owner and manager personnel
- Ship inspection regulatory staff

A total of 30 participants will take part in each workshop. As a minimum, one international facilitator, preferably the developer of training material, will be funded by GloMEEP to deliver the workshop. As per other capacity building activites, the proceedings will be disseminated and the training activity will be evaluated for future improvements.

Outcome 3 - Enhanced dissemination of maritime Energy Efficiency related innovations through catalysing knowledge sharing and collaborative efforts between international stakeholders

Technology application and deployment is an essential element of moving to energy efficient and low carbon shipping. Without identification and implementation of existing and future developed technologies, the goals set out within IMO MEEF will not be realised. GloMEEP, thus, aims to catalyse this important element via setting up of a proper international structure for identifying and documenting EETs (Energy Efficient Technologies) and catalysing pilot implementation examples of such technologies via promoting the North-South industrial collaboration.

Technology is one aspect of the maritime energy efficiency issue that is ideally suited to industry involvement and leadership. For this purpose, the project will work with leading shipping and maritime companies and organizations to establish the GloMEEP's Global Industry Alliance (GIA), to stimulate continued R&D research, publicize advances in EETs development and consider factual applications of EETs and their publicity. Additionally, the project aims to initiate discussion on barriers such as split incentive, etc. as well as to promote the North-South collaboration in promoting of energy efficiency for existing ships, in particular the older ones that are mainly owned by the developing countries.

It is envisaged that the financing of outputs and activities under this *Outcome* will be mostly provided via securing the interest of international industry partners. For this purpose, the setting up and management of a GIA Fund is foreseen in the project. It is expected that GIA partners would contribute financially and in-kind to undertake the relevant activities. The GIA-related activities will be steered by an Industry Task Force (see *Activity 3.1.3*); representing the GIA members. These industry-led activities are not detailed herein as they will be decided after the formation of the GIA and the GIA Fund.

Engagement of industry in GloMEEP will contribute significantly to:

- Replication of successful activities.
- Sustainability of global maritime energy efficiency benefits.
- Leveraging (human, technological and financial) resources for GloMEEP objectives.
- Facilitating industry input into policy developments and a positive push for LPIR processes.
- Development and dissemination of EETs solutions for wider application.
- Contribution to identifying and removing barriers.
- Acceleration of research and development.

This activity will be based on the successful experience gained under the GIA model developed within GEF-UNDP-IMO GloBallast Partnership; with replication of similar efforts. Major industrial partners will be invited to join in with the main theme of promoting the deployment of energy efficient technologies and technical upgrade of existing ships, with emphasis on relatively older ships (10+ years old) that still form the majority of the international fleet in particular in developing countries.

Output 3.1 Establishment of Global Industry Alliance (GIA) as a private-sector collaboration platform

The aim is to bring together the leading maritime industry players with focus on energy efficiency and GHG emissions reduction to form a Global Industry Alliance (GIA) for the purpose of GloMEEP. The GIA will include maritime industry leaders working together within GEF-UNDP-IMO GloMEEP framework to create opportunities to positively influence industry practices in particular in the developing countries via provision of private sector strengths, including financial, know-how and practical experience.

GloMEEP will use appropriate private sector entities for partnerships on the basis of the following criteria:

- Industrial leadership in energy efficient ship operation or ship design.
- Climate change performance and stewardship.
- Cost-effectiveness of partnership.
- Industry driven-ness and push factors.
- Catalytic role and leveraging financial and human resources and/or appropriate technologies.
- Sustainability and repeatability of efforts

- Keenness to participate in removing shipping energy efficiency barriers for the developing countries.

When the GIA is formed, the following activities could be the subject of its activities:

- Development of tailor-made training programs targeted at maritime industry and also seafarers.
- Co-organizing global conferences/symposia/workshops focusing on technology developments and sharing of best industry practices.
- Establishing and facilitating an IMO-UNDP-GEF-Industry dialogue process at the global level to identify emerging issues, technologies and opportunities for partnerships.
- Participate in activities that accelerate technology transfer and technology diffusion within industry and between North-South divide.
- Catalyse activities aimed at accelerating technology verification and approval processes as a way of creating more confidence in proposed technologies.
- Support activities that accelerate development of globally uniform compliance monitoring and enforcement practices through the development of guidance documents/tool kits

Membership to GIA will be mainly based on cash plus in-kind contribution to GIA Fund; however the membership details will be developed as part of executing the following relevant activities.

Activity 3.1.1 Formation of GloMEEP GIA

The formation of GloMEEP GIA will be based on the successful GloBallast experience and to save time and resources, the same developed processes will be replicated for GloMEEP.

For GloMEEP purposes, initially substantial negotiations with relevant industrial partners will be conducted with a view of forming the backbone of GIA partnerships. For this purpose, the PCU will contact a selected number of industrial partners who have shown an interest during the PPG phase and invite them for joining the GIA with a view to securing their in-kind and in-cash contributions.

The following group of companies will be targeted for membership of GIA:

- Classification societies
- Ship builders
- Ship owners
- Marine equipment suppliers
- Marine consultancy and management system providers

The end result of this activity will include securing of a number of industrial partners for the GIA with clear in-kind and in-cash commitments. Also, as part of the GIA formation activity, the GloBallast GIA structure and rules will be revised for GloMEEP and wider shipping energy efficiency and GHG mitigation purposes. The status of the GIA Fund (see *Activity 3.1.2*) and how the funding will be raised will also be clarified for future funding activities.

The bi-lateral or regional partnership between LPCs and leading industrial players will be encouraged. The plan is that a number of such activities will be negotiated and progressed during the course of the GloMEEP. Such partnerships could be at the global or regional levels depending on the activities and geographic locations. Contributions from the industry in the form of person-hour expertise, direct financial support and other in-kind contributions can form the basis of such partnerships.

The GloMEEP GIA related activities between industrial partners and LPCs as well as wider industry players will be funded through:

- The GloMEEP GIA Fund, built up through contributions by membership of the GIA as elaborated above.
- In-kind support through collaborative expertise / technology deployment efforts by GIA members in order to support technology diffusion and North-South technology transfer via pilot cases.

- In-kind support through activity-specific partnership arrangements.

Organisationally, Chair of the ITF will be from the industry and on a rotational basis with the IMO PCU acting as the secretariat. The ITF will also have representation in the GloMEEP Global Project Task Force (GPTF), the advisory body for the GloMEEP Project.

This activity will be carried out at global level by the PCU. Negotiations on how to set up the GIA has already started in an informal way during the PPG phase so that the scene is ready for the formation of GIA by the end of the Q2/Y1; at the latest. As part of initial PPG consultations, a number of industry players have "expressed in principle" there wish to join the GloMEEP GIA subject to substantive negotiations and contractual arrangement when GloMEEP is endorsed by UNDP/GEF. For details of financial "expression of interest", refer **to Section 7.4** (**Annex 4)** for in-kind and in-cash contribution of GIA members.

Activity 3.1.2 Setup the GloMEEP GIA Fund

GIA Fund will be managed using a lean model of "fund management". IMO will act as the fiduciary for the Fund and the selected projects will be implemented by GloMEEP Project Coordination Unit, with the advice of a GIA Industry Task Force (ITF) consisting of representatives from the industrial partners with financial contribution.

The funds will be utilized over the course of the project duration; also aiming to leverage additional co-financing from donors such as International Financial Institutions.

Activity 3.1.3 GIA ITF meets periodically to steer industry-GloMEEP activities

Once the GIA is in operation including securing of Fund, the GIA's ITF will convene and decide on its GloMEEP-related activities, processes and frequency of meetings. As a minimum, it is expected that the industry members and ITF will meet once every year. These meetings most probably will be held back to back with the project's GPTF meetings. The Chair of the GIA will be chosen by ITF from one of the industry members, by consensus. The GIA chairman will have representation on the GloMEEP GPTF.

The purpose of holding back to back GIA and GPTF meetings is so that an overlapping day can be spent in joint session. This will constitute industry dialogues to enable discussions on the convergence of industry and government interests, with main objective of steering EETs uptake and solving energy efficiency technical hurdles.

Output 3.2 Under the auspecies of GIA, catalyze the development and maintenance of a global database on energy efficient ship technologies and port facilities

Under this output and because of GIA's main mandate, concentrated action will take place on Energy Efficiency Technologies (EETs) for ship application and port facilities. The objective is to enhance the debate on EETs and related technology transfer issues, within IMO MEEF regulations, via engaging the LPCs in relevant international developments and debates as well as the activities currently underway under IMO MEPC plan of work (e.g. Ad Hoc Expert Working Group on Technology Transfer (AHEWG-TT)).

For this purpose, the business case for such a database, details of data that need to be included, and its conceptual design will be addressed first. Also, relevant EETs will be identified and data gathering on them will be systematically pursued. The database will then be developed via subcontracting to keep relevant information in a structured way for use by LPCs and GloMEEP purposes.

Activity 3.2.1 Setup an EETs (Energy Efficiency Technologies) database

Information technology is key to managing the knowledge sharing among stakeholders at global and national levels. A customized database will be established to provide information on available marine related EETs, their scope of application, potential savings, cost information and other details. This development is expected to be supported by the GloMEEP GIA partners. Its objective is to disseminate

information on EETs and reduce commercial risks for their application, through the rapid communication, analysis and utilization of reliable global information on various technologies.

It is expected that the development of EETs database will catalyse the debate within the industry on technologies, their domain of application, the potential saving levels and cost of technologies. Also issues relating to technology transfer, split incentives and other barriers to the application of EETs will be debated.

It is important to clarify that EETs database will be developed initially as a stand-alone GloMEEP database, but will be designed in harmony with the current IMO work plan on AHEWG-TT as is currently being discussed within the MEPC. It is expected that this EETs database will be hosted by the IMO.

The database development will be subcontracted to external consultants and will be administered by the project PCU. The design and content will mainly rely on advice and leadership from GIA towards its features and development spectrum.

Activity 3.2.2 Develop the GIA workshop material on "ship energy efficiency technologies for ship design and existing ships' upgrades including alternative fuels" and pilot delivery in one LPC using GIA stakeholders

This training workshop aims to be devoted to EETs, ship design optimisation and alternative fuels; mainly concentrating on EEDI reduction. It will be designed along the line of the previously delivered workshops on "Energy Efficient Ship Design" under the IMO-KOICA project. This workshop will also advocate and promote the GloMEEP findings under *Activity 3.2.1* on EETs and the use of the relevant database.

This workshop will be offered as a pilot national workshop for two of the LPCs that requested this workshop during the PPG consultation. The focus will be on the presence of industry expert and representative. In terms of developing the content of the workshop, initially, the IMO-KOICA workshop on "Energy Efficient Ship Design" will be evaluated and adopted to GloMEEP and specific LPC's requirements. In general, the training content will include, inter alia, the following topics:

- An overview of Chapter 4 of MARPOL Annex VI with specific reference to EEDI compliance issues.
- Consideration of ship design and energy consumption.
- EETs and their influence on the EEDI and the life cycle fuel economy of ships.
- EETs and upgrades applicable to existing ships.
- Survey and certification related to EEDI.
- Barriers to uptake of EETs.
- Technology transfer for ship energy efficiency with specific reference to deployment of EETs on new building and existing ships.

Two pilot national training workshops is planned to be delivered within GloMEEP and a total of 30 people are expected to participate in this training. The workshop will be facilitated by an IMO staff, an international expert consultant and local members of the GloMEEP GESEE. It is expected that replication of this workshop will take place in other countries, subject to GIA partners intent and support.

Output 3.3 Facilitate forums for private sector and technology developers for demonstrating application of energy efficiency measures and dissemination of particularly notable improvements in maritime transport efficiency technology and practices.

A crucial part of the effort to reduce the threat of climate change via use of EETs relates to cost effective techniques and technologies that can be used to reduce ships' fuel consumption and improve its energy efficiency. A large number of technologies have already been identified for this purpose; however, the potentials and claims made need to be verified for different ship types, ship sizes and ship operation profiles in areas of:

- Performance-effectiveness
- Cost-effectiveness

All the investigations indicate that there is significant potential for reduction of GHG emissions via use of advanced techniques and technologies. However, there are barriers in place as well. This means that under GloMEEP, it is essential that the cost-effectiveness and hurdles / barriers for existing technologies are identified and methods to remove them are established. This effort needs to be carried out for the EETs that have higher potential for use by developing countries. Also issues such as Regulation 23 of MARPOL Annex VI on "Promotion of technical co-operation and transfer of technology relating to the improvement of energy efficiency of ships" needs to be taken into consideration as the debate within IMO AHEWG-TT (Ad-Hoc Expert Working Group on Technology Transfer) moves forward. GloMEEP will aim to catalyse these efforts via its industrial GIA.

It is a fact that there is ample room for market forces to drive innovation, if barriers can be removed. Also it is strongly suggested that a close partnership with industry is crucial if the goal of upgrading ships with relevant EETs for significant reduction of shipping GHG emissions is to be realised. GloMEEP aims to support both of these major processes.

Apart from the efforts carried out under the IMO-KOICA project as well as IMO ITCP, there seems to be a general lack of awareness in developing countries on potential for ship technology upgrade for energy efficiency. Thus, awareness raising via participation of LPCs experts in global debates on promising technologies, case studies, technology transfer, relevant barriers and mechanisms that can lead to accelerated uptake of technical and technological solutions will be catalysed via GloMEEP GIA.

Successful past examples are the two series of global conferences that GloBallast Partnership established i) IMO-GloBallast Global R&D Forum and ii) IMO- Singapore ICBWM series, both contributed significantly to advance technology development for ballast water management.

Activity 3.3.1: Establish a global conference series to be co-ordinated in partnership with Singapore under the framework of GIA

Singapore MPA (Maritime and Port Authority) has provionally agreed to support the development of a conference series (to run annually in Singapore) on ship energy efficiency. As part of this agreement, the following is expected to take place:

- Conference will act as a forum on technology development, deployment, showcasing and debates.
- Joint organising committee to ensure GloMEEP agenda will remain at the core of the conference series agenda.
- Ensure quality of submissions via formation of an internatrional Scientific Panel.
- Technology exhibitions and dedicated workshops facilitating North-South dialogue platforms.

GloMEEP PCU will join hands with Singapore MPA in shaping these conference series within the project's framework and will use it to facilitate the particpation of the experts from LPCs (*Activity 3.3.2*). The conference series will be self-financing; however it will be used as a vehicle to engage the GloMEEP LPCs in the wider global debate on the subject, will be used for GloMEEP dissemination activities as well as engagement of LPCs experts as participants or presenters.

The timing of the conference series will be aligned to Singapore Maritime Week to encourage wider participations.

Activity 3.3.2 Participate in global ship/port/energy management relevant event

As part of GloMEEP dissemination activites, major global events that are relevant to GloMEEP workplan will be identified and publicized on the project website. Additionally, efforts will be made to facilitate the participation of the LPCs experts in international events via securing relevant support from GIA or the organisers of events; whichever is applicable.

GloMEEP will aim to faciliatet the participation of two LPCs experts in these events. These experts will be chosen by LPCs from the GloMEEP GESEE list or the roster.

Outcome 4 - Monitoring, Learning, Adaptive Feedback and Evaluation

Within this outcome, the GloMEEP coordination, monitoring and evaluation aspects are defined and mechanisms are established for reporting and external evaluation.

Output 4.1 Project coordination structure is in place at global and national levels

For GloMEEP project coordination and monitoring, a lean management and coordination structure is defined at global and national levels. There will be no regional level coordination structure within GloMEEP. The management and coordination structure will ensure that various activities defined under *Outcomes/Components 1 to 3* are smoothly delivered and the roles and responsibilities of various parties are defined, monitoring by stakeholders are in place and reporting and evaluation are carried out in a systematic basis.

Figure 2.4 shows the overall project management and coordination structure. In this section, the stakeholders' engagement, monitoring, reporting and evaluation will be explained. Details of project's management involving day-to-day action are not part of this Outcome and explained separately in the next section.is structure is further described in the form of various management activities.

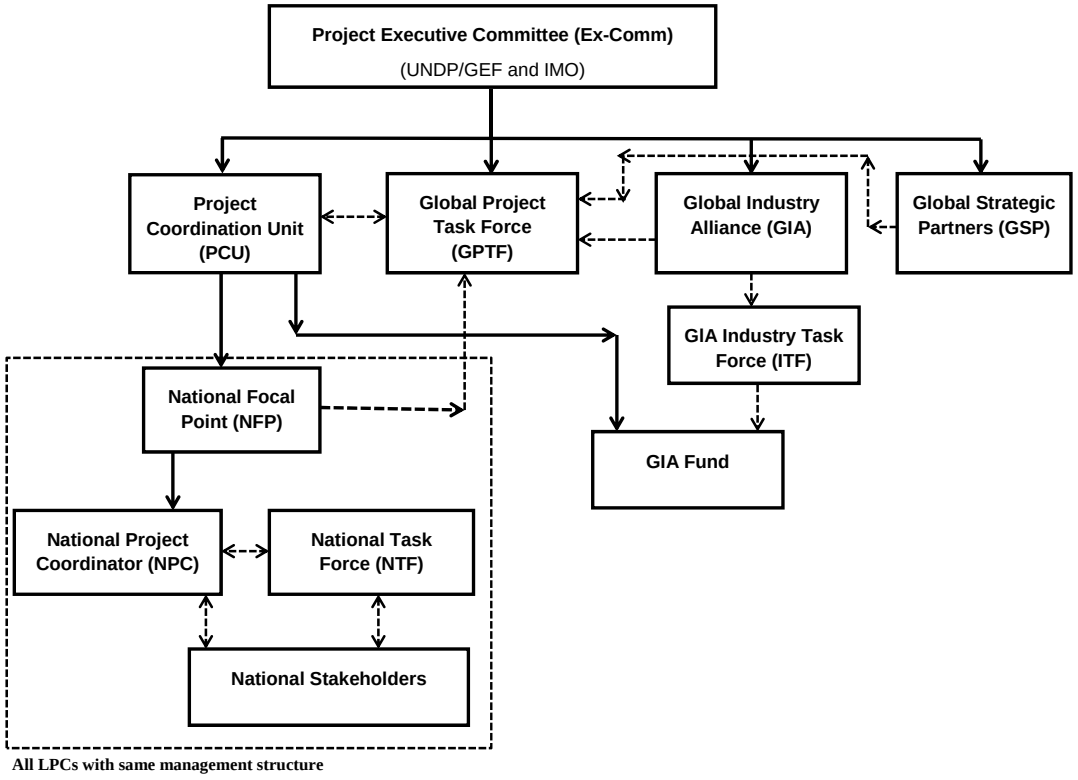


Figure 2.4 – Project management, coordination and monitoring structure

Activity 4.1.1 Organise Global Project Task Force (GPTF)

A Global Project Task Force (GPTF) is foreseen as part of the global coordination component as shown in **Figure 2.4**. GPTF will provide an overall management advisory support for the project and will act like a steering group for the project. This same approach was taken during the GloBallast Partnership project that proved to be successful.

The GPTF membership includes participants from IMO, UNDP and one from each LPC. It would also include representatives from Global Strategic Partners, and other international organizations and NGOs as per requirements on an ad hoc basis. One member from GIA will also take part in GPTF meetings. GloMEEP GEF 'sister' projects, the GEF-UNDP-ICAO Transforming Global Aviation Sector/Emissions Reductions, and the EBRD Green Logistics Mediterranean/Black Sea, will both be invited to attend GPTF meetings to facilitate coordination between these closely related initiatives which share objectives of industry transformation in the context of climate change.

There are significant financial implications in establishing a large GPTF, yet it is imperative that the key project participants have an opportunity to periodically come together to consider project status and operational aspects. To resolve these conflicting aspects and due to the size of the project, the GPTF will meet 2 times during project life and these meetings will be built around the following key operational events:

- **Inception meeting**: This will take place during the first 6 months of the project. It will ensure that various project activities are started based on detailed annual work plans. The work plans and various activities of the project will be subject to review and endorsement by the GPTF at this meeting.

- **Final meeting**: This meeting will take place during the last 6 months of the project; preferably towards the end of the project. It will concentrate on review of project results against work plan, discussing achievements, lessons learned, next steps and sustainability aspects of GloMEEP achievements.

To reduce cost of participation further, the meetings will be held back-to-back with relevant IMO MEPC meetings to ensure efficient use of the participants' time in this regard. Additionally, if there is a requirement for any technical discussion or forum by the GPTF for responding to certain strategic queries raised, these forums will be organised along the GPTF steering meetings to reduce the need for additional travelling.

Activity 4.1.2 Organise Industry Task Force (ITF)

As indicated under *Outcome 3*, a GIA and GIA Fund will be organised under GloMEEP project. For coordination, steering and monitoring of activities relating to GIA, an ITF will be organised within the project. The membership of the ITF will include:

- IMO and PCU (2)
- GIA members (1 from each)
- Other industries as per requirements
- LPCs as per requirements

To reduce cost of participation, the meetings will be coordinated with relevant IMO MEPC and GloMEEP meetings to ensure efficient use of the participants' time in this regard. A minimum of two ITF meetings are foreseen during this project; however, the actual number of meetings will be decided by ITF at its first meeting.

The ITF will be setup as soon as GloMEEP GIA is formalised via signature of the agreement with industry. It is expected that ITF will have its first meeting before the end of Q2/Y1.

Activity 4.1.3 National Task Force (NTF)

Similar to GPTF at the global level, an additional governing task force at the national level is foreseen for the GloMEEP in the form of a National Task Force (NTF) for each LPC. The NTF membership will depend on the LPCs decisions but ideally should include the major national stakeholders in particular those who needs to actively take part in GloMEEP implementation.

The membership of NTF may include:

- Pertinent government agencies and stakeholders (e.g. ministries and agencies dealing with GHG emissions, maritime administration, port authority representatives, and so on), so that they have an

opportunity to express their views to the NLA regarding the implementation of GloMEEP activities and more importantly can be called upon to support project implementation at national level in particular the LPIR-related activities.

- Interested or influencing stakeholders from industry and the environmental community (e.g. representatives from ship-owners, shipbuilders, maritime training organisations and NGOs) so that they have an opportunity to stay abreast of the strategies and actions being devised under GloMEEP activities.

The number of NTF meetings will be decided by each LPC but in general they are expected to occur twice a year, and especially prior to the main project meetings such as the GPTF meetings. In this way, the LPCs have an opportunity to formulate their positions and recommendations prior to global decision-making meetings. The NTF will also provide a steering role for all national activities and thus will be in a position to review, change and endorse the national work plan.

Activity 4.1.4 National Stakeholders Workshops (NSW)

In addition to the requirements for LPCs to set up the NTF as part of their national project coordination, monitoring and evaluation structure, there is also an expectation that there will be opportunities for interested stakeholders and the public to consider and provide comments on various project activities, especially on the deliverables that are prepared at national levels. This also helps the project outcomes as public notice and comment procedures are valuable tools for dissemination, receiving feedback and building support among interest groups and the public.

The NSW are ad hoc dissemination workshops; thus formed as per requirement by each LPC. LPCs are expected to run about 2 NSW within the course of the project; this will be decided by the NLA in consultation with the NTF. The participants in various NSW will depend on the topic; thus could vary. It is expected that one of the NSW will be dedicated to bringing together high level ministry and elected officials – as an aid to awareness raising and to boost support for the legal and policy reform effort and institutional capacity building.

Output 4.2 Project monitoring, evaluation and reporting systems established and implemented

The second output and relevant activities within *Outcome 4* involve monitoring and reporting procedures during the project. Project monitoring and evaluation will be conducted in accordance with established UNDP and GEF procedures as described in **Section 5** of this document.

Project monitoring, evaluation and reporting systems will be established and implemented, to include the following elements:

- Conducting Project Inception Workshop (PIW) and preparation of Project Inception Report as a formal project document
- Preparation of Annual Work Plans (AWPs) and securing agreement by the project's GPTF.
- Periodic monitoring by the IMO and UNDP/GEF. These will be the Quarterly Progress Report (QPRs) in outline format.
- Annual Project Report (APR) and Project Implementation Review (PIR) will be prepared and submitted to UNDP and the GEF (combined APR/PIR).
- Annual monitoring via setting up the Ex-Comm Review Meetings between IMO, UNDP/GEF for review of various monitoring reports as outlined above and project progress.
- Preparation of project's Terminal Report.
- Final independent evaluation.

Activity 4.2.1 Final evaluation

An independent "final evaluation" will take place during the last three months of the project, preferably prior to the terminal Ex-Comm review meeting, and the final GPTF meeting. The final evaluation will address project successes and shortcomings, lessons learned and recommended next steps. It will also determine progress being made towards the achievement of outcomes and will identify any deviations. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present lessons learned about project design, implementation and management. Findings from the review will be considered at the GPTF meeting and incorporated as recommendations for future activities beyond this pilot project. The organization, terms of reference and timing of the final evaluation will be decided after consultation between the parties to the project.

Activity 4.2.2 Project Reports (PRs)

The PCU will be responsible for the submission of the following progress reports:

- Project Inception Report
- Periodic (quarterly) progress reports
- Ex-Comm Review Meetings report and GPTF's meetings reports.
- Thematic reports; as per requirements.
- Annual Progress Report (APR) and Project Implementation Report (PIR)
- Project Terminal Report.

Full detail of contents of these reports is given in **Section 5.2**.

Project Management

The GloMEEP project management will be lean and comprises two elements:

- Global level project management and coordination.
- National level project management and coordination.

Relevant outputs and activities are described below.

Output PM.1 Project management structure is in place at global and national levels

As indicated in **Figure 2.4**, GloMEEP will have a lean management and coordination structure at global and national levels; with no regional level coordination. Accordingly, the day to day management of the project will concentrate in the hands of PCU at global level and the combined NFP and NPC at national levels.

Activity PM.1.1 Project Coordination Unit (PCU) is in place

GloMEEP project will be managed globally through the Project Coordination Unit (PCU), based at IMO headquarters in London, UK. Similar to the GloBallast Partnership project, the decision to house the GloMEEP's PCU headquarters in London is based on the synergistic effect of having the PCU in close proximity to the Technical Cooperation Department and Marine Environment Division within IMO. Given the frequency of IMO member state participation in the regular IMO meetings, in particular the MEPC and its working groups, the PCU is in an ideal position to stay in contact with member state representatives and to ensure that the momentum for addressing ship energy management issues within the priority regions (and in other regions) continues to build.

The PCU will be staffed by a Project Coordinator (P5, in-kind), a Technical Advisor (P3), and an Administrative Assistant (G5). This three-person PCU constitutes a lean organizational structure for a

global project of this scale. It is possible to operate effectively with such a small coordination unit because of the national management structures that the project will establish and also because of the administrative and technical backstopping of IMO. The expectation is that the PCU can be quickly established and will be fully functional by the Q1/Y1 of the project.

The PCU will be responsible for the day to day management of the project, including ensuring that deadlines are met, financial and reporting requirements are adhered to, consultants are effectively utilized, and the LPCs are well supported with their activities.

Activity PM.1.2 National level management and coordination is in place

Each LPC will select a National Lead Agency (NLA) that organisationally will lead the efforts in the LPC. Each LPC will also select a National Focal Point (NFP) from the NLA that will be overall responsible for coordinating the project nationally. As shown in **Table 1.7**, and as part of project consultations, the LPCs' NLAs have already been identified.

The NFP is expected to be a senior government official who can speak on behalf of the NLA, and who will also serve on the GPTF. It is foreseen that NFP will spend about 10% of his/her time in coordinating the project and taking part in various meetings.

It is further expected that each LPC will identify a National Project Coordinator (NPC), who will provide day to day management for GloMEEP, on behalf of the NLA/NFP. Due to the size of the project, NPCs will be a current NLA's employees to avoid pressure on resources due to hiring of personnel. It is expected that the NPC will spend about 15% of his/her time on the project. Both NFP and NPC will be supported by a number of local administrative staff.

The project plan envisions frequent contact between the NFPs, NPCs and the PCU for day to day project management. In addition to the opportunities afforded by workshops and task force meetings, there will be project management teleconferences on a scheduled basis, and a dedicated, password-protected project management section of the GloMEEP website, to facilitate regular interventions.

2.5 Incremental reasoning and expected global, national and local key indicators, risks and assumptions

2.5.1 Incremental Reasoning

GloMEEP primarily contributes to the Climate Change Mitigation focal area and its GEF-5 Results Framework. However, due to the nature of the transport sector involved, the project also contributes to the International Waters Results Framework.

Climate Change Mitigation Results Framework: The overall goal of GloMEEP is to support developing countries and economies in transition towards a low-carbon development path. The long-term impact of the GEF project will be effective implementation of the IMO MEEF by the GEF recipient countries and an improved energy efficiency culture in the industry resulting in slower growth in shipping GHG emissions to the atmosphere and contribution to the ultimate objective of the UNFCCC, which is to achieve "stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system."

Aligning with CCM-4 "**Energy Efficient, Low-carbon Transport**", the project is directly aligned to the promotion of energy efficient, low-carbon transport through an integral, global policy and regulatory framework, and promotes innovation and investment in less-GHG intensive transport for world trade. As discussed earlier on GEF intervention alternative scenario in **Section 1.4.2**, it is estimated that this dedicated GEF support initiative and intervention over an appropriate time frame of 4-6 years would raise the uptake of SEEMP-related shipping energy efficiency and, compared to the baseline scenario, would catalyze potentially an additional reduction of at least 80 million tons/year of CO2e by 2020 representing avoided cost of climate change amounting to $7 billion/year.

Aligning with CCM-1 **"Demonstration, Deployment and Transfer of Low-carbon Innovative Technologies"**, the project will also deliver a work-stream of global forums highlighting best practices

and research and development for maritime energy efficiency, technology orientation for ship design, case studies and guidelines, as well as a forum to stimulate recognition for instance of particularly notable improvements in international maritime transport efficiency, including broader issues of logistics, vessel route planning and cargo route optimisation. This work-stream will also aim to deliver a platform where technological development for efficient shipping championed by developed countries such as the Republic of Korea and Japan will be showcased in North-South interactions, principally supported by the developers of such techniques in the form of an industry-based global alliance.

International Waters Results Framework – promoting collective management of trans boundary water systems and implementation of a full range of policy, legal and institutional reforms and investments contributing to sustainable use and maintenance of ecosystem services.

Aligning with IW-2 **"Large Marine Ecosystems (LMEs)"** to catalyze multi-state cooperation to rebuild marine fisheries and reduce pollution of coasts and Large Marine Ecosystems (LMEs) while considering climatic variability and change. Specifically, the project supports IW-2 Outcome 2.3: Innovative solutions implemented for reduced pollution, rebuilding or protecting fish stocks with rights-based management, ICM, habitat (blue forest) restoration/conservation, and port management and produce measureable results. Under ocean acidification, excess anthropogenic CO_2 in the atmosphere accelerates acidification (pollution) in all of the world's LMEs (as well as the high seas) with associated impacts on LME and high seas ecosystems functioning and integrity. As the single largest ocean sector contributing to GHG emissions, climate change and ocean acidification, efforts to mitigate the climate footprint of international shipping will have substantial impacts on protecting all of the world's LMEs and the trillions in market and non-market ecosystem services derived from these ecosystems. At a more local level, the project also delivers benefits to LMEs and adjacent communities via reduced sulphur and nitrogen oxide emissions as well as decreased particulate matter emissions in localised areas with associated benefits to local air and seawater quality. The principal IW-2 Outputs being supported are policy/legal/institutional reforms adopted, e.g. the newly adopted national policies and legislation that meet the agreed international ship operation and design standards and serve to significantly reduce the carbon footprint of shipping and associated reduction in acidification of LMEs and the high seas, and technologies and measures implemented in local demonstrations and investments, e.g. the initial shipping energy efficiency technological innovations catalysed under Component 3. In the same manner that the GEF-UNDP-IMO GloBallast programme supported widespread national governance reform towards compliance with the new international regime and catalysed R&D innovation in ballast water treatment technologies, this project, by promoting national LPIR on ship energy efficiency and promoting public-private partnerships for innovation, R&D and technology transfer, is expected to help drive a global sector transformation towards much more efficient ship design and operations.

2.5.2 Project indicators, risks and assumptions

The project is intended to assist the important maritime nations from developing countries to promote shipping energy efficiency based on sustainable mechanisms; and contribute to implementation of the IMO MEEF, achieve reduction of GHG emissions in particular from the existing ships and contribute to global efforts in combating global warming, climate change and ocean acidification.

Process indicators
Indications that the GloMEEP has achieved its stated objectives will be through the following overall process indicators:

- More than three quarters of LPCs can demonstrate significant efforts in improving legal, policy and institutional structures that aim to reduce the shipping energy use and GHG emissions. Verification will be through evidence that, in all LPCs, there is a National Task Force in place with clearly designated responsibilities; and that there are approved NMEES in place, together with revised/developed text of legal instruments for MARPOL Annex VI implementation and enforcement.
- All LPCs have a cadre of trained experts in area of maritime GHG emissions and shipping energy efficiency. This will be evidenced via existence of LPCs experts in the roster as well as a number of national experts in GloMEEP's GESEE master list plus positive records of participation of

these experts in national consultancy/capacity building efforts in relevant areas. It is expected that as a result of GloMEEP, over 600 maritime experts/staff (on average over 60/LPC) will engage and participate in GloMEEP activities and receive awareness and capacity building training.

- GIA has been established and industry funding has been secured and used for GloMEEP purposes. Verification will be carried out via demonstrating the establishment and functioning of GIA and secured funding in the form of GIA Fund.

In order to achieve these indicators, it is assumed that there will be strong country buy-in amongst the LPCs and their stakeholders, and international industry support for GloMEEP will be available. Major risks revolve around the level of priority given to shipping energy efficiency at the national level as well as lack of private-public partnership incentives for the industry to seriously engage in GloMEEP efforts. Additionally, any major pilot deployment of cost effective EETs solutions, although very desirable, would require financial support and time that may not fully happen during the short two year course of the project. However, GloMEEP will aim to prepare the scene for such major initiatives for future sustainability efforts in these important areas.

Assumptions

With respect to each expected outcome, the risks and assumptions include:

- The political support for the project and country buy-in is in place.
- The project team at global and national levels will effectively coordinate the project, and accomplish objectives in a timely fashion and within budget.
- Effective M&E reporting procedures are established and relevant meetings/reports are properly developed.
- Each LPC will implement an effective program of shipping energy efficiency management; evidenced by each LPC having identified their baselines, have an approved NMEES in place and a cadre of trained experts for implementation of NMEES.
- All LPCs will proactively take part in supporting the implementation of capacity building activities with provision of personnel time and other resources.
- Globally, sufficient information, guidance, templates, procedures will be made available to LPCs to enable them to implement their undertakings with regard to LPIR and capacity building activities, documentation of EETs solutions and so on.

Risks

During the PPG phase, project risks were evaluated and the general aspects are given in **Table 2.3** below.

Table 2.3 – Project's overall risks

Risk	Category	Rating	Risk Mitigation Measures
The LPCs may not be determined to engage in relevant LPIRs studies and developments.	Political	Low	This issue relates to commitment of LPCs and sustainability of political support for the project. Also, it relates to interests by stakeholders to get engaged in the project. The following will mitigate this risk: • Strategic stakeholders' engagement: GloMEEP has a strong agenda for stakeholders' engagement. During national, regional and global capacity building activities, attention will be paid to engaging the pertinent ministries involved in debates; thus secure their buy-in for future activities. The PPG-phase consultation ensured that all strategic stakeholders become aware of and agree to GloMEEP agenda. • Via the political approved NMEES and also development of a "forward plan" within GloMEEP, this risk will be mitigated as these activities will need input from policy makers. • Close relationship between national maritime administrations and IMO and opportunity to engage with them during regular IMO meetings full will

			support the engagement of official at political levels to mitigate this risk.
Failure to secure a strong GIA partnership or secure significant GIA Fund	Financial and operational	Moderate	This risk will be mitigated via: • Formation of GIA will be given priority from early in the project. Consultation meetings have already been organized with industrial stakeholders as part of PPG phase. • Failure to secure significant GIA Fund will reduce the private sector catalytic effects but will not impact the main objectives of the project or the deliverable as documented under Components 1 and 2 of GloMEEP; thus the risk impact is low.
Large number of capacity building workshops and lack of capacity to deliver them.	Operational	Low	This is mitigated via: • The experience gained under IMO-KOICA and IMO-ITCP on similar activities will enable the PCU and national level management to use same tested models smoothly. • Facilitators (lecturers) for workshops are to a large extent available (again with experience gained during KIOCA and ITCP efforts) and will be augmented by formation of GloMEEP experts' roster and GESEE of national experts within the project. • Workshops are mainly national ones; thus the efforts are distributed between 10 LPCs; reducing the organizational capacity risks.
National resources, in each LPC, including trained manpower, available to implement the national elements of the activities including preparation of various country reports and strategies, policies may be constraint.	Technical and operational	Moderate	The LPCs have undertaken major activities that they may not be able to deliver (lack of capacity, etc.). To mitigate this risk, the following is planned: • Support of national experts via development of a comprehensive number of guidance documents, methodologies, templates. This will be given priority early in the project. Highly qualified and committed international consultants will be hired for their developments and subsequent support for their use. • Capacity building workshops will run in each LPC to capacitate national experts. PCU will pay particular attention to choice of national experts who are going to take part so that subsequent support could be secured from them for delivery of national assessments. • PCU plans to form a National Project Team in each country comprising a number of people from NTF plus the national consultants who are going to deliver the national deliverables. This will ensure that the process of hiring national consultants and guiding them throughout their work will be pro-actively managed by the PCU. • Stakeholders' engagement plan will ensure that national resources, as foreseen under LPCs in-kind contributions, will be secured for the project.
International resources including professional experts on IMO MEEF and relevant policy/legal aspects may be constraint.	Operational	Low	The risk is low and will be mitigated: • During past few years and as part of IMO MEEF developments, there has been a lot of attention to technical feasibility aspects of IMO MEEF and this has led to development of a broad spectrum of international experts on the subject. • Additionally, as stated, IMO has previously been engaged in similar efforts under IMO-KOICA, IMO-ITCP and IMP-GEF-UNDP GloBallast.

Low political commitment beyond the life of the project.	Political	Low	This risk is assessed as low and will be attenuated for the following reasons: • The GHG emissions in general and in shipping specifically will remain in the political agenda of world leaders as well as maritime industry leaders until the threat of climate change is subsided; thus it is a long term policy issue that will be sustained. • Project delivers practices and policies with commercial value (fuel and cost saving aspects), thus there will be intrinsic motivation to continue the monitoring and implementation strategies developed during the project.
The ultimate emission reduction goals of the project may not be fully met, if there are significant changes to the original assumptions used in the projections such as future demand for international shipping, cost of fuel and emissions reduction potentials.	Technical	Low to moderate	• The forecasts and potentials as presented is not a significant risk as the MEEF initiative has been under study and debate for a number of years at IMO and is based on strong scientific analysis of the emission projections. • The shipping energy efficiency measures and their potential impacts have been well studied by a large number of experts and organizations and consensus is that IMO MEEF projections are technically feasible to attain. • The project aims to mitigate any such risk by seeking to move the uptake of technical and operational measures to the highest end possible, by engaging those specific actors that have been agreed, by discussing and proposing solutions for barriers and securing the support of industry via formation of GIA.

Further details of assumptions and risks are given in Project Results Framework as shown in **Section 3.2**.

2.5.3 Expected global and national benefits

The proposed project will act as a seed and catalyst that will lead to much more successful implementation of the MEEF across developing countries in the near future with associated reductions in shipping sector GHG emissions, global climate change and ocean acidification.

As described in detailed in section 1.4.2, based on the following data and assumptions: 1. Nearly full uptake and ultimate implementation of IMO MEEF by the 10 LPCs (but modest 'leakage' of MEEF success to other developing countries), 2. LPCs represent 33% of global ship tonnage, and 3. MEPC 63/INF.2 Assessment report on CO_2 reduction potential due to IMO Energy Efficiency Regulations", October 2011, the near, medium and long-term projected shipping sector CO_2 reductions catalysed by the GEF project are estimated at 38, 56 and 71 million tonnes/year by 2020, 2030 and 2050, respectively. Assuming a linear rate of progress on these CO_2 reduction rates across these three base years, this translates into 95 million tonnes avoided CO_2eq through 2020, 565 million tonnes avoided CO_2eq through 2030, and 1,835 million tonnes avoided CO_2 eq through 2050 (see Climate Change Tracking Tool). Through its parallel support to efforts to improve energy efficiency in ship design (particularly through initiatives such as the Global Industry Alliance), the project is likely to ultimately catalyse additional net reductions in CO_2 emissions over the longer time frames (2030, 2050) but these are not possible to estimate with any reasonable accuracy given uncertainty in the trajectory of ship energy efficiency technology design over such a long time frame.

In addition to the climate change mitigation benefits summarized above, more effective MEEF implementation catalysed by the GEF intervention would result in substantial reductions in the rate and level of ocean acidification in Large Marine Ecosystems (LMEs) at a global level. Ocean acidification has emerged as a pressing new issue resulting from the dissolution of about 30 percent of anthropogenic CO_2 emissions into the oceans. This has already caused a global drop in average ocean pH of 0.1 pH units (representing a 30% increase in ocean acidity since pH scale is logarithmic). Under a 'business as usual' GHG emissions scenario, global ocean pH is projected to decrease an additional 0.3-0.4 units by 2100,

representing an increase in ocean acidity of 250%. This rate of acidification is faster than the world oceans/LMEs have experienced for at least 30 million years; a sizeable fraction of marine ecosystems (pelagic plankton, coral reef, shellfish, etc.) depend on fixation of calcium carbonate ($CaCO_3$) shells and skeletons; reduced ocean pH decreases the availability of carbonate ions needed to fix $CaCO_3$ and increases organismal energy budgets devoted to shell building; below certain pH levels, many marine organisms would no longer be able to build and sustain shells and many could face extinction, threatening the integrity of entire ecosystems to which these organisms are fundamental. The shipping sector is by far the largest ocean sector contributing GHGs to the atmosphere, to the ocean and therefore to ocean acidification; as such, efforts to substantially reduce the climate footprint of the sector would in turn deliver substantial global environmental benefits via the mitigation of ocean acidification in all of the world's LMEs as well as in the high seas. Roughly speaking, 30 percent of the 38, 56 and 71 million mt/year of CO_2 emissions (11, 17 and 21 million mt/yr, respectively) the project is projected to avoid by 2020, 2030 and 2050, will in turn not enter the global ocean, lessening ocean acidification by a corresponding amount.

GEF support can also contribute to catalyzing savings in global shipping costs of up to $200 billion annually by 2030[25] – tripling by 2050, underscoring the global socio-economic benefits the project will aid in delivering, to consumers of affordable shipped products, industries that depend on shipped bulk mineral and energy commodities, and the shipping industry itself. Moreover, shipping emissions reductions will have local health benefits world-wide on ports, coastal urban areas, and marine ecosystems, relating to reductions in particulate matter, sulphur and nitrogen emissions and improved air quality. In terms of development benefits, the project will also help provide a level playing field to developing countries for advancement in efficient and profitable sea trade and facilitate south-south cooperation.

In short, GloMEEP project represents, following GloBallast, another example and model of how GEF assistance being used during the early stages of implementation of an international regulatory regime that is closely linked to GEF aims and objectives can be highly catalytic.

The GloMEEP project will provide an opportunity for GEF to continue to catalytically pursue its priorities related to CCM and IW and to follow up on its own strategic priorities related to enabling long term policy reforms at country level; thus contributing to significant global environmental benefits due to the very global nature of international shipping, climate change and ocean acidification.

The project will optimize benefits from and continue the momentum generated by the South Korean investment in IMO-KOICA initiative and previous capacity building by IMO Technical Cooperation Division. The GEF intervention will demonstrate how GEF financing of some incremental costs can significantly catalyse major achievements at the national and global levels relating to one of GEF's key strategic priorities.

Whilst the global benefit of the GEF intervention is clear from the above, the national benefit will include the development of more eco-friendly shipping at national level, direct reduction of shipping emissions and fuel costs thus helping the economy, better air quality at port areas, highly trained experts and generally less energy-intensive shipping operations.

2.5.4 Socio-economic benefits and gender dimensions

- The socio-economic benefits of the project are widely covered in previous **Section 2.5.3** and includeThe significant social and economic benefits of the project via mitigation of GHG gases (thus climate change), reduction in exhaust pollutant (thus better air quality in ports and coastal areas where the majority of global population live) and reduced ocean acidification benefiting the long-term integrity and functioning of marine ecosystems.
- Significant socio-economic benefits related to savings in shipping fuel costs, enhanced technologies and creation of green jobs, and much elevated energy conservation culture in shipping. Moreover, shipping emissions reductions will have local health benefits (and associated

[25] "Assessment report on CO2 reduction potential due to IMO Energy Efficiency Regulations", MEPC 63/INF.2, October 2011

reduced health care costs) world-wide on ports, coastal urban areas, and marine ecosystems, relating to reductions in particulate matter, sulphur and nitrogen emissions and improved air quality. In terms of development benefits, the project will also help provide a level playing field to developing countries for advancement in efficient and profitable sea trade and facilitate south-south cooperation.

- Social benefits in the form of elevated human and institutional capacities in dealing with GHG mitigation issues, move to more green practices at national level and creation of environmentally related job opportunities; all with long term sustainable benefits.

Regarding gender equality and engagement, the project intends to make sure, at implementation level, that the issue of balanced gender participation in various activities and in particular in capacity building activities is taken into account and ensuring that gender equality issues are considered as part of participation in project activities.

2.6 Country Ownership, Country Eligibility and Country Drivenness

2.6.1 Country ownership

The project will mainly fund participation of the developing countries that play an important global or regional role in shipping and are particularly keen on reduction of their national and international maritime air emissions in particular CO_2 and other GHG emissions. Their unique situation in maritime industry (see detailed information provided in **Section 1.3**) put them in a strong position to take the ownership of the relevant activites and ensures that GloMEEP delivers on its promisses. The PPG-stage country consultation meetings (see **Section 1.3.3**) indicated significant interest by all LPCs in entering this global partnership as evidenced by their submitted Letter of Commitment and confirmed co-financing support.

Additionally, all these countries support the IMO's regulation making efforts via participation at the IMO MEPC's meetings, deciding on regulatory framework and detailed guidelines for implementation; thereof exercise some ownership rights during regulatory developments and consus building. This is then reflected in their interest to implementation of these regulations; thus provides extra sense of ownership towards this subject. Additionally, the project's C&E and management structure, direct involvement of national experts in project activities and stakeholder involvement plans will support this aspect of project.

2.6.2 Country eligibility

All the participating LPCs are eligible for GEF support under paragraph 9(b) of the GEF Instrument.

2.6.3 Country drivenness

During the PPG-phase consultation meetings, it was made clear to all participating LPCs that development of country's status reports on baselines, targets, roadmaps as well as development of maritime energy efficiency strategies/policies as well as ratification and implementation of the IMO MEEF were a high expectation for their efforts during the project. All of the LPCs have indicated they intend to initiate LPIR and many have directly linked this to the IMO MEEF as well as their country's commitments to reduction of GHG emissions under other international obligations such as UNFCCC.

Table 1.2 (previous section) shows the status and main drivers by the LPCs in joining the GloMEEP project; these were gathered during the country consultation meetings[26]. This Table indicates that the LPCs are major players in international shipping and thus have vested interest to drive the GloMEEP agenda for a low carbon shipping. Additionally, most LPCs expressed that they have included the issue of MEEF and ship air emissions control and energy management as their national priorities. All LPCs have been participating in the IMO-MEPC discussions for developing Chapter 4 of MARPOL Annex VI and

[26] Reports of PPG-phase consultation meetings are available on request.

have significantly contributed to relevant discussions and decision making process and in the development of associated technical guidelines through the MEPC process.

The project has been endorsed and is supported by the LPCs with their "commitment letters" and their in-kind contribution to project (see **Annex 3**). A summary of LPCs in-kind support for the project is shown in **Table 2.3**; this indicate significant commitment by LPCs to put in concerted effort on improving their shipping energy efficiency.

LPC	LPC in-kind Financial Commitments[27] (see **Table 3.4** for details)
Argentina	**304,700**
China	**297,700**
Georgia	**285,900**
India	**298,500**
Jamaica	**279,100**
Malaysia	**327,300**
Morocco	**308,700**
Panama	**285,900**
Philippines	**263,100**
South Africa	**296,700**
Total	**2,6947,600**

Table 2.3 – LPCs in-kind financial contributions

These strong interests expressed by the LPCs and supported by their in-kind contribution, plus their significant role and interest in international shipping and IMO MEPC activities, demonstrate a high degree of country drivenness regarding the GloMEEP objectives.

2.7 Financial modality

GEF funds will be provided as a grant to support the development of sustainable capacities among national institutions and stakeholders. **Table 2.4** provides an overview of GloMEEP finances.

Project components	GEF financing		Co-financing		Total
	US$	% of total	US$	% of total	(US$)
Component 1 - LPIR	770,000	10.2%	6,810,500	89.8%	7,580,500
Component 2 – Capacity building	700,000	23.7%	2,255,000	76.3%	2,955,000
Component 3 - GIA	210,000	11.1%	1,677,600	88.9%	1,887,600
Component 4 –Monitoring and evaluation	60,000	17.4%	284,500	82.6%	344,500
Project management	160,000	15.9%	848,000	84.1%	1,008,000

[27] Each LPC submitted a commitment letter together with the relevant financial tables, summarizing both cash and in-kind commitments, as attachment to their letter. These are recorded in **Annex 3**. Thus these financial commitments numbers are taken directly from the attached tables to LPCs' commitment letters.

Total project cost	**1,900,000**	**13.8%**	**11,875,600**	**86.2%**	**13,775,600**

Table 2.4 – Total project budget (financing and co-financing ratios)

Incremental costs summary: As indicated in **Table 2.4**, the costs of financing incremental activities required to contribute to achieving the described global environmental benefits include US$11,875,600 as co-financing and GEF financing of US$1,900,000 (excluding PPG phase). In summary, the GEF alternative has a total cost of $13,775,600 of which 13.8% will be provided by GEF.

2.8 Cost-effectiveness

The global and national approach taken to address the GHG emissions reduction from international shipping promoted by this project will be conducive to cost-effectiveness as it will promote sharing of experiences between a number of leading maritime developing nations (strong South-South Partnership) and the formation of the GIA and involvement of the private sector in these efforts (strong North-South Partnership). The project will address the core issue of taking advantage of the IMO MEEF as a driver to catalyse a more energy efficient shipping industry in the developing countries.

The global guidance documents, methodologies and templates to be developed within the project and then rolled out and used for country assessments, LPIR and capacity building will provide a very cost effective methodology for driving the GloMEEP agenda; and this in turn will not only lead for each LPC to learn from the partnership but also reduce its own cost for strengthening the governance aspect of national shipping energy management.

The project will also help to reduce the overall costs of mitigating climate change/GHG emissions via i) helping to ensure that mitigation/energy efficiency aspects are addressing the issues at source and ii) maximising the involvement in, and commitment to, sustainable and economically viable management of GHG emissions from ships. Cost-effectiveness will be further promoted by working with, and through, existing national institutions that already have some organisational capacities, thereby limiting the level of investment that the project will need to make in creating such capacities. The use of technical resources already developed as part of the IMO KOICA project and IMO's Technical Cooperation Programme also is another aspects of project cost-effectiveness. In addition, it is important to note that the leverage factor for this project is just over 6:1, based on country and non-country level commitments for co-financing of more than US$11.8 million (see **Table 2.4**).

On a cost per GHG reduction basis, the total project budget of $13.775 million would deliver cost effectiveness of $0.36 per mt CO_2e/yr by 2020, $0.25 per mt CO_2e/yr by 2030, and $0.19 per mt CO_2e/yr by 2050.

Finally, the following adds to the cost-effectiveness aspects of the project:

- Leveraging the huge IMO regulatory development with its significant costs.
- The use of existing global, regional and national mechanisms such as those governing IMO, UNDP, GEF and National Administrations.
- The pyramid-modelled implementation aspects of the GloMEEP; that any global developments (guidance documents, methodologies, legislative text, workshop material, etc.) will be implemented at wider level not only within 10 LPCs but also in wider maritime community through effective dissemination and uptake that will be undertaken as part GloMEEP activities.

2.9 Sustainability

2.9.1 Environmental sustainability

Conserving energy through reduction of energy use and energy efficiency is clearly seen as one of the most important environmental issue for many countries as this is the most effective way of not only

reducing GHG emissions but also improving air quality and economics of ship ownership. The reduction in noxious air pollutants as well as GHG emissions is already mandated through a variety of instruments such as MARPOL Annex VI and some regional or local regulations. The GloMEEP project directly supports these efforts via concentrating on international maritime transport and direct engagement with developing countries that play major roles in international maritime transport.

GloMEEP will help to stimulate research, development and deployment of energy efficient and clean technologies and in particular in trying to remove the barriers to their uptake in shipping. The project will also enable improvements in global communications and information exchange on maritime energy efficiency, which should drive improved performance-based ship management globally.

The key to shipping GHG reduction sustainability is to ensure that these activities continue beyond the GloMEEP project closure. The best mechanism to ensure this sustainability is via:

- Widespread ratification and implementation of MARPOL Annex VI amongst the developing countries
- Creation of win-win scenarios between North-South to drive international shipping to uptake of more energy efficient technologies and operations
- Human resources environmental awareness and expertise development and their empowerment.

All the above elements are addressed within GloMEEP project.

Shipping GHG reduction sustainability will also be enhanced through the widespread training and capacity building in LPCs on the techniques for carrying out country assessments, setting future targets and roadmaps, developing strategies for moving forward to more energy efficient shipping and port technologies and infrastructure and operations. This added to general capacity building, widespread dissemination of results, setting up of EETs database and expert roster will provide the backbone for future activities. All of these will ensure that GloMEEP will contribute to environmental sustainability over the long term.

Developing the North-South collaboration is a cumbersome process; nevertheless, GloMEEP will ensure that the basis for such partnership is created via the proven approach of GIA and public-private partnership. Upon creation of such mechanisms, the sustainability of efforts will be further assured.

2.9.2 Social sustainability

The promotion of public awareness through publications, the internet and workshops, will help to build public support for sustained, long term controls of undesirable air emissions and in particular CO_2 reduction and energy conservation.

Use of clean and green technologies and management practices could not only improve the environment as mentioned in previous section but also has significant economic benefits in terms of lowering cost of energy and higher/preservation of employment. In the majority of LPCs, maritime sector is a major source of income and employment and thus the sustainability of maritime sector directly have impact on social sustainability of these LPCs.

Also, social sustainability will be enhanced via GloMEEP impact on port air quality (local health benefits), reduced risk of climate change impacts on society, and job creation via green technology deployment.

2.9.3 Financial sustainability

The GloMEEP project financial sustainability will be enhanced via linking the environmental benefits of reducing CO_2 emissions to economic benefits of saving energy and reducing the shipping costs. Energy efficiency is strategically linked to win-win scenarios for environment and economy and thus has great potential to be sustained financially over time. As indicated in **Section 1.4.2** on Alternative Scenario, this GEF intervention is expected to catalyse an approximate reduction of 38, 56 and 71 million tonnes/year CO_2e by 2020, 2030 and 2050 respectively; this converts to about 11.9 million tonnes per year in shipping fuel consumption reduction by 2020 that is equivalent to about $7 billion per year in savings to the sector.

To promote national financial sustainability, some assessments of the economic aspects of maritime energy efficiency and its cost effectiveness will be included in LPCs country assessment reports. Also, the issue of split incentive as a barrier to investment in ship energy efficiency will be addressed to ensure future sustainable private financing of such initiatives; that will be included in the national strategy/policy.

Setting up the GIA and securing the GIA Fund is a good indication that the industry is coming on-board to manage the issue. The GIA is just a start and such initiatives are being discussed at IMO levels on how to more broadly raise finance for climate change mitigation activities in the sector.

Energy management, at its initial stages and in particular for energy efficient ship operation, requires relatively low levels of financial resources as there are a number of low hanging fruits that could be utilised via improved ship management, some low-cost technology upgrades of ships and improved port management. The GIA is an excellent start in this direction and based on lessons learned from this pioneering initiative, such collaborations might be extended between national governments and private entities to support special funding mechanisms. The exact nature of any contributions would clearly depend on the country policies.

Future financial sustainability

There are a number of approaches that countries participating in GloMEEP may consider to provide financing for maritime energy efficiency activities over the longer term. Generating money from Government general funds, partnership with major stakeholders benefiting from energy efficiency activities are some of the most feasible approaches that can provide a significant core of funding for energy management activities.

To reduce concerns over competition between various industry players, it may be desirable for countries in a region to strive for a uniform approach on funding schemes. If competitive concerns can be overcome, and stakeholders see value in the energy management activities, then long-term financing of maritime energy efficiency activities is achievable, and well within the capability of the developing countries participating in the GloMEEP project.

In order to ensure sustainability, it is important to ensure the funding for these activities and there are a variety of approaches for countries to consider in financing the post-GloMEEP activities. It is judged that this issue would require further analysis when the LPCs have carried out their status/baseline studies and have developed their NMEES. As part of the GloMEEP *Activity 1.2.3* on "forward planning for NMEES implementation", this issue will further be investigated, expanded and documented.

2.9.4 Institutional sustainability

To reduce shipping energy use and GHG emissions, sustained governmental commitment is essential during and after GloMEEP project. The use of government-funded national project management team (i.e. NLA, NFP and NPC) as well as the development and approval of shipping energy efficiency strategies in the form of NMEES and legal instruments as foreseen in the project will help to ensure a long-term self-sustaining basis for future activities.

Long-term policy reforms and implementation at national level will be encouraged through baseline studies, and development of relevant roadmaps. Specific provisions regarding road mapping and forward planning for shipping energy efficiency and air emissions control will ensure the long-term policy and planning commitment towards shipping energy efficiency and the results will be used to secure wider international support for continuation of these efforts beyond the GEF's GloMEEP intervention.

At the national level, sustainability will be enhanced through the opportunities provided for LPCs acting as a centre of excellence on the subject for the region, enabling the LPCs to receive basic tools and guidance documents needed for country status assessment and developing shipping and port roadmaps that will lead to a more sound shipping energy management and reduction of GHG emissions and their impact on climate change. In addition, it is expected that the National Task Force function and the achievement of LPIR will be institutionalized thus sustaining the national efforts in GloMEEP area.

At the global level, as a result of the IMO MEEF, IMO has created a strong regulatory basis for long-term move to more energy efficient shipping. Also as a result of the IMO-KOICA initiatives, IMO-supported studies on LNG as marine fuel, as well as the priorities of IMO's ITCP (Integrated Technical Cooperation Program) and the current work plan of MEPC on issues such as technology transfer and data collection and management for energy efficiency will ensure the necessary sustainability at the global level during and beyond the proposed period of the GloMEEP project.

The project will encourage involvement of national/international industry and non-governmental networks in the implementation process in order to not only promote independent "stakeholders" and "watchdog" feedback but also take advantage of energy saving and its economic benefits for sustaining these efforts financially to the future..

The following institutional elements of the project will contribute to its sustainability beyond the end of the project:

- Increased awareness and commitment at political and decision-making levels regarding the value of shared resources and the international management issues affecting them,
- The information base, tools, methodologies and models for management decision-making will have been substantially increased,
- The focus on enhancing existing networks and institutions rather than creating new ones,
- Emphasis on capacity building, with enabling effects on existing institutions in particular the maritime training institutes,
- Upgrading of a national institution to a status close to a "centre of excellence" on the subject,
- Development of the North-South strong collaboration via GIA and GIA Fund,
- Development of the South-South collaboration and partnership; at least between the participating LPCs,
- Instigation of culture of cooperation and networking among stakeholders as well countries throughout the GloMEEP implementation.

2.10 Replicability and dissemination

Replication is a key feature of the three-tier implementation modality for GloMEEP project. The anticipated globally directed/developed tools/guidance documents and nationally implemented processes are ideally suited to replication and the sharing of best practices. The GloMEEP intention is to develop processes that could be subsequently used by not only national stakeholders but also by wider developing countries that are not members of GloMEEP.

Replication will be enabled through the following mechanisms:

- The work done by the LPCs will be shared regionally and internationally with other interested parties, subject to consent by relevant LPCs, in particular with other developing countries. This will be accomplished via the roll out and dissemination activities as well as presentations to the GloMEEP-supported conference series as foreseen in project's activities.
- The training workshop devised within GloMEEP for enabling national LPIR developments and MEEF related capacity building are based on use of previously tested methodologies under GloBallast Partnership as well as the IMO-KOICA initiative. Although these approaches are devised to ensure that national capacities are promoted for delivery of the project work plan, the same processes may be used by other countries, thus ensuring wider replicability and sustainability of the efforts.
- Replication will be further enhanced through the GloMEEP networking and international dissemination efforts as well as through GIA by using the support from wider private sector entities.
- While the main focus of the project is LPCs, the GIA additional activities and development of bilateral agreements with other IMO member governments will be used to enhance and expand the GloMEEP activities beyond the LPCs; thus promoting the potential for replication by third parties significantly.

- The project will provide the "lessons learnt" and "results showcasing" aspects as part of its dissemination efforts using website, newsletter and other publications. This will be directed towards ensuring that other countries and regions could become familiar and use the experience.
- The project will promote dissemination and replication of its best practices and lessons learnt through promotional activities at the fringes of IMO meetings in particular the IMO MEPC meetings (three meetings will be held during the life of GloMEEP). This provides a significant chance for presenting the GloMEEP results to wider international audience.
- The training packages developed under GloMEEP, inclusive of those due to the IMO-KOICA and IMO-ITCP past activities, will be shared and made available through the maritime training institute(s) that is planned to be identified in the project as relevant centres of excellence within each LPC.

Overall, the way the GloMEEP deliverables are to be produced and developed, together with dissemination efforts will enhance the potential for replication within wider maritime communities in the developing countries.

2.11 Innovative aspects of the project and potential for scaling up

The main innovative feature of this project is the ability of the project, through a cleverly designed structure and private sector participation, to bring about a significant catalytic transformation within the shipping industry so as to significantly accelerate the uptake of the MEEF and to reduce the GHG emissions from shipping. The pyramid structure which includes global, regional and national tier allows focussed intervention in the LPCs while still having a global reach. GloMEEP is not categorised as a Research and Development (R&D) project and thus lacks innovative features from product and process development perspectives. However, the application domain of the project in dealing with LPCs and tackling issues such as developing country assessment report, developing policies/strategies at national levels, capacity building in energy efficiency related areas, dealing with developing a database for energy efficient technologies and also ship-port related energy efficiency issues all include innovative aspects at LPCs levels. As such, GloMEEP may be categorised more of an implementation and technology and knowledge transfer project with its own innovative features that would apply to individual LPCs.

The case for replication and scaling up potential is fully covered in previous section; suffice to say that GloMEEP presents a significant level of scaling up potential as advocated above. Additionally, for sustainability aspects of the project refer to previous subsections.

3 PROJECT RESULTS FRAMEWORK, TOTAL BUDGET AND WORK PLAN

3.1 Incremental Cost Analysis

The Incremental Cost Analysis (ICA) couples the planned activities of the project, their expected costs, and planned project financing. As indicated in the following narrative and tables, the project envisions leveraging US$1.9 million in GEF funding to achieve a total incremental financing of about US$13.3 million. There are also a significant amount of additional co-financing opportunities under GIA and bi-lateral or multi-lateral arrangements that have yet to be formalised; these are not included in financial analysis; but they will deliver new work items when they are mobilized and be reported annually through the GEF PIR process.

The co-financing specified in the tables includes parallel financing by IMO member States in the form of resources and technical expertise that facilitate IMO MEPC meetings and Singapore MPA's conference series. Taking all these into account, the ratio of co-financing to GEF contribution is just over 6:1. Taking into account only the direct co-financing; the financial tables still shows a significant commitment by IMO and LPCs of direct co-financing; IMO alone committed US $450,000 for cash co-financing of the project from its own core ITCP funds and this shows IMO commitment towards the project. Also, the LPCs have committed close to $3 million in in-kind co-financing.

This section deals with the financing and co-financing analysis of the GloMEEP and provides details of the financial calculations in the form of financial tables and their justification.

3.1.1 Incremental cost co-financing overview

Table 3.1 sets out the anticipated financing co-financing for GloMEEP project by GEF and other partners:

GEF	**Total funding**		**$ 1,900,000**
	Cash contribution	$ 1,900,000	
	In-kind contribution	0	
LPCs	**Total Co-funding**		**$** 2,947,600
	Cash Contribution	0	
	In-kind contribution	**$** 2,947,600	
IMO	**Total Co-funding**		**$ 7,418,000**
	Cash Contribution	$ 624,000	
	In-kind contribution	$ 6,794,000	
GIA (Global Industry Alliance)	**Total Co-funding**		**175,000**
	Cash Contribution	70,000	
	In-kind contribution	105,000	
GSPs (Global Strategic Partners)	**Total Co-funding**		**$ 1,260,000**
	Cash Contribution	0	
	In-kind contribution	1,260,000	
UNDP	**Total Co-funding**		**$ 75,000**
	Cash Contribution	0	
	In-kind contribution	75,000	
TOTAL GEF funding			**$ 1,900,000**
TOTAL Co-financing			**$ 11,875,600**
Incremental Cost Ratio (total co-financing/GEF funding)			**6.25**

Table 3.1 – GloMEEP anticipated incremental financing

Figure 3.1 shows the project's financing and co-financing levels; estimated from above table.

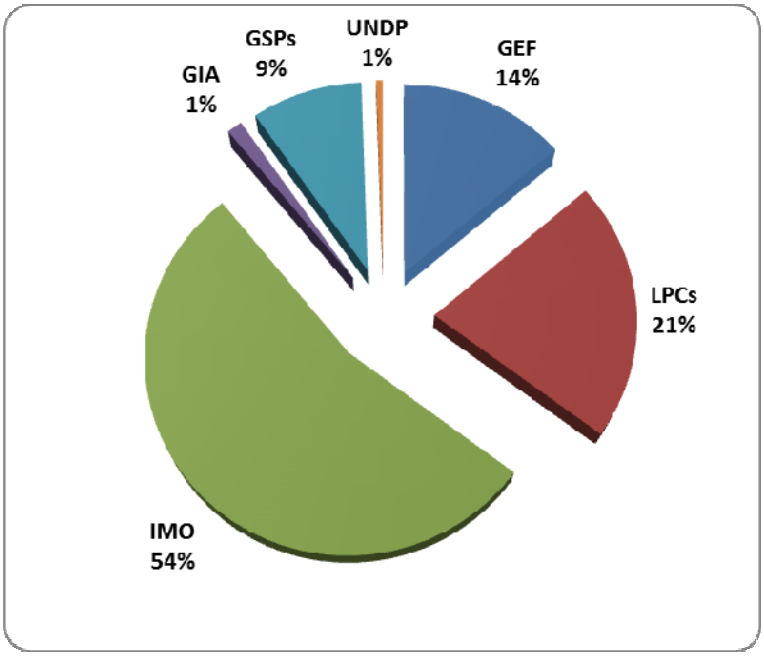


Figure 3.1 – GloMEEP financing partners and their share

Table 3.1 and **Figure 3.1** show the following important information about GloMEEP finances:

- Provision of significant co-financing levels by the IMO. This represents both the direct IMO personnel time and use of its infrastructure but also the member governments and international maritime industry and NOGs contribution in the form of parallel co-financing via taking part in relevant IMO events to enhance effectiveness of the IMO MEEF.
- Provision of significant co-financing levels by the LPCs. This shows the commitment of LPCs to the project and its work plan that will ensure delivery of numerous Outcomes and Outputs as foreseen in the Project Document.
- The co-financing by GIA through GIA Fund and in-kind support is not fully in place as negotiations for the formation of GIA is still underway. At the time of submission of this ProDoc, the total industry confirmed commitment is $140,000. It is estimated that overall, the GIA will bring further co-financing of the order of a minimum of $400,000 to the project when it is formalised. In **Table 3.1,** only the confirmed industrial contribution and in-kind time for participation in GloMEEP meetings are included and not those expected in the future.
- A number of donor governments have confirmed their support to various related activities (including Singapore and Canada). It is foreseen that there will be provisions for more co-financing as part of bi-lateral and multi-lateral arrangement as negotiations with major donors are actively pursued.
- The incremental co-financing ratio is over 6 and will become higher when GIA and Governmental co-financings are finalised. This shows that GEF grant will catalyse significant efforts in the form of co-financing in this important area of mitigating the GHG emissions from international shipping.

3.1.2 Incremental cost co-financing details

The financing and co-financing numbers shown in **Table 3.1** are derived from a significant activity-level bottom-up financial analysis of GloMEEP activities including evaluation of global and national resources needed for their delivery. The activity-level finances of the project are provided in this section in the form of the following tables:

- **Table 3.2** on the activity-level finances of GloMEEP. This table provides overall finances of the project; broken down to activity levels. It indicates how much in total is allocated to each activity and the sources of financing. It is in fact a detailed activity-level version of the aforementioned **Table 3.1**.
- **Table 3.3** provides in-kind co-financing details per activity by various GloMEEP LPCs.

Table 3.2 – GloMEEP overall activity-level financing and co-financing

Component/Outcome 1		GEF		IMO		LPCs		GIA		GSPs		Total
output	activity	Cash	In-kind	Cash	In-kind	Cash	In-kind	Cash	In-kind	Cash	In-kind	
1.1	**1.1.1**	30,000	0	0	460,000	0	20,000	0	0	0	0	**510,000**
	1.1.2	25,000	0	0	460,000	0	20,000	0	0	0	0	**505,000**
	1.1.3	25,000	0	0	460,000	0	20,000	0	0	0	0	**505,000**
	1.1.4	286,000	0	0	487,500	0	456,000	0	0	0	0	**1,229,500**
1.2	**1.2.1**	130,000	0	0	477,500	0	160,000	0	0	0	0	**767,500**
	1.2.2	50,000	0	0	472,500	0	160,000	0	0	0	0	**682,500**
	1.2.3	50,000	0	0	472,500	0	160,000	0	0	0	0	**682,500**
	1.2.4	50,000	0	0	472,500	0	160,000	0	0	0	0	**682,500**
1.3	**1.3.1**	15,000	0	0	460,000	0	6,000	0	0	0	0	**481,000**
	1.3.2	42,000	0	0	463,500	0	18,000	0	0	0	0	**523,500**
	1.3.3	12,500	0	0	460,000	0	2,000	0	0	0	0	**474500**
	1.3.4	27,000	0	0	461,500	0	6,000	0	0	0	0	**494,500**
1.4	**1.4.1**	27,500	0	0	15,000	0	0	0	0	0	0	**42,500**
Component 1 Subtotals		**770,000**	**0**	**0**	**5,622,500**	**0**	**1,188,000**	**0**	**0**	**0**	**0**	**7,580,500**

Table 3.2 – GloMEEP overall activity-level financing and co-financing – Continued

Component/Outcome 2		GEF		IMO		LPCs		GIA		GSPs		Total
output	activity	Cash	In-kind	Cash	In-kind	Cash	In-kind	Cash	In-kind	Cash	In-kind	
2.1	**2.1.1**	50,000	0	105,000	83,000	0	159,600	0	0	0	0	**397,600**
	2.1.2	10,000	0	10,000	83000	0	0	0	0	0	0	**103,000**
	2.1.3	160,000	0	135,000	88,000	0	228,000	0	0	0	0	**61,1000**
	2.1.4	20,000	0	10,000	75500	0	0	0	0	0	0	**105,500**
	2.1.5	60,000	0	213,000	88000	0	62400	0	0	0	0	**423,400**
	2.1.6	18,000	0	30,000	75,500	0	56,200	0	0	0	0	**179,700**
2.2	**2.2.1**	20,000	0	0	78,500	0	0	0	0	0	0	**98,500**
	2.2.2	20,000	0	0	78,000	0	0	0	0	0	0	**98,000**
	2.2.3	24,000	0	0	83,000	0	0	0	0	0	0	**107,000**
2.3	**2.3.1**	110,000	0	34,000	80,500	0	55400	0	0	0	0	**279,900**
	2.3.2	10,000	0	0	78,000	0	0	0	0	0	0	**88,000**
2.4	**2.4.1**	10,000	0	0	75,500	0	0	0	0	0	0	**85,500**
2.5	**2.5.1**	30,000	0	0	10,000	0	0	0	0	0	0	**40,000**
	2.5.2	158,000	0	0	5,500	0	174,400	0	0	0	0	**337,900**
Component 2 Subtotals		**700,000**	**0**	**53,7000**	**982,000**	**0**	**73,6000**	**0**	**0**	**0**	**0**	**2,955,000**

Table 3.2 – GloMEEP overall activity-level financing and co-financing – Continued

Component/Outcome 3		GEF		IMO		LPCs		GIA		GSPs		Total
output	activity	Cash	In-kind	Cash	In-kind	Cash	In-kind	Cash	In-kind	Cash	In-kind	
3.1	3.1.1	30,000	0	0	20,000	0	0	0	0	0	0	**50,000**
	3.1.2	0	0	0	10,000	0	0	0	0	0	0	**10,000**
	3.1.3	0	0	0	15,000	0	0	0	35,000	0	0	**50,000**
3.2	3.2.1	60,000	0	87,000	10,000	0	0	46,000	40,000	0	0	**243,000**
	3.2.2	25,000	0	0	5,000	0	45,600	12,000	0	0	0	**87,600**
3.3	3.3.1	5,000	0	0	10,000	0	0	12,000	30,000	0	1,260,000	**1,317,000**
	3.3.2	90,000	0	0	10,000	0	30,000	0	0	0	0	**130,000**
Component 3 Subtotals		**210,000**	**0**	**87,000**	**80,000**	**0**	**75,600**	**70,000**	**105,000**	**0**	**1,260,000**	**1,887,600**

Component/Outcome 4		GEF		IMO		LPCs		GIA		GSPs		Total
output	activity	Cash	In-kind	Cash	In-kind	Cash	In-kind	Cash	In-kind	Cash	In-kind	
4.1	4.1.1	40,000	0	0	19,000	0	0	0	0	0	0	**59,000**
	4.1.2	0	0	0	20,000	0	0	0	0	0	0	**20,000**
	4.1.3	0	0	0	0	0	0	0	0	0	0	**0**
	4.1.4	0	0	0	0	0	148,000	0	0	0	0	**148,000**
4.2	4.2.1	10,000	0	0	2,500	0	0	0	0	0	0	**12,500**
	4.2.2	10,000	0	0	20,000	0	0	0	0	0	0	**30,000**
Component 4 Subtotals		**60,000**	**0**	**0**	**61,500**	**0**	**148,000**	**0**	**0**	**0**	**0**	**269,500**

Table 3.2 – GloMEEP overall activity-level financing and co-financing – Continued

Project Management		GEF		IMO		LPCs		GIA		GSPs		Total
output	activity	Cash	In-kind	Cash	In-kind	Cash	In-kind	Cash	In-kind	Cash	In-kind	
PM.1	PM.1.1	160,000	0	0	48,000	0	0	0	0	0	0	208,000
	PM.1.2	0	0	0	0	0	800,000	0	0	0	0	800,000
Project Management Subtotals		160,000	0	0	48,000	0	800,000	0	0	0	0	1,008,000
Grand Total Contributions		1,900,000	0	624,000	6,794,000	0	2,947,600	70,000	105,000	0	1,260,000	13,700,600

Table 3.3 - LPCs' activity-level co-financing details

Component/Outcome 1 for LPCs		Argentina	China	Georgia	India	Jamaica	Malaysia	Morocco	Panama	Philippines	South Africa	Total
output	**activity**											
1.1	**1.1.1**	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2000	**20,000**
	1.1.2	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2000	**20,000**
	1.1.3	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2000	**20,000**
	1.1.4	45,600	45,600	45,600	45,600	45,600	45,600	45,600	45,600	45,600	45,600	**456,000**
1.2	**1.2.1**	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	**160,000**
	1.2.2	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	**160,000**
	1.2.3	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	**160,000**
	1.2.4	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	16,000	**160,000**
1.3	**1.3.1**	2,000	0	0	0	2,000	2,000	0	0	0	0	**6,000**
	1.3.2	6,000	0	0	0	6,000	6,000	0	0	0	0	**18,000**
	1.3.3	0	0	0	0	2,000	0	0	0	0	0	**2,000**
	1.3.4	0	0	0	0	6,000	0	0	0	0	0	**6,000**
1.4	**1.4.1**	0	0	0	0	0	0	0	0	0	0	**0**
Component 1 LPC Subtotals		**123,600**	**115,600**	**115,600**	**115,600**	**131,600**	**123,600**	**115,600**	**115,600**	**115,600**	**115,600**	**1,188,000**

Table 3.3 - LPCs' activity-level co-financing details (continued)

Component/Outcome 2 for LPCs		Argentina	China	Georgia	India	Jamaica	Malaysia	Morocco	Panama	Philippines	South Africa	Total
output	activity											
2.1	**2.1.1**	22,800	22,800	22,800	0	0	22,800	22,800	22,800	0	22,800	**159,600**
	2.1.2	0	0	0	0	0	0	0	0	0	0	**0**
	2.1.3	22,800	22,800	22,800	22,800	22,800	22,800	22,800	22,800	22,800	22,800	**228,000**
	2.1.4	0	0	0	0	0	0	0	0	0	0	**0**
	2.1.5	13,800	13,800	3000	3000	3000	3000	3000	3000	3000	13,800	**62400**
	2.1.6	0	0	0	0	0	33,400	22,800	0	0	0	**56,200**
2.2	**2.2.1**	0	0	0	0	0	0	0	0	0	0	**0**
	2.2.2	0	0	0	0	0	0	0	0	0	0	**0**
	2.2.3	0	0	0	0	0	0	0	0	0	0	**0**
2.3	**2.3.1**	2,100	2,100	2,100	36,500	2,100	2,100	2,100	2,100	2,100	2,100	**55,400**
	2.3.2	0	0	0	0	0	0	0	0	0	0	**0**
2.4	**2.4.1**	0	0	0	0	0	0	0	0	0	0	**0**
2.5	**2.5.1**	0	0	0	0	0	0	0	0	0	0	**0**
	2.5.2	21,800	0	21,800	0	21,800	21,800	21,800	21,800	21,800	21,800	**174,400**
Component 2 LPC Subtotals		**83,300**	**61,500**	**72,500**	**62,300**	**49,700**	**105,900**	**95,300**	**72,500**	**49,700**	**83,300**	**736000**

Table 3.3 - LPCs' activity-level co-financing details (continued)

Component/Outcome 3 for LPCs		Argentina	China	Georgia	India	Jamaica	Malaysia	Morocco	Panama	Philippines	South Africa	Total
output	activity											
3.1	3.1.1	0	0	0	0	0	0	0	0	0	0	**0**
	3.1.2	0	0	0	0	0	0	0	0	0	0	**0**
	3.1.3	0	0	0	0	0	0	0	0	0	0	**0**
3.2	3.2.1	0	0	0	0	0	0	0	0	0	0	**0**
	3.2.2	0	22,800	0	22,800	0	0	0	0	0	0	**45,600**
3.3	3.3.1	0	0	0	0	0	0	0	0	0	0	**0**
	3.3.2	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	3,000	**30,000**
Component 3 LPC Subtotals		**3,000**	**25,800**	**,3000**	**25,800**	**3,000**	**3,000**	**3,000**	**3,000**	**3,000**	**3,000**	**75,600**

Component/Outcome 4 for LPCs		Argentina	China	Georgia	India	Jamaica	Malaysia	Morocco	Panama	Philippines	South Africa	Total
output	activity											
4.1	4.1.1	0	0	0	0	0	0	0	0	0	0	**0**
	4.1.2	0	0	0	0	0	0	0	0	0	0	**0**
	4.1.3	0	0	0	0	0	0	0	0	0	0	**0**
	4.1.4	14,800	14,800	14,800	14,800	14,800	14,800	14,800	14,800	14,800	14,800	**148,000**
4.2	4.2.1	0	0	0	0	0	0	0	0	0	0	**0**
	4.2.2	0	0	0	0	0	0	0	0	0	0	**0**
Component 4 LPC Subtotals		**14,800**	**14,800**	**14,800**	**14,800**	**14,800**	**14,800**	**14,800**	**14,800**	**14,800**	**14,800**	**148,000**

Table 3.3 - LPCs' activity-level co-financing details (continued)

Project Management		Argentina	China	Georgia	India	Jamaica	Malaysia	Morocco	Panama	Philippines	South Africa	Total
output	activity											
PM.1	PM.1.1	0	0	0	0	0	0	0	0	0	0	0
	PM.1.2	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	800,000
Component 4 LPC Subtotals		80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	80,000	800,000

Total LPC in-kind contribution	304,700	297,700	285,900	298,500	279,100	327,300	308,700	285,900	263,100	296,700	2,947,600

The calculation of financial resources needed for each activity, as documented in **Tables 3.2** and **3.3** are based on detailed analysis of the following aspects:

- Level of efforts needed to complete an activity in terms of person-days.
- Break down of total needed person-days to days for international consultant, local consultant, local support staff for project-based activities; and time for participation in meetings, training workshops, conferences, etc. for capacity building activities.
- Costs associated with meetings/workshops venues, and travel and subsistence estimates for participation in capacity building activities, where applicable.
- Relevant charges for meeting paces, workshops, etc.
- Overheads involved in particular for IMO related MEPC and other meetings.
- Travel requirements and travel expenses for international consultants as part of their over overall service package. Travel requirements by IMO staff within the course of project have also been included.

Using the above methodology, the detailed estimates of activity-based resources requirements are carried out and the source of funding, either cash or in-kind, were identified. Such details are documented in tabular forms and are included in the following Annexes (**Section 7**) to this document:

- **Annex 1** – Detailed activity-level financing estimates for GEF (cash)
- **Annex 2** – Detailed activity-level co-financing estimates for IMO (cash and in-kind)
- **Annex 3** – Detailed activity-level co-financing estimates for each LPC (in-kind)
- **Annex 4** – Detailed activity-level co-financing estimates for GIA (cash and in-kind)
- **Annex 5** – Detailed activity-level co-financing estimates for GSPs (in-kind)

3.2 Project Result Framework

This project will contribute to achieving the following Country Programme Outcome as defined in CPAP or CPD: N/A						
Country Programme Outcome Indicators: N/A						
Primary applicable Key Environment and Sustainable Development Key Result Area: Growth and development are inclusive and sustainable, incorporating productive capacities that create employment and livelihoods for the poor and excluded.						
Applicable GEF Strategic Objective and Program: CCM-1, CCM-4 and IW-2						
Applicable GEF Expected Outcomes: CCM-1: Outcome 1.2; CCM-4: Outcome 4.1 and IW-2: Outcome 2.3						
Applicable GEF Outcome Indicators: CCM1: Output 1.2; CCM-4: Output 4.3 and IW-2: Output 2.2 and Output 2.4						
	Expected Outcomes	**Indicator**	**Baseline**	**Targets** **End of Project**	**Source of verification**	**Risks and Assumptions**
Project Objective[28] To build capacity in developing countries for implementing the technical and operational measures for energy efficient shipping and to catalyze overall reductions in GHG	In 10 LPCs, legal and policy systems are developed, capacity building has been undertaken and international cooperation between public-private entities is promoted.	Level of legal, policy and institutional capacity of the Lead Pilot Countries for reducing emissions from international shipping. Level of human capacity of the Lead Pilot Countries in dealing with shipping energy efficiency regulations and efficiency measures. Level of engagement of private-public partnership in dealing with shipping energy efficiency activities. •	• National commitment exists to substantially improve the shipping energy efficiency via adoption of Chapter 4 of MARPOL Annex VI on MEEF. • • The majority of LPCs lack policies, legal frameworks and institutional capacities to implement IMO MEEF and shipping energy efficiency measures. • LPCs lack human capacities to implement IMO MEEF and achieve significant reductions in their shipping	• The LPCs maritime status including their relevant baselines and targets, with regard to maritime energy efficiency and GHG emissions are defined and documented.. • In all LPCs, sustainable policies/strategies, legal frameworks and roadmaps are in place for moving to a more energy efficient shipping. • Human capacities are developed and cadres of	• Documented ME-STBR and NMEES for 10 LPCs. • Legal/regulatory status of LPCs on adoption, implementation and enforcement of MARPOL Annex VI. • Project annual and final reports. • Reports fo	Changes in policy, decision makers, and/or other events beyond the control of the project. • It is assumed that this will be avoided due to nature of Lead Agencies (that are mainly the National Maritime Agencies) and their close association with the IMO. Failure to form the GIA or secure the GIA Fund. • Formation of GIA will be given priority from early in the project. • It is assumed that failure to secure significant GIA Fund

[28] *Objective (Atlas output) monitored quarterly ERBM and annually in APR/PIR*

emissions from global shipping		• Level of dissemination and knowledge sharing efforts and activities.	GHG emissions. • There are no significant initiatives between North-South (e.g. such as proposed GIA) and South-South (such as GloMEEP itself) in these areas. • 4 of LPCs have not ratified the MARPOL Annex VI and another 4 has no detailed implementation and enforcement processes in place.	relevant experts are in place for undertaking national or regional tasks in this area. • One existing maritime institution in each LPC is capacitated in area of providing training on IMO MEEF and ship energy efficiency measure. • A total of 40 workshops / events to be organized (on average 4/LPC). • The global partnership in the form of GIA is formed and functioning with industry cash contribution to GIA Fund in place.	executed capacity building activities. • Records of dissemination activities. • Record of international events organized within the framework of GloMEEP.	will reduce the private sector catalytic effects but will not impact the main objectives of the project. Large number of capacity building workshops and lack of capacity to deliver them. This is mitigated via: • The workshops largely rely on experience gained under IMO-KOICA and IMO-ITCP similar activities; thus a lot of experience in smooth running of workshops already exists. • Facilitators for workshops are to a large extent available (again with experience gained during KIOCA and ITCP efforts) and will be augmented by formation of roster and GESEE list of national experts within the project. • Workshops are mainly national ones; thus the efforts are distributed between 10 LPCs; reducing the organizational capacity risks. It is assumed that country buy-in and political support for implementation of proposed LPIRs and NMEESs exists. In case of lack of this determination: • This is an issue largely relating to beyond the GloMEEP when strategies, policies, roadmaps need to be implemented. • Via the political approved NMEES and also development of a “forward plan” within GloMEEP, this risk will be mitigated. • During capacity building,

						attention is paid to getting decision makers in the pertinent ministries involved in debates; thus secure their buy-in for future activities.
	Expected Outcomes	**Indicator**	**Baseline**	**Targets End of Project**	**Source of verification**	**Risks and Assumptions**
Component 1:[29] Legal, policy and institutional reforms for GHG reductions through improved energy efficiency within maritime transport sector in developing countries (CC and IW)	1.1 Pilot countries undertaking legal, policy and institutional reforms (LPIR) to implement Maritime Energy Efficiency Framework (MEEF) and acting as catalysts for increased uptake of MEEF by other developing countries at a global scale	• Number of LPCs that have identified their baselines, polices and future targets • Number of LPCs that have a legislative framework for ratification, implementation and enforcement of MARPOL Annex VI including IMO MEEF. • Extent of dissemination of national efforts to wider developing countries.	• The LPCs' country status with regard to maritime and shipping energy efficiency issues is not known. • The majority of LPCs lack policies, legal frameworks and institutional capacities to enable them to implement IMO MEEF and energy efficiency measures. • 4 of LPCs have not ratified the MARPOL Annex VI and another 4 has no detailed implementation and enforcement processes in place. • National regulations and procedures for implementation and enforcement of IMO MEEF is lacking in the majority of the LPCs. • None of the LPCs has NMEES in place. There are some general maritime policies/strategies but no NMEES.	• The status of all LPCs with regard to maritime energy efficiency and GHG emissions are documented.. • In all LPCs, shipping energy efficiency policies / strategies, legal frameworks and roadmaps are in place. • The developed and documented results are disseminated within wider maritime industry in particular within developing countries.	• Documented ME-STBR and NMEES for 10 LPCs. • Legal/regulatory status of LPCs on adoption, implementation and enforcement of MARPOL Annex VI. • Reports of relevant capacity building workshops. • Project's annual and final reports.	It is assumed that country buy-in and political support exists. This risk is mitigated: • Via the consultation meetings that showed significant buy-in on the part of LPCs. • Engagement of maritime authorities in the capacity building activities. • NLAs are mainly maritime industries and have strong working relationship with IMO. This will reduce the risk significantly. Preparation of various reports, to be prepared at national levels and by national experts, may not be feasible due to lack of capacity. This risk will be mitigated via: • Global tools, methodologies and templates will be comprehensive enough to reduce the burden on national experts. • Roll out of the above tools at national level will increase the capacity to deliver the reports. • PCU will organize a monitoring process and

[29] *All outcomes monitored annually in the APR/PIR.*

						"responsible international expert" for each deliverable globally to act as consultant to national experts. • Collection of relevant data and information at national level will be closely monitored for defining the baselines and country status. • The full capacity of NFP, NPC and NTF will be utilized to ensure this national effort is a success. Approval of NMEESs may be delayed. To mitigate this risk: • The approval is not required at highest political level (e.g. cabinet or ministerial). • The NMEES development will be accelerated early in the project to leave enough time to take it through political approval. It is assumed that data for country assessment reports are readily available. These data may not be there and thus risk management will be performed via more guidance from PCU to ensure collection of relevant data in time. • PCU provides support to LPCs, including baseline survey training, and technical assistance on report development; LPCs to seek co-financing to carry out surveys and then develop report; LPCs are able to raise own funds and get additional co-sponsors to conduct baseline studies and road mapping.

						Preparation of legislation may be delayed due to lack of non-cooperative stakeholders. To mitigate this risk: • NFPs devise strategies to get relevant stakeholders involved in consultations early in the project (e.g. already they have taken part in national consultations and they will be part of NTF). This will secure their buy-in and mitigate the risk. • PCU will recruit a legislative international expert / consultant to drive the whole process via a central monitoring and advisory role.
	Expected Outcomes	**Indicator**	**Baseline**	**Targets End of Project**	**Source of verification**	**Risks and Assumptions**
Component 2: Maritime sector energy efficiency capacity-building, awareness raising, knowledge creation and dissemination (CC and IW)	2.1 Enhanced awareness and capacity to implement ship energy efficiency measures (operational, design) in the pilot countries.	Level of human capacity of the LPCs in area of shipping energy efficiency regulations and operational and technical measures. Number of capacity building workshops successfully executed. Level of dissemination and knowledge sharing activities of the project. •	• LPCs lack human capacities to implement IMO MEEF and achieve significant reductions in shipping GHG emissions. • The public awareness on shipping energy efficiency and GHG emissions and its contribution to global warming as well as IMO MEEF is minimal. • There is no significant interest and information exchange with developing countries. • Maritime institutions do not generally have shipping energy efficiency teaching	Specific objectives and targets include: • Human capacities are developed and cadres with relevant expertise are in place for undertaking national or regional tasks in this area. • At least one existing maritime institution in each LPC is capacitated to provide training on IMO MEEF and ship energy efficiency • A total of 40 workshops/events to be organized (on average	• Reports of the executed capacity building workshops. • • The developed, and documented workshop materials. • Energy efficiency roster and GESEE inventory inclusive of all LPCs.. • Dissemination website and documentation.	Large number of capacity building workshops and lack of capacity to deliver them. This is mitigated via: • The workshops largely rely on experience gained under IMO-KOICA and IMO-ITCP similar activities; thus a lot of experiences already exist within IMO and LPCs in smooth running of such workshops. • Facilitators for workshops are to a large extent available (again because of IMO-KOICA and IMO-ITCP previous activities) and will be augmented by formation of national roster and GESEE inventory within the project.

			in their curriculum. • Port authorities and personnel are generally unaware of impact of port management on ship energy efficiency.	4/LPC). • The developed GloMEEP training materials are disseminated to all LPCs.	• Published GloMEEP newsletters.	• Workshops are mainly national ones; thus the efforts are distributed between 10 LPCs; reducing the organizational capacity risks.
	Expected Outcomes	**Indicator**	**Baseline**	**Targets End of Project**	**Source of verification**	**Risks and Assumptions**
Component 3 Public-private partnerships to catalyse innovation and R&D and technology transfer to meet the needs of developing countries (CC and IW)	3.1 Accelerated development of Maritime Energy Efficiency related innovations suited for developing countries and accelerated diffusion of these innovations among the maritime transport sector in the pilot countries through catalyzing technology transfer and collaborative efforts between government, maritime industry and technology developers.	• GIA is formed and GIA Fund is secured • EETs database realization. • Number of global activities / international events organised.	• There is no GIA or any other alliances on shipping energy efficiency in support of developing countries. • International collaboration offered under GloMEEP for ship energy efficiency (South-South and North-South) has not taken place before. • IMO has had bi-lateral agreements with donor countries (e.g. South Korea KOICA) that have promoted shipping energy efficiency. GloMEEP intends to use the outcome and build on those achievements. • There is no comprehensive and reliable database for EETs within maritime industry..	Specific objectives and targets include: • A formed GloMEEP GIA together with records of cash funding and relevant activities. • Securing industry funding (GIA Fund) within GloMEEP framework and use of fund for GloMEEP purposes (to be agreed by industrial partners themselves). • Establishment of minimum two bilateral or multi-lateral agreements to cash/in-kind support the GloMEEP GIA agenda. • Establishment of a minimum two international events with GloMEEP agenda at its core.	• The GloMEEP GIA formation MOUs. • The GIA ITF meetings and minutes. • The existence of a GIA Fund with cash input from industry. • Database on EETs created and publicized. • Bilateral Agreements developed or finances donated for GloMEEP activities. • Report of international events and forums organized under GIA and their relevant publicity.	The risk is that the industry may need convincing to join GIA in particular to donate cash to GIA Fund. To mitigate this risk: • Time will be spent by PCU to develop a sound business case to justify the industry involvement. • Large multi-national industries with significant maritime activities with developing countries will be targeted to ensure a more positive reception of ideas. GIA formation activities will start early in the project. Already consultation meetings have taken place with a number of industries.
	Expected Outcomes	**Indicator**	**Baseline**	**Targets End of Project**	**Source of verification**	**Risks and Assumptions**

Component 4 Monitoring. Learning, adaptive feedback and evaluation	4.1 Adaptive project management and coordination for implementation, monitoring and evaluation.	Realization of project teams at global and national levelsl. • The project objectives met, and outputs completed in time and within budget All elements of project reporting, M&E are established and have functioned according to plan.	The baseline is represented as follows: • Maritime Administrations in various countries are primarily involved in implementation and enforcement of IMO regulations including MARPOL Annex VI. • There is no dedicated commission, institute or task force in any of the LPCs that act as a driving/steering force to promote shipping energy efficiency and reduction of maritime GHG emissions. • Project management structure as foreseen within GloMEEP does not exist at IMO and the LPCs.	The main target is the creation of a lean and sustainable management structures within LPCs (such as National Task Force) to engage in national M&E activities for GloMEEP and steer the maritime GHG emissions agenda beyond GloMEEP and to sustain relevant efforts. Specific objectives and targets include: • To set up the "global management elements" for GloMEEP including, PCU, GPTF and GIA-ITF. • To set up the "national management elements" for GloMEEP including NLA, NFP, NPC and NTF. • To deliver GloMEEP work plan according to schedule and on budget. • To deliver the M&E reports and project deliverables in time and within budget. • To document all aspects of the project including lessons learnt.	• LPCs management structure and assignments and meetings. • Reports of inception meeting, and periodic and annual report.. • . • GloMEEP reporting and M&E reports are in place. • • Final evaluation reports.	Setting up of the global management elements" may be delayed. This risk is mitigated via: • Development of the TOR for the PCU personnel within ProDoc so that the employment of relevant personnel could start immediately after the project approval. • As part of country consultations, the NLA, NFP and NPC have already been decided by many LPCs (these are documented in this ProDoc). Number of deliverables and report are too many for this size of the project. This risk is mitigated via: • Project periodic reports will be short and in outline. • Evaluation is done only once at the end of project. • The national deliverables will be developed by large number of LPCs, thus efforts will reduce per LPC.

3.3 Total Budget and Work Plan

3.3.1 Project Budget

Award ID:	00083865	Project ID(s):	00092137
Award Title:	Global		
Business Unit:	UNDP1		
Project Title:	Transforming the Global Maritime Transport Industry towards a Low Carbon Future through Improved Energy Efficiency (GloMEEP)		
PIMS no.	5201		
Implementing Partner (Executing Agency)	International Maritime Organization (IMO)		

GEF Outcome/Atlas Activity	Responsible Party/ Implementing Agent	Fund ID	Donor Name	Atlas Budgetary Account Code	ATLAS Budget Description	Amount Year 1 (USD)	Amount Year 2 (USD)	Total (USD)	Budget notes
OUTCOME 1: Pilot countries undertaking legal, policy and institutional reforms (LPIR) to implement Maritime Energy Efficiency Framework (MEEF) and acting as catalysts for increased uptake of MEEF by other developing countries at a global scale	**IMO**	**62000**	**GEF**	71200	International Consultants	$300,000	$94,000	$394,000	Most of activities for this Outcome are planned for Year 1. This is inclusive of any travel needed by hired international consultants.
				71300	Local Consultants	$230,000	$46,000	$276,000	
				71600	Travel	$50,000	$30,000	$80,000	Travels are foreseen for IMO Technical Officers / PCU to oversee national events.
				72500	Office Supplies	$0	$0	$0	
				74500	Miscellaneous	**$10,000**	**$10,000**	**$20,000**	
					Contractual services	0	0	0	
					Sub-Total GEF	**$590,000**	**$180,000**	**$770,000**	
					Total Outcome 1	**$590,000**	**$180,000**	**$770,000**	

OUTCOME 2: Enhanced awareness and capacity to implement ship energy efficiency measures (operational, design) in the pilot countries.	**IMO**	**62000**	**GEF**	71200	International Consultants	$150,000	$334,000	$484,000	Most of activities for this Outcome are planned for Year 2. This is inclusive of any travel needed by hired international consultants.
				71300	Local Consultants	$32,000	$50,000	$82,000	
				71600	Travel	$40,000	$50,000	$90,000	Travels are foreseen for IMO Technical Officers / PCU to oversee national events.
				72500	Office Supplies	$0	$0	$0	
				74500	Miscellaneous	$24,000	$20,000	$44,000	
					Contractual services	$0	$0	$0	
					Sub-Total GEF	**$246,000**	**$460,000**	**$700,000**	
					Total Outcome 2	**$246,000**	**$460,000**	**$700,000**	
OUTCOME 3: Accelerated development of Maritime Energy Efficiency related innovations suited for developing countries and accelerated diffusion of these innovations among the maritime transport sector in the 10 pilot countries through catalyzing technology transfer and collaborative efforts between government, maritime industry and technology developers.	**IMO**	**62000**	**GEF**	71200	International Consultants	$40,000	$46,000	$86,000	This relates to two work item; setting up of the EETs database and provision of one national workshop.
				71300	Local Consultants	$0	$4,000	$4,000	Cost of national consultant for part-delivery of a national workshop.
				71600	Travel	$60,000	$60,000	$120,000	This travel cost relates to participation of experts from LPC and IMO staff in the GloMEEP conference series.
				72500	Office Supplies	$0	$0	$0	
				74500	Miscellaneous	$0	**$0**	**$0**	
					Contractual services	$0	**$0**	**$0**	
					Sub-Total GEF	**$100,000**	**$110,000**	**$210,000**	
					Total Outcome 3	**$100,000**	**$110,000**	**$210,000**	
OUTCOME 4: Adaptive project management	**IMO**	**62000**	**GEF**	71200	International Consultants	$	$10,000	$10,000	
				71300	Local Consultants	$0	$0	$0	

and coordination for implementation, monitoring and evaluation.				71600	Travel	$25,000	$25,000	$50,000	The travel costs are primarily for PCU staff for the purpose of attending various meetings as foreseen under M&E plan. Travel costs for international consultant to deliver technical workshops, training events are incorporated within the local and international consultant components, unless specified otherwise.
				72500	Office Supplies	$0	$0	$0	
				74500	Miscellaneous	**$0**	**$0**	**$0**	
					Contractual services	**$0**	**$0**	**$0**	
					Sub-Total GEF	**$25,000**	**$35,000**	**$60,000**	
					Total Outcome 4	**$25,000**	**$35,000**	**$60,000**	
PROJECT MANAGEMENT	**IMO**	**62000**	**GEF**	71200	International Consultants	$0	$0	$0	
				71300	Local Consultants	$0	$0	$0	
				71400	Administrative Assistant (G6)	$60,000	$60,000	$120,000	The personnel cost under this item represents only the costs associated with the project administration activities by the Project Coordination Unit. Costs associated with the technical experts (including PC and TA), who will deliver most of the technical outcomes, are incorporated within the International Consultants components throughout various work items, as per requirements. Extensive use of technical expertise existing within PCU and IMO Marine Environment Division would ensure the much needed cost-efficiency required by the tight budgets.

				71600	Travel	$15,000	$15,000	$30,000	The travel costs are primarily for PCU staff for the purpose of project management, administration and for outreach activities. Travel costs for technical workshops, training events and travel costs for international experts are incorporated within the local and international consultant components, unless specified otherwise.
				72500	Office Supplies	$5,000	$5,000	$10,000	
				74500	Miscellaneous	$0	$0	$0	
					Contractual services	$0	$0	$0	
					Sub-Total GEF	**$80,000**	**$80,000**	**$160,000**	
					Total Project Management	**$80,000**	**$80,000**	**$160,000**	
					PROJECT TOTAL	**$1,035,000**	**$865,000**	**$1,900,000**	

Summary of total funds

Table 3.4 shows the summary of the total project budget.

Table 3.4 – Summary of total GloMEEP finances

Financing sources	Year 1	Year 2	Total
GEF	$1,035,000	$865,000	$1,900,000
IMO	$3,000,000	$4,418,000	$7,418,000
LPCs	$1,300,000	$1,647,600	$2,947,600
GSPs	$600,000	$660,000	$1,260,000
GIA	$75,000	$100,000	$175,000
UNDP	$35,000	$40,000	$75,000
Total	**$6,045,000**	**$7,730,600**	**$13,775,600**

7.4.1 Project Work Plan

COMPONENT 1	Year 1				Year 2			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Outcome 1 - Learning, evaluation and adaptive management increased								
Output 1.1 - Global tools and guidance for LPIR development including model legislations, guidance on compliance monitoring and enforcement methodologies and best practices; and guidance on energy efficiency calculation and analysis tools								
Activity 1.1.1 Develop template and guidance for rapid assessment of "country maritime status, energy baselines, targets and roadmap"								
Activity 1.1.2 Develop template and guidance for maritime energy efficiency strategies development and LPIR road mapping								
Activity 1.1.3 Develop model legislation for inclusion of the energy policy and MEEF requirements within national law and prepare related training manuals								
Activity 1.1.4 Enhance LPCs institutional capacities for LPIR development and implementation								
Output 1.2 LPCs drafted their national legislation in-line with the international requirements and IMO regulations on GHG emissions from ships								
Activity 1.2.1 Development of national "Maritime Energy Management Status, Baselines, Targets and Roadmaps (ME-SBTR)" assessment report								
Activity 1.2.2 National Maritime Energy Efficiency Strategies (NMEES) developed and approved								
Activity 1.2.3 Forward planning for NMEES Implementation								
Activity 1.2.4 Develop national legislation								
1.3 Pilot countries integrated MEEF into port and infrastructure planning for future growth								
Activity 1.3.1 Develop guidance document on port energy analysis								
Activity 1.3.2 Port energy analysis for reduced ship energy use and improved local air quality								
Activity 1.3.3 Develop guidance document for estimating the financial / economic benefits of port energy efficiency measures								
Activity 1.3.4 Undertake financial and economic benefits assessment for port energy efficiency								
Output 1.4 - Global Tools and pilot country experiences (output 1.2) will be shared and disseminated at global level								
Activity 1.4.1 Publication and dissemination of LPIR global tools and related GloMEEP achievements								

COMPONENT 2	Year 1				Year 2			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Outcome 2 – Enhanced awareness and capacity to implement ship energy efficiency measures (operational and design) in the pilot countries								
Output 2.1 Developed capacity-building tools and training courses on ships' energy efficiency regulations (EEDI and SEEMP) and best practice								
Activity 2.1.1 Hold training courses on "Ship Energy Efficiency Regulations and Flag State Implementation" including an optional extra day on technology transfer for ship energy efficiency								
Activity 2.1.2 Update/refine /translate the "SEEMP Model Course"								
Activity 2.1.3 Capacitate national maritime training institute(s) for delivery of "SEEMP Model Course"								
Activity 2.1.4 Develop workshop material on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations								
Activity 2.1.5 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations								
Activity 2.1.6 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations								
Output 2.2 Created global knowledge sharing forums on energy efficiency within maritime sector including port infrastructure and logistics facilities								
Activity 2.2.1 Publish and distribute six-monthly newsletters								
Activity 2.2.2 Develop, and translate GloMEEP brochures and publications								
Activity 2.2.3 Develop and maintain GloMEEP website								
Output 2.3 Developed a pool of global "marine energy management trainers" who have successfully completed trainer certification through "train-the-trainer" workshops								
Activity 2.3.1 Develop a consolidated list of those who has taken part in ship energy efficiency "train-the-trainer" workshops and faciliatet their engagement at national and regional activities								
Activity 2.3.2 Develop the LPCs roster of maritime energy efficiency experts								
Output 2.4 Conducted training workshops at national levels and integrated into national maritime academic and practical training curriculum								
Activity 2.4.1 Share tools with national academics/institutions who will be invited to national training courses								
Output 2.5 Capacity building for port management and port developments for energy efficiency								
Activity 2.5.1 Develop workshop material on port management and port developments for maritime energy efficiency								
Activity 2.5.2 Capacity building for port management and port developments for maritime energy efficiency								

COMPONENT 3	Year 1				Year 2			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Outcome 3 - Enhanced dissemination of maritime Energy Efficiency related innovations through catalysing knowledge sharing and collaborative efforts between international stakeholders								
Output 3.1 Establishment of Global Industry Alliance (GIA) as a private-sector collaboration platform								
Activity 3.1.1 Formation of GloMEEP GIA								
Activity 3.1.2 Setup the GloMEEP GIA Fund								
Activity 3.1.3 GIA will meet periodically to steer industry-GloMEEP activities								
Output 3.2 Under the auspecies of GIA, catalyze the development and maintenance of a global database on energy efficient ship technologies and port facilities								
Activity 3.2.1 Setup an EETs (Energy Efficiency Technologies) database								
Activity 3.2.2 Organize workshops on ship energy efficiency technologies for ship design and operation including alternative fuels								
Output 3.3 Facilitate forums for private sector and technology developers for demonstrating application of energy efficiency measures and dissemination of particularly notable improvements in maritime transport efficiency technology and practices								
Activity 3.3.1 Establish a global conference series to be co-ordinated in partnership with Singapore under the framework of GIA								
Activity 3.3.2 Participate in one global ship/port/energy management relevant event								

COMPONENT 4	Year 1				Year 2			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Outcome 4 - Adaptive project management and coordination for implementation, monitoring and evaluation								
Output 4.1 Project Management and coordination structures is in place at global and national levels								
Activity 4.1.1 Global Project Task Force (GPTF)								
Activity 4.1.2 Organise Industry Task Force (ITF)								
Activity 4.1.3 National Task Force (NTF)								
Activity 4.1.4 National Stakeholders Workshops (NSW)								
Output 4.2 Project monitoring, evaluation and reporting systems established and implemented								
Activity 4.2.1 Final evaluation								
Activity 4.2.2 APR/IPR								

PROJECT MANAGEMENT	Year 1				Year 2			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Outcome 4 - Adaptive project management and coordination for implementation, monitoring and evaluation								
Output 4.1 Project Management and coordination structures is in place at global and national levels								
Activity PM.1.1 Project Coordination Unit (PCU)								
Activity PM.1.4 National Level Management and Coordination								

4 MANAGEMENT ARRANGEMENT

Figure 4.1 shows the GloMEEP project management structure that includes two distinct elements; one at global and the other at national levels.

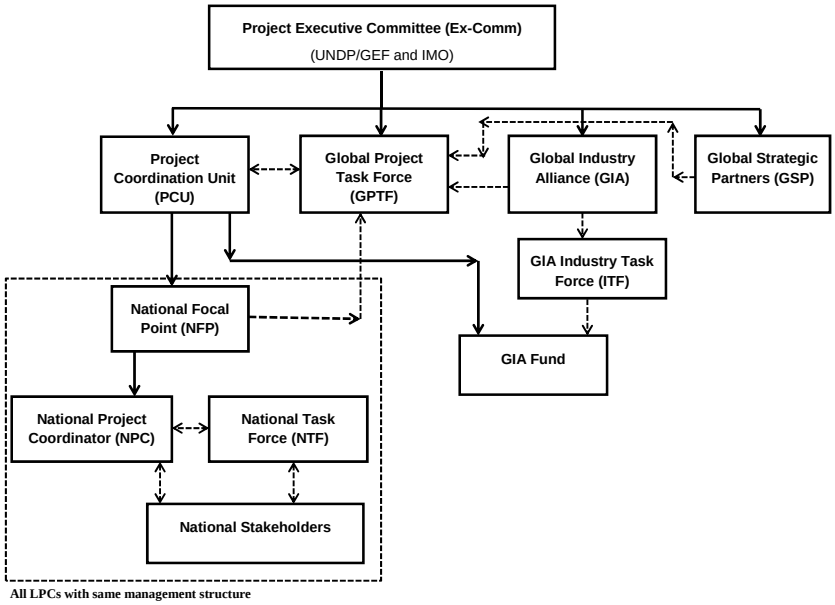


Figure 4.1 – Project management, coordination and monitoring structure

4.1 Global level

GloMEEP project will be implemented by UNDP and executed by the IMO; thus a Project Executive Committee representing UNDP and IMO will provide high level coordination and support for its implementation.

The global level management structure comprises of a Project Coordination Unit (PCU), a Global Project Task Force (GPTF) and a GIA Industry Task Force (ITF). The main management element is PCU while the GPTF and ITF act more as steering committees with significant oversight and monitoring roles.

The GloMEEP's PCU will assume the day-to-day management of the project and will be consisting of a Project Coordinator (PC- in-kind support from IMO), a Technical Advisor (TA- to be hired) and an Administrative Assistant (AA – to be hired). The PCU will be housed at IMOs London Headquarters and will operate in close proximity and cooperation with the Marine Environment Division (MED) of the IMO Secretariat which will offer significant technical and administrative backstopping to the project. The PCU will be back-stopped by technical experts in maritime energy efficiency and GHG reduction and the major responsibility of PCU will be to ensure delivery of the technical outcomes of the project including ensuring on-time development of relevant templates and guidance documents, preparation of country reports as well as training / capacity building activities. Extensive use of technical expertise existing within PCU and within the IMO MED would ensure the much needed cost-efficiency required by the tight budgets. External expertise will be hired only to augment the technical expertise within PCU.

The PCU will also assume day-to-day operational control of the project, and will directly liaise with counterparts at the LPC levels, although such coordination/ administration will only take roughly 10 % of the PCU efforts. PCU will also be responsible for convening various meetings

and preparation of various reports as outlined under *Component 4* on "monitoring and evaluation" of the project.

In terms of financial management processes and following the budgeting procedures used by IMO for management of large projects such as GloBallast and considering the specific budget / expenditure reporting process being used by IMO for executing UNDP /GEF projects, this full-size project will use the same Extra-Budgetary (XB) budget framework as used for execution of the Project Preparation Grant (PPG).

The GloMEEP GPTF will be established and will consist of representatives of the LPCs, UNDP/GEF, IMO, and a representative from GIA. The GPTF role will be mainly provide policy and strategic advice and oversight to project, approval of project's Work Plans, monitoring of progress and steering of project activities. GPTF will play a major monitoring role via approval of Annual Work Plan (AWP) and review of progress as part of its deliberations. GPTF will not play any role for day-to day-management of the project.

4.2 National Level

A National Focal Point (NFP) and a National Project Coordinator (NPC) are foreseen as the executive bodies of the national level project management team. The NFP will deal with general coordination of the project and securing authoritative support for all aspects of the project within the LPC. The NPC will be dealing with day-to-day operation of national activities and ensuring their on-time and to the budget delivery. A National Task Force (NTF), comprising all the major stakeholders, will be formed at national level in each LPC and will act as a steering group and provision for relevant activities and also national foresight. NTF will make sure that GloMEEP agenda is followed, the deliverables are in quality assured forms and the needs/policies of the LPC is taken into account during implementation. To conduct consultation with wider industry, ad hoc National Stakeholders Workshops (NSW) are foreseen to be organised on a per-need basis.

Based on the above, it is foreseen that the NFP and NPC combined will undertake all management and coordination activities at national level. They will not only deal with day-to-day coordination but also liaise with PCU, participate in GPTF meetings, work with NTF, coordinate with GEF Country Operational Focal Point, coordinate all relevant national events/activities with support from national stakeholders, organise NSW and other relevant activities. In addition, they will provide support to the PCU on all aspects of project's reporting and M&E requirements; thus enabling the PCU to effectively manage a global program with limited number of staff.

4.3 Financial and other processes

Financial management will be through established procedures between UNDP and IMO, and between IMO and other donors or co-funders including those who will provide cash to GIA Fund. In turn, the IMO will enter into contractual arrangements with international and national consultants for the dispensation of funds for global-level and LPC-level activities. As the cash element of the project is not big, the direct recruitment of consultants or agencies is the preferred course of action for GloMEEP. For regional activities, the nominated LPC will be dealing with the arrangements for the attendance at regional workshops and training programs of representatives from partnering countries, thus reducing the administrative burden on the PCU. However, relevant funding of participation from regional countries will be done directly by the PCU.

As indicated in the earlier section describing project outcomes, outputs and activities (see project's *Outcome 3*), GloMEEP project brings to the table a new partnership with industry in the form of GIA, aiming to promote the more practical use of technologies and technology

deployment. Agreements will be established between IMO and the GIA members, governing the use of funds, promotional credit, proprietary rights, etc.

In order to accord proper acknowledgement to GEF for providing funding, UNDP as the implementation agency and IMO as the executive agency, GEF, UNDP and IMO logos will appear on all relevant GloMEEP project publications. In addition, citation on publications funded by GEF under GloMEEP project will accord proper acknowledgment to GEF and UNDP.

5 MONITORING FRAMEWORK AND EVALUATION

The project will be monitored through the following M& E activities. The M& E budget is provided in **Table 5.1**.

Project start:

A Project Inception Workshop will be held within the first 3 months of project start with those with assigned roles in the project organization structure, UNDP IW PTA and where appropriate/feasible regional technical policy and programme advisors as well as other stakeholders. The Inception Workshop is crucial to building ownership for the project results and to plan the first year annual work plan.

The Inception Workshop will address a number of key issues including:

a) Assist all partners to fully understand and take ownership of the project. Detail the roles, support services and complementary responsibilities of all stakeholders including the project team. Discuss the roles, functions, and responsibilities within the project's decision-making structures, including reporting and communication lines, and conflict resolution mechanisms.

b) Based on the project results framework and the relevant GEF Tracking Tool if appropriate, finalize the first Annual Work Plan (AWP). Review and agree on the indicators, targets and their means of verification, and recheck assumptions and risks.

c) Provide a detailed overview of reporting, monitoring and evaluation (M&E) requirements. The Monitoring and Evaluation work plan and budget will be agreed and scheduled.

d) Discuss financial reporting procedures and obligations, and arrangements for annual audit.

e) Plan and schedule GPTF meetings. Roles and responsibilities of all project organisation structures should be clarified and meetings planned. The first GPTF meeting will be held along the inception workshop or within the first 3 months following the inception workshop.

An Inception Workshop report is a key reference document and will be prepared and shared with participants to formalize various agreements and plans decided during the meeting.

Quarterly:

- Progress made shall be monitored in the UNDP Enhanced Results Based Management Platform.
- Based on the initial risk analysis submitted, the risk log shall be regularly updated in ATLAS. Risks become critical when the impact and probability are high.
- Based on the information recorded in Atlas, a Project Progress Reports (PPR) will be generated in the Executive Snapshot.
- Other ATLAS logs will be used to monitor issues, lessons learned etc. The use of these functions is a key indicator in the UNDP Executive Balanced Scorecard.

Annually:

- Annual Project Review/Project Implementation Reports (APR/PIR): This key report will be prepared to monitor progress made since project start and in particular for the previous reporting period (30 June to 1 July).

The APR/PIR includes, but is not limited to, reporting on the following:

- Progress made toward project objective and project outcomes - each with indicators, baseline data and end-of-project targets (cumulative)
- Project outputs delivered per project outcome (annual).
- Lesson learned/good practice.
- AWP and other expenditure reports
- Risk and adaptive management
- ATLAS QPR
- Portfolio level indicators (i.e. GEF focal area tracking tools) are used by most focal areas on an annual basis as well.

Periodic Monitoring through site visits:

UNDP focal point for the project may conduct visits to selected project sites based on the agreed schedule in the project's Inception Report/Annual Work Plan to assess first hand project progress. Other members of the ExCom may also join these visits. A Field Visit Report/BTOR will be prepared by the UNDP FP and will be circulated no less than one month after the visit to the project team and ExCom.

Mid-term of project cycle:

Due to the medium size of this two-year project, the independent Mid-Term Evaluation will not take place. Instead, the mid-term report will be prepared by PCU that would determine progress being made toward the achievement of outcomes and will identify course correction if needed. It will focus on the effectiveness, efficiency and timeliness of project implementation; will highlight issues requiring decisions and actions; and will present initial lessons learned about project design, implementation and management. Findings of this report will be incorporated as recommendations for enhanced implementation during the final half of the project's term.

End of Project:

An independent Final Evaluation will take place three months prior to the final GPTF meeting and will be undertaken in accordance with UNDP and GEF guidance. The final evaluation will focus on the delivery of the project's results as initially planned (and as corrected after the mid-term report, if any such correction took place). The final evaluation will look at impact and sustainability of results, including the contribution to capacity development and the achievement of global environmental benefits/goals. The Terms of Reference for this evaluation will be prepared by the UNDP FP based on guidance from UNDP-GEF M&E.

The Terminal Evaluation should also provide recommendations for follow-up activities and requires a management response which should be uploaded to PIMS and to the UNDP Evaluation Office Evaluation Resource Center (ERC).

The relevant GEF Focal Area Tracking Tools will also be completed during the final evaluation.

During the last three months, the project team will prepare the Project Terminal Report. This comprehensive report will summarize the results achieved (objectives, outcomes, outputs), lessons learned, problems met and areas where results may not have been achieved. It will also lay out recommendations for any further steps that may need to be taken to ensure sustainability and replicability of the project's results.

Learning and knowledge sharing:

Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums.

The project will identify and participate, as relevant and appropriate, in scientific, policy-based and/or any other networks, which may be of benefit to project implementation though lessons learned. The project will identify, analyze, and share lessons learned that might be beneficial in the design and implementation of similar future projects.

Finally, there will be a two-way flow of information between this project and other projects of a similar focus.

Communications and visibility requirements:

Full compliance will be met with UNDP's Branding Guidelines. These can be accessed at http://intra.undp.org/coa/branding.shtml, and specific guidelines on UNDP logo use can be accessed at: http://intra.undp.org/branding/useOfLogo.html. Amongst other things, these guidelines describe when and how the UNDP logo needs to be used, as well as how the logos of donors to UNDP projects needs to be used. For the avoidance of any doubt, when logo use is required, the UNDP logo needs to be used alongside the GEF logo. The GEF logo can be accessed at: http://www.thegef.org/gef/GEF_logo. The UNDP logo can be accessed at http://intra.undp.org/coa/branding.shtml.

Where other agencies and project partners have provided support through co-financing, their branding policies and requirements will be similarly applied.

5.1 Other aspects

5.1.1 Project start

A Project Inception Workshop (PIW) will be conducted as per requirements of the GEF-UNDP as outlined above.

5.1.2 Monitoring events

A detailed schedule of project review events will be developed by the PCU, in consultation with the LPCs and other stakeholder representatives and will be incorporated in the Project Inception Report. Such a schedule will include: (i) tentative time frames for Tripartite Reviews, PGTF meetings, NTFs meetings and (ii) project related M&E activities.

Day to day monitoring of implementation progress will be the responsibility of the PC (Project Coordinator) based on the project's AWP and its indicators. The PCU will inform the UNDP-GEF IW Principal Technical Advisor (PTA) of any delays or difficulties faced during implementation so that the appropriate support or corrective measures can be adopted in a timely and remedial fashion.

The PC and the PTA, as Project Executive Committee, will fine-tune the progress and performance/impact indicators of the project in consultation with the full project team at the PIW. Specific targets for the first year implementation progress indicators together with their means of verification will be developed at the PIW. These will be used to assess whether implementation is proceeding at the intended pace and in the right direction and will form part of the AWP. The LPCs' National Focal Points will also take part in the PIW in which a common vision of overall project goals will be established. Targets and indicators for 2nd year of the project will also be defined at PIW due to short time span of the project and the minimal number of GPTF meetings.

5.2 Project Reporting

The PC in conjunction with the PCU is responsible for the preparation and submission of the following reports that form part of the M&E process.

5.2.1 Inception Report (IR)

A project Inception Report will be prepared immediately following the PIW. It will include detailed AWPs for year 1 and 2 of project, divided in quarterly time-frames detailing the activities and progress indicators that will guide implementation during the course of the project. The AWP will include the dates

of specific workshops, activity completion deadlines, country visits from the PCU and consultants, as well as time-frames for meetings of the GPTF. The IR will also include the project budget, prepared on the basis of the respective AWPs, and including any monitoring and evaluation requirements to effectively measure project performance during the targeted time-frames. The IR will include a more detailed narrative on the institutional roles, responsibilities, coordinating actions and feedback mechanisms of project related partners. In addition, a section will be included on progress to date on project establishment and start-up activities and an update of any changed external conditions that may affect project implementation.

When finalized, the report will be circulated to project counterparts who will be given a period of one calendar month in which to respond with comments or queries. Prior to this circulation of the IR, the IMO designated project PC and the UNDP-GEF IW TA will review the document.

5.2.2 Annual Project Report (APR) & Project Implementation Review (PIR)

This will be done according to GEF-UNDP requirements as outlined above.

5.2.3 Quarterly progress reports

Short and outline reports of project progress will be developed quarterly by the PCU. These reports will be submitted to IMO and the PTA, using the UNDP-developed format, where applicable. These reports will be circulated to project's counterparts and main achievements will be published via website and other publicity media.

5.2.4 Project Terminal Report

This will be prepared as per the GEF-UNDP requirements as outlined above.

5.2.5 Technical reports

As part of the PIW report, the project team will prepare a draft "Reports List", detailing the technical reports that are expected to be prepared on key areas of activity during the course of the project, and tentative due dates. Where necessary, this "Reports List" will be revised and updated, and included in subsequent APRs. Technical Reports are anticipated to include:

1. Template and guidance manual for LPCs' status assessments
2. Model legislation and guidance documents for LPCs legal developments
3. Guidance on energy reviews for ports
4. LPCs Maritime Status Assessments (MEM-SBTR) – 9 reports; one from each LPC
5. LPCs NMEES – 9 reports; one from each LPC
6. EETs database with documented evaluation of various EETs
7. Training materials for the delivered trainings (about 10 such trainings are foreseen)
8. GloMEEP website
9. Reports of the pilot EETs implementations as per GIA Partnership agreements.

These technical reports will represent the project's substantive contribution to the global effort in area of shipping energy efficiency and GHG emissions. The reports will be used to disseminate relevant information and best practices at local, national and international levels. This will also represent indicators that will be used for project's M&E at various stages.

5.2.6 Project publications

The project team will determine if any of the above Technical Reports merit formal publication, and will also (in consultation with UNDP, IMO and other relevant stakeholder groups) plan and produce these publications in a consistent and recognizable format. Additionally, publications relating to dissemination of project outputs will be carried out on a routine basis as underlined under *Outcome 2* of the project.

5.3 Learning and Knowledge Sharing

This will be carried out according to UNDP requirements as outlined above. The project will contribute 1% or more of GEF budget towards IW portfolio learning, particularly through participation in relevant activities under GEF IW:LEARN including biennial GEF IW conferences and relevant regional and/or thematic portfolio learning activities.

Table 5.1 provides a summary of the GloMEEP reporting and M&E requirements, their schedule and relevant budgets.

TABLE 5.1 – SUMMARY OF GloMEEP's reporting M&E work plan

M&E activity	No. of events	Responsible parties	Budget	Time frame	Note
Project Inception Workshop	1	• IMO PC • UNDP GEF IW PTA • LPCs	None (see note)	Q1/Y1	• IMO responsible for organising the workshop; • Other parties to attend. • This will be counted as the 1st project's GPTF meeting; thus funded under GTPF activities.
Inception Report	1	• IMO (PC) • UNDP GEF IW PTA	None	Q2/Y1 (Within 1 month following PIW)	•
APR, PIR and reporting	2	• IMO (Project team)	$20,000 (see notes)	Q1/Y2 and Q4/Y2	• The costs are associated with required consultancy advisory services needed top prepare the project M&E report.
Global Project Task Force (GPTF) Meetings	2	• IMO (PCU) • UNDP GEF IW PTA • LPCs NFPs	$50,000	Q1/Y1 (with PIW) and Q4/Y2 (final meeting)	• Meetings will be back to back with other global meetings to reduce travelling time and resources.
Periodic status reports	6	• IMO (PCU)	None	At the end of each quarter.	• No end of year report as this will be covered by APRs.
Technical reports	12	• IMO (PCU) • LPCs (NFP and NPC via hired consultants as needed)	None	Based on Project Plan	•
Final External Evaluation	1	• IMO (PCU) • UNDP GEF IW PTA	$10,000	Q4/Y2	• External independent consultants will be hired to prepare the report.
Terminal Report	1	• IMO (PCU)	None	Q4/Y2	
Audit	0	•			
TOTAL indicative COST Excluding project team staff time and UNDP staff and travel expenses			$80,000		

6 LEGAL CONTEXT

This project forms part of an overall programmatic framework under which several separate associated country level activities will be implemented. When assistance and support services are provided from this Project to the associated country level activities, this document shall be the "Project Document" instrument referred to in: (i) the respective signed SBAAs for the specific countries; or (ii) in the Supplemental Provisions attached to the Project Document in cases where the recipient country has not signed an SBAA with UNDP, attached hereto and forming an integral part hereof.

This project will be implemented by the International Maritime Organization ("Implementing Partner") in accordance with its financial regulations, rules, practices and procedures only to the extent that they do not contravene the principles of the Financial Regulations and Rules of UNDP. Where the financial governance of an Implementing Partner does not provide the required guidance to ensure best value for money, fairness, integrity, transparency, and effective international competition, the financial governance of UNDP shall apply**.**

The responsibility for the safety and security of the Implementing Partner and its personnel and property, and of UNDP's property in the Implementing Partner's custody, rests with the Implementing Partner. The Implementing Partner shall: (a) put in place an appropriate security plan and maintain the security plan, taking into account the security situation in the country where the project is being carried; (b) assume all risks and liabilities related to the Implementing Partner's security, and the full implementation of the security plan. UNDP reserves the right to verify whether such a plan is in place, and to suggest modifications to the plan when necessary. Failure to maintain and implement an appropriate security plan as required hereunder shall be deemed a breach of this agreement.

The Implementing Partner agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

7 ANNEXES

7.1 Annex 1 – GEF CASH FINANCING TABLES

Organization: GEF
Table of GEF CASH Support for Project Activities

Component / Outcome 1

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
1.1 Global tools and guidance for LPIR developed including model legislations, guidance on compliance monitoring and enforcement methodologies and best practices; and guidance on Energy Efficiency Operational Indicator (EEOI) calculation and analysis tools.	Activity 1.1.1 Develop template and guidance for rapid assessment of "country maritime status, energy baselines, targets and roadmap"	Global	Document	30,000 $	• Cost associated with hiring of one international consultant for 25 days @500 • Technical advisory services for overseeing the work of international consultant and relevant national activities at 3.5 days/LPC: 35 days @500/day. • Cash element: (35+25)*500 = 30,000
	Activity 1.1.2 Develop template and guidance for maritime energy efficiency strategies development and LPIR road mapping	Global	Document	25,000 $	• Cost associated with hiring of one international consultant for 15 days @500 • Technical advisory services for overseeing the work of international consultant and relevant national activities at 3.5 days/LPC: 35 days @500/day. • Cash element: (35+15)*500 = 25,000
	Activity 1.1.3 Develop model legislation for inclusion of the energy policy and MEEF requirements within national law and prepare related training manuals	Global	Document	25,000 $	• Cost associated with hiring of one international consultant for 15 days @500 • Technical advisory services for overseeing the work of international consultant and relevant national activities at 3.5 days/LPC: 35 days @500/day. • Cash element: (35+15)*500 = 25,000
	Activity 1.1.4 Enhance LPCs institutional capacities for LPIR development and implementation	National	2 National workshops	286,000 $	• Cost associated with hiring of one international consultant 10 days @500$/day for preparation of workshop material and participate in delivery. • Travel cost: $4,000 • Cost associated with hiring of one national consultant for 7 days @400$ • Technical advisory services for overseeing the work of international consultant and relevant national activities at 5 days/LPC @500/day. • Total workshops: 20 Cash element: 20*[(10+5)*500+7*400)+4,000] = 286,000

1.2 Pilot countries established National Task Forces (inter-ministerial and cross-sectoral) and drafted national legislation in line with the international regulations on GHG emissions from ships.	Activity 1.2.1 Development of national "Maritime Energy Status, Baselines, Targets and Roadmaps (ME-SBTR)" assessment report	National	Document	$130,000	• Cost associated with hiring of one national consultant for 25 days @ 400 inclusive of travel, etc. • Technical advisory services for overseeing the work of national activities at 6 days/LPC @500/day. • Cash element: 25*400 +6*500 = 13,000 • For 10 LPCs: 10*13,000=130,000
	Activity 1.2.2 National Maritime Energy Efficiency Strategies (NMEES) developed and approved	National	Document	$50,000	• Cost associated with hiring of one national consultant for 10 days @ 400. • Technical advisory services for overseeing the work of national activities at 2 days/LPC @500/day. • Cash element: 10*400+2*500 = 5,000 For 10 LPCs: 10*5,000 = 50,000
	Activity 1.2.3 Forward planning for NMEES Implementation	National	Document	$50,000	• Cost associated with hiring of one national consultant for 10 days @ 400. • Technical advisory services for overseeing the work of national activities at 2 days/LPC @500/day. • Cash element: 10*400+2*500 = 5,000 For 10 LPCs: 10*5,000 = 50,000
	Activity 1.2.4 Develop national legislation text	National	Document	$50,000	• Cost associated with hiring of one national consultant for 10 days @ 400. • Technical advisory services for overseeing the work of national activities at 2 days/LPC @500/day. • Cash element: 10*400+2*500 = 5,000 For 10 LPCs: 10*5,000 = 50,000
1.3 Pilot countries integrated MEEF into port and infrastructure planning for future growth.	Activity 1.3.1 Develop guidance document on port energy analysis	Global	Document	$15,000	• Cost associated with hiring of one international consultant for 15 days @500 • Technical advisory services for overseeing the work of international consultant and relevant national activities at 15 days @500/day. • Cash element: (15+15)*500 = 15,000
	Activity 1.3.2 Port energy analysis for reduced ship energy use and improved local air quality	National	Report analysis in 3 LPCs	42,000 $	• Cost associated with hiring of one international consultant for 15 days @ 500. • Technical advisory services for overseeing the work at 3 days/LPC @500/day. • Travel: 5000$ • Cash element: (15+3)*500 = 9,000 • For 3 LPCs: 3*(9,000+5,000) = 42,000
	Activity 1.3.3 Develop guidance document for estimating the financial / economic benefits of port energy efficiency measures	Global	Document	12,500 $	• Cost associated with hiring of one international consultant for 15 days @500 • Technical advisory services for overseeing the work at 10 days/LPC @500/day. • Cash element: (15+10)*500 = 12,500

	Activity 1.3.4 Undertake financial and economic benefits assessment for port energy efficiency	National	Report	27,000 $	• Cost associated with hiring of one international consultant for 15 days @ 500. • Technical advisory services for overseeing the work at 3 days/LPC @500/day. • No travel cost as this activity and 1.3.2.will be done together. • Cash element: (15+3)*500 = 9,000 For 3 LPCs: 3*9,000 = 27,000
1.4 Global Tools and pilot country experiences will be shared and disseminated at global level	Activity 1.4.1 Publication and dissemination of LPIR global tools and related GloMEEP achievements	Global	Electronic/Hard copies	$27,500	• General publication costs @20,000$ • Technical advisory services for overseeing the publications at 15 days. • Cash element = 20,000+15*500=27,500
Sub-Total				**$770,000**	

Organization: GEF
Table of GEF CASH Support for Project Activities

Component / Outcome 2

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
2.1 Developed capacity-building tools and training courses on ship EEDI and SEEMP (regulations, implementation, enforcement, technologies and best practice);	Activity 2.1.1 Hold training courses on "Ship Energy Efficiency Regulations and Flag State Implementation" including an optional extra day on technology transfer for ship energy efficiency.	National	Workshop	50,000 $	• 7 workshops will be organised • Technical advisory services to organise and oversee the execution of workshops 100 days @500 Cash element: 100*500=50,000
	Activity 2.1.2 Update / refine /translate the IMO Model Course on ship energy efficiency	Global	Training package	10,000 $	• Technical advisory services to oversee the activity 20 days @500 Cash element: 20*500=10,000
	Activity 2.1.3 Capacitate national maritime training institute(s) for delivery of IMO Model Course on ship energy efficiency	National	Workshop	160,000 $	• 10 workshops will be organised • Local consultant engagement 10 days/workshop @400 • International consultant 10 days/workshop @500 • Technical advisory services to organise and oversee the execution of workshops 14 days/workshop @500 including follow up activities with institutions. Cash element: 10*(24*500+10*400)=160,000
	Activity 2.1.4 Develop workshop material on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Global	Training package	20,000 $	• Technical advisory services to oversee the activity 40 days @500 Cash element: 40*500=20,000
	Activity 2.1.5 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Regional	Workshop	60,000 $	• 3 regional workshops will be organised • Technical advisory services to organise and oversee the execution of workshops 40 days/workshop @500 • Cash element: 3*40*500=60,000
	Activity 2.1.6 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	National	Workshop	18,000 $	• 2 national workshops will be organised • Technical advisory services to organise and oversee the execution of workshops 26 days @500 • Travel 5,000 Cash element: 1*26*500+5,000=18,000
2.2 Created global knowledge sharing forums on energy efficiency within maritime sector including port infrastructure and logistics facilities	Activity 2.2.1 Publish and distribute six-monthly newsletters	Global	Electronic document	20,000 $	• 4 newsletter • Technical advisory services to technically prepare the newsletters 5 days/newsletter @500 • Other costs: $10,000 Cash element: 4*5*500+10,000 = 20,000
	Activity 2.2.2 Develop, and translate GloMEEP brochures and publications	Global	Soft and and hard copies	20,000 $	• Translation services 25 days @400 • Technical advisory services to technically prepare the newsletters 20 @500 Cash element = 25*400+20*500 = 20,000

	Activity 2.2.3 Develop and maintain GloMEEP website	Global	Webpage	24,000 $	• Technical advisory services to technically prepare the pages 20 days @500 • Contracting services: $14,000 Cash element: 20*500+14,000 = 24,000
2.3 Developed a pool of global trainers who have successfully completed trainer certification through "train-the-trainer" workshops	Activity 2.3.1-1 Conduct one "train-the-trainer" course on "ship energy efficiency regulations, technologies and management"	Global (WMU)	Workshop	100,000 $	• Cost associated with updating of the course International consultant 20 days @ 500 =10,000. • Hiring of consultants for 5 days: 5*4*500 = 10,000 • WMU hosting charges: 20,000 • Cost of participation of 10 people from LPCs each 4,000 and in total $40,000. • Technical advisory services to oversee the development and execution of workshop 40 days @500 • Cash element: 100,000
	Activity 2.3.1-2 Conduct one "train-the-trainer" course on "ship energy efficiency regulations, technologies and management"	Regional	Workshop	10,000 $	• 1 regional workshops will be organised • Local consultant engagement 10 days/workshop @400/day • International consultant engagement 12 days/workshop @500/day • Cash element: 10*400+12*500=10,000
	Activity 2.3.2 Develop the LPCs roster of maritime energy efficiency experts.	Global (PCU)	Database	10,000 $	• Technical advisory services to develop and maintain the roster 20 days @500
2.4 Conducted training workshops at national levels and integrated into national maritime academic and practical training curriculum	Activity 2.4.1 Share tools with national academics/institutions who will be invited to national training courses	National	Dissemination of training material	10,000 $	• Technical advisory services to disseminate the tool to institutions days/LPC • Total 20 days @500 = 10,000

2.5 Capacity building for port management and port developments for energy efficiency	Activity 2.5.1 Develop workshop material on "port management and port developments for maritime energy efficiency".	Global	Training package	$30,000	• Cost associated with hiring of one international consultant for 20 days @ $500/day. • Technical advisory services to oversee the development of the training package and its dissemination to LPCs 4 days/LPC total 40 days *500/day = 20,000 • Cash element = 10,000+20,000 = 30,000
	Activity 2.5.2 Capacity building for "port management and port developments for maritime energy efficiency".	National	National workshop	158,000 $	• Cost associated with hiring of one international consultant for 10 days at $5,000. • Cost associated with hiring of one national consultant at 7 days @$400 = 2,800. • Travel 5,000 • Technical advisory services 6 days @500 = 3,000 • Total workshops: 10 Cash element: 10*(5,000+5,000+ 2,800+3,000)= 158,000
Sub-Total				**$700,000**	

Organization: GEF
Table of GEF CASH Support for Project Activities

Component / Outcome 3

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
3.1 Establishment of Global Industry Alliance (GIA) for MEEF as a private-sector collaboration platform;	Activity 3.1.1 Formation of GloMEEP GIA	Global	Partnership Agreement	$30,000	• Participation in relevant meetings by IMO personnel including travelling • 6 meetings @5,000 each Cash element: 6*5,000=30,000
	Activity 3.1.2 Setup the GloMEEP GIA Fund	Global	Fund	$0	Travel needs by IMO personnel are included in Activity 3.1.1
	Activity 3.1.3 GIA will meet periodically to steer industry-GloMEEP activities	Global	Meetings	$0	• Travel needs by IMO personnel are included in Activity 3.1.1
3.2 Under the auspecies of GIA, catalyze the development and maintenance of a global database on energy efficient ship technologies and port facilities	Activity 3.2.1 Setup an EETs (Energy Efficiency Technologies) database	Global	Electronic Database	$60,000	• Subcontracting of database development to a professional organisation. • 120 days of development @500/day Cash element = 120*500 = 60,000
	Activity 3.2.2 Organize workshops on ship energy efficiency technologies for ship design and operation including alternative fuels	National	Workshop	$25,000	• Cost associated with hiring of one international consultant for 20 day at 10,000 (includes workshop material developments). • Technical advisory services at 12 days at $6,000 • Cost associated with hiring of one national consultant at 10 day @400 = $4,000. • Cost of participation of one IMO expert: $5,000 Cash element: 25,000
3.3 Facilitate forums for private sector and technology developers for demonstrating application of EE measures and dissemination of particularly notable improvements in maritime transport efficiency technology and practices	Activity 3.3.1: Establish a global conference series to be co-ordinated in partnership with Singapore under the framework of GIA	Global	Conference series	$5,000	• 2 conferences to be organised. • IMO expert travel for setting up and agree on programme • Travel cost: $5000 • Cash element: 1*5,000=10,000
	Activity 3.3.2 Participate in one global ship/port/energy management relevant event	Global	2 persons	$90,000	• Participation in two events in total • Travelling of 2 persons from each LPC at $3,000 each. • Total persons participation: 20 • Cash element: 20*3,000 = 60,000 • Participation by 4 IMO staff at $5,000 each = 4*5,000=20,000 • Technical advisory servie for 20 days @500/day = 10,000 • Cash element: 60,000+20,000 +10,000= 90.000
Sub-Total				**$210,000**	

Organization: GEF
Table of GEF CASH Support for Project Activities

Component / Outcome 4

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output 4.1 Project Management and coordination structures is in place at global and national levels .	Activity 4.1.1 Global Project Task Force (GPTF)	Global	Project steering	$50,000	• 10 LPC reps travel to London along the MEPC meetings. • Travel for 5 at 3000/trip is foreseen • Total travel: 5*3000 = 15,000/meeting • DSA for 4nights: 5*4*500 = 10,000/meeting • Two meetings • Total cash element: 2*(15,000+10,000)=50,000
	Activity 4.1.2 Organise Industry Task Force (ITF)	Global	GIA steering	0	• Funded by GIA members.
	Activity 4.1.3 National Task Force (NTF)	National	4 national meetings	0	• Funded at national level
	Activity 4.1.4 National Stakeholders Workshops (NSW)	National	2 national meetings	0	• Funded at national level
Output 4.2 Project monitoring, evaluation and reporting systems established and implemented	Activity 4.2.1 Final evaluation	Global	Document	$10,000	• 20 days allocated for indepenedent evaluator. Cash element: 20*$5,000 = 10,000
	Activity 4.2.2 Project Reports (PRs)	Global	Document	$20,000	Technical advisory services in support of developing the various project reports 40 days @ 500/day = 20,000
Sub-Total				**$80,000**	

Organization: GEF
Table of GEF <u>CASH</u> Support for Project Activities

Project Management

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output PM.1 Project Management and coordination structures is in place at global and national levels .	Activity PM.1.1 Project Coordination Unit (PCU) and Project Executive (PE)	Global	Project management	$160,000	• One Administrative Assistance at 60,000/year • For two year = 2*60 = 120,000 • Project management staff travel: 6 at 5,000 per trip = 30,000 Miscelaneous office supplies at $10,000.
	Activity PM.1.2 National Level Management and Coordination	National	Project management	0	• No cash element considered.
Sub-Total				**160,000**	
GEF GRAND TOTAL				**$1,900,000**	

7.2 Annex 2 – IMO Letter and (Executive Agency) activity-based co-financing tables

This annex provides details of IMO co-financing levels.

INTERNATIONAL MARITIME ORGANIZATION

6 October 2014

Dr. Andrew Hudson
Cluster Leader & Principal Technical Advisor
UNDP Water Governance Programme
FF-998, 1 United Nations Plaza
New York, NY 10017
United States

Dear Dr. Hudson,

Subject: GEF-UNDP-IMO Project on "Transforming the Global Maritime Transport Industry towards a Low Carbon Future through Improved Energy Efficiency"

I am pleased to inform you that the attached tables summarise the estimated co-financing by IMO during 2015-2016, to support the objectives of GEF-UNDP-IMO Global Maritime Energy Efficiency Partnership (GloMEEP), which is currently under preparation by IMO.

The support (US$ 7,505,000) mainly includes the in-kind support associated with the IMO Marine Environment Division that will provide technical backstopping for the GloMEEP Project, an estimated contribution by IMO member States towards developing the global marine energy efficiency framework and related regulations and guidelines, as well as cash support due to expected technical cooperation assistance to developing countries funded by IMO's Integrated Technical Cooperation Programme (ITCP) and various bi-lateral donor funds that IMO mobilized to support the project objectives.

Please let me know if any further clarifications are required.

Yours sincerely,

Stefan Micallef PhD
Director
Marine Environment Division

IMO CONVENTIONS
EFFECTIVE IMPLEMENTATION

7.2.1 IMO CASH CO-FINANCING TABLE

Organization: IMO
Table of IMO CASH Support for Project Activities

Component / Outcome 1

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
1.1 Global tools and guidance for LPIR developed including model legislations, guidance on compliance monitoring and enforcement methodologies and best practices; and guidance on Energy Efficiency Operational Indicator (EEOI) calculation and analysis tools.	Activity 1.1.1 Develop template and guidance for rapid assessment of "country maritime status, energy baselines, targets and roadmap"	Global	Document	0	
	Activity 1.1.2 Develop template and guidance for maritime energy efficiency strategies development and LPIR road mapping	Global	Document	0	
	Activity 1.1.3 Develop model legislation for inclusion of the energy policy and MEEF requirements within national law and prepare related training manuals	Global	Document	0	
	Activity 1.1.4 Enhance LPCs institutional capacities for LPIR development and implementation	National	2 National workshops	0	
1.2 Pilot countries established National Task Forces (inter-ministerial and cross-sectoral) and drafted national legislation in line with the international regulations on GHG emissions from ships.	Activity 1.2.1 Development of national "Maritime Energy Status, Baselines, Targets and Roadmaps (ME-SBTR)" assessment report	National	Document	0	
	Activity 1.2.2 National Maritime Energy Efficiency Strategies (NMEES) developed and approved	National	Document	0	
	Activity 1.2.3 Forward planning for NMEES Implementation	National	Document	0	
	Activity 1.2.4 Develop national legislation text	National	Document	0	
1.3 Pilot countries integrated MEEF into port and infrastructure planning for future growth.	Activity 1.3.1 Develop guidance document on port energy analysis	Global	Document	0	
	Activity 1.3.2 Port energy analysis for reduced ship energy use and improved local air quality	National	Report analysis in 3 LPCs	0	
	Activity 1.3.3 Develop guidance document for estimating the financial / economic benefits of port energy efficiency measures	Global	Document	0	

	Activity 1.3.4 Undertake financial and economic benefits assessment for port energy efficiency	National	Report	0	
1.4 Global Tools and pilot country experiences will be shared and disseminated at global level	Activity 1.4.1 Publication and dissemination of LPIR global tools and related GloMEEP achievements	Global	Electronic/Hard copies	0	
Sub-Total				**$0**	

Organization: IMO
Table of IMO CASH Support for Project Activities

Component / Outcome 2

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
2.1 Developed capacity-building tools and training courses on ship EEDI and SEEMP (regulations, implementation, enforcement, technologies and best practice);	Activity 2.1.1 Hold training courses on "Ship Energy Efficiency Regulations and Flag State Implementation" including an optional extra day on technology transfer for ship energy efficiency.	National	Workshop	105,000 $	• Cost associated with hiring of one international consultant at $10,000. • Other costs: 5,000 • Total workshops: 7 Cash element: 7*15,000 = 105,000
	Activity 2.1.2 Update / refine /translate the IMO Model Course on ship energy efficiency	Global	Training package	$10,000	• Cost associated with hiring of one international consultant for 20 days @ $500/day. Cash element: $10,000.
	Activity 2.1.3 Capacitate national maritime training institute(s) for delivery of IMO Model Course on ship energy efficiency	National	Workshop	135,000 $	• Cost associated with hiring of one international consultant at $10,000. • Other costs (travel, publication, etc.): 5,000 • Total workshops: 9 Cash element: 9*15,000=135,000
	Activity 2.1.4 Develop workshop material on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Global	Training package	$10,000	• Cost associated with hiring of one international consultant for 29 days @ $500/day. • Cash element: $10,000.
	Activity 2.1.5 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Regional	Workshop	213,000 $	• Cost associated with hiring of one international consultant at $10,000. • Cost associated with participation of 12 regional representatives: 12*3000 = 36,000. • Other costs for hosting the workshop: 15,000 • IMO rep participation at $5,000 • Total cost: 71,000 • Total workshops: 3 • Cash element: 3*71,000 = 213,000
	Activity 2.1.6 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	National	Workshop	$30,000	• Cost associated with hiring of one international consultant at $10,000. • IMO technical officer participation costs: 5,000 • Total workshops: 2 Cash element: 1*15,000

2.2 Created global knowledge sharing forums on energy efficiency within maritime sector including port infrastructure and logistics facilities	Activity 2.2.1 Publish and distribute six-monthly newsletters	Global	Electronic document	0	
	Activity 2.2.2 Develop, and translate GloMEEP brochures and publications	Global	Soft and and hard copies	0	
	Activity 2.2.3 Develop and maintain GloMEEP website	Global	Webpage	0	
2.3 Developed a pool of global trainers who have successfully completed trainer certification through "train-the-trainer" workshops	Activity 2.3.1-1 Conduct one "train-the-trainer" course on "ship energy efficiency regulations, technologies and management"	Global (WMU)	Workshop	0	
	Activity 2.3.1-2 Conduct one "train-the-trainer" course on "ship energy efficiency regulations, technologies and management"	Regional	Workshop	34,000	• Cost associated with hiring of one international consultant at $10,000. • Cost for hiring of 2 national consultants: 9,000 • Other costs (travel, publication, etc.) for participation: $10,000 • IMO Technical Officer participation: $5,000 Total cash element for 1 workshop: 30,000$
	Activity 2.3.2 Develop the LPCs roster of maritime energy efficiency experts.	Global (PCU)	Database	0	
2.4 Conducted training workshops at national levels and integrated into national maritime academic and practical training curriculum	Activity 2.4.1 Share tools with national academics/institutions who will be invited to national training courses	National	Dissemination of training material	0	
2.5 Capacity building for port management and port developments for energy efficiency	Activity 2.5.1 Develop workshop material on "port management and port developments for maritime energy efficiency".	Global	Training package	0	
	Activity 2.5.2 Capacity building for "port management and port developments for maritime energy efficiency".	National	National workshop	0	
Sub-Total				**$537,000**	

Organization: IMO
Table of IMO CASH Support for Project Activities

Component / Outcome 3

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
3.1 Establishment of Global Industry Alliance (GIA) for MEEF as a private-sector collaboration platform;	Activity 3.1.1 Formation of GloMEEP GIA	Global	Partnership Agreement	0	
	Activity 3.1.2 Setup the GloMEEP GIA Fund	Global	Fund	0	
	Activity 3.1.3 GIA will meet periodically to steer industry-GloMEEP activities	Global	Meetings	0	
3.2 Under the auspecies of GIA, catalyze the development and maintenance of a global database on energy efficient ship technologies and port facilities	Activity 3.2.1 Setup an EETs (Energy Efficiency Technologies) database	Global	Electronic Database	$87,000	• Subcontracting of development of the energy efficiency measures and EETs assessment methods and conceptual design of the database. • Equivalent to 145 days of development @600/day Cash element = 145*600 = 87,000
	Activity 3.2.2 Organize workshops on ship energy efficiency technologies for ship design and operation including alternative fuels	National	Workshop	0	
3.3 Facilitate forums for private sector and technology developers for demonstrating application of EE measures and dissemination of particularly notable improvements in maritime transport efficiency technology and practices	Activity 3.3.1: Establish a global conference series to be co-ordinated in partnership with Singapore under the framework of GIA	Global	Conference series	0	
	Activity 3.3.2 Participate in one global ship/port/energy management relevant event	Global	2 persons	0	
Sub-Total				**87,000**	

Organization: IMO

Table of IMO CASH Support for Project Activities

Component / Outcome 4

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output 4.1 Project Management and coordination structures is in place at global and national levels .	Activity 4.1.1 Global Project Task Force (GPTF)	Global	Project steering	0	
	Activity 4.1.2 Organise Industry Task Force (ITF)	Global	GIA steering	0	
	Activity 4.1.3 National Task Force (NTF)	National	4 national meetings	0	
	Activity 4.1.4 National Stakeholders Workshops (NSW)	National	2 national meetings	0	
Output 4.2 Project monitoring, evaluation and reporting systems established and implemented	Activity 4.2.1 Final evaluation	Global	Document	0	
	Activity 4.2.2 Project Reports (PRs)	Global	Document	0	
Sub-Total				**0**	

Organization: IMO
Table of IMO CASH Support for Project Activities

Project Management

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output PM.1 Project Management and coordination structures is in place at global and national levels .	Activity PM.1.1 Project Coordination Unit (PCU) and Project Executive (PE)	Global	Project management	0	
	Activity PM.1.2 National Level Management and Coordination	National	Project management	0	
Sub-Total				**0**	
IMO GRAND TOTAL				**$624,000**	

7.2.2 IMO IN-KIND CO-FINANCING TABLE

Organization: IMO
Table of IMO IN-KIND Support for Project Activities

Component / Outcome 1

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
1.1 Global tools and guidance for LPIR developed including model legislations, guidance on compliance monitoring and enforcement methodologies and best practices; and guidance on Energy Efficiency Operational Indicator (EEOI) calculation and analysis tools.	Activity 1.1.1 Develop template and guidance for rapid assessment of "country maritime status, energy baselines, targets and roadmap"	Global	Document	2,500 $	• IMO MED Technical Officers will review the documents and take part in technical debates. • Time allocated for review is 5 working days @ 500/day In-kind contribution = 5*500 = 2,500 $
	Activity 1.1.2 Develop template and guidance for maritime energy efficiency strategies development and LPIR road mapping	Global	Document	2,500 $	As above
	Activity 1.1.3 Develop model legislation for inclusion of the energy policy and MEEF requirements within national law and prepare related training manuals	Global	Document	2,500 $	As above
	Activity 1.1.4 Enhance LPCs institutional capacities for LPIR development and implementation	National	2 National workshops	30,000 $	• IMO MED Technical Officers will review the programed, PPT presentations, compendium if applicable, and report of the workshop. • Time allocated for these support services is on average 3 days per workshop; • Total no. of workshops for 10 LPCs = 10 • Total days = 10*3 = 30 working days @ 500/day. • In-kind contribution = 30*500 = 15,000 $ 2 workshops = 2* 15,000 = 30,000$
1.2 Pilot countries established National Task Forces (inter-ministerial and cross-sectoral) and drafted national legislation in line with the international regulations on GHG emissions from ships.	Activity 1.2.1 Development of national "Maritime Energy Status, Baselines, Targets and Roadmaps (ME-SBTR)" assessment report	National	Document	$20,000	• IMO MED Technical Officers will review the documents and take part in technical debates. • Time allocated for review is 4 working days for each document. • 10 document review. • Total time 40 days In-kind contribution = 40*500 = 20,000 $
	Activity 1.2.2 National Maritime Energy Efficiency Strategies (NMEES) developed and approved	National	Document	$15,000	• IMO MED Technical Officers will review the documents and take part in technical debates. • Time allocated for review is 3 working days for each document. • 10 document review. • Total time 30 days In-kind contribution = 30*500 = 15,000 $
	Activity 1.2.3 Forward planning for NMEES Implementation	National	Document	$15,000	As above.
	Activity 1.2.4 Develop national legislation text	National	Document	$15,000	As above.

1.3 Pilot countries integrated MEEF into port and infrastructure planning for future growth.	Activity 1.3.1 Develop guidance document on port energy analysis	Global	Document	$2,500	• IMO MED Technical Officers will review the documents and take part in technical debates. • Time allocated for review is 5 working days @ 500/day In-kind contribution = 5*500 = 2,500 $
	Activity 1.3.2 Port energy analysis for reduced ship energy use and improved local air quality	National	Report analysis in 3 LPCs	6,000 $	• IMO MED Technical Officers will review the documents and take part in technical debates. • Time allocated for review is 4 working days for each document. • 3 document review. • Total time 12 days In-kind contribution = 12*500 = 6,000 $
	Activity 1.3.3 Develop guidance document for estimating the financial / economic benefits of port energy efficiency measures	Global	Document	2,500 $	• IMO MED Technical Officers will review the documents and take part in technical debates. • Time allocated for review is 5 working days @ 500/day In-kind contribution = 5*500 = 2,500 $
	Activity 1.3.4 Undertake financial and economic benefits assessment for port energy efficiency	National	Report	4,000	• IMO MED Technical Officers will review the documents and take part in technical debates. • Time allocated for review is 4 working days for each document. • 2 document review. • Total time 8 days In-kind contribution = 8*500 = 4,000 $
1.4 Global Tools and pilot country experiences will be shared and disseminated at global level	Activity 1.4.1 Publication and dissemination of LPIR global tools and related GloMEEP achievements	Global	Electronic/Hard copies	$15,000	• IMO MED Technical Officers will review the documents. • Time allocated for review overall is 30 working days @ 500/day In-kind contribution = 30*500 = 15,000 $
Sub-Total				**$132,500**	

Organization: IMO
Table of IMO IN-KIND Support for Project Activities

Component / Outcome 2

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
2.1 Developed capacity-building tools and training courses on ship EEDI and SEEMP (regulations, implementation, enforcement, technologies and best practice);	Activity 2.1.1 Hold training courses on "Ship Energy Efficiency Regulations and Flag State Implementation" including an optional extra day on technology transfer for ship energy efficiency.	National	Workshop	10,000 $	• IMO MED Technical Officers will review the programme, PPT presentations, compendium if applicable, and report of workshop. • Time allocated for these support services is 4 working days @ 500/day per workshop; the total time for 5 workshops are 20 days. In-kind contribution = 20*500 = 10,000 $
	Activity 2.1.2 Update / refine /translate the IMO Model Course on ship energy efficiency	Global	Training package	$10,000	• IMO MED Technical Officers will review the documents and take part in technical debates. • Time allocated for review and alignment to IMO requirements is 20 working days @ 500/day in view of the need to align the model course to IMO requirements. In-kind contribution = 20*500 = 10,000 $
	Activity 2.1.3 Capacitate national maritime training institute(s) for delivery of IMO Model Course on ship energy efficiency	National	Workshop	15,000 $	• IMO MED Technical Officers will review the programme, PPT presentations, compendium if applicable, and report of workshop. • Time allocated for these support services is 3 working days @ 500/day per workshop. • Total time for 10 workshops is 30 days. In-kind contribution = 30*500 = 15,000 $
	Activity 2.1.4 Develop workshop material on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Global	Training package	2,500 $	• IMO MED Technical Officers will review the documents and take part in technical debates. • Time allocated for review is 5 working days @ 500/day In-kind contribution = 5*500 = 2,500 $
	Activity 2.1.5 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Regional	Workshop	15,000 $	• IMO MED Technical Officers will review the programme, PPT presentations, compendium if applicable, and report of workshop. • Time allocated for these support services plus organizational aspects is 10 working days @ 500/day per workshop. • Total time for 3 workshops is 30 days. • In-kind contribution = 27*500 = 13,500 $

	Activity 2.1.6 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	National	Workshop	$2,500	• IMO MED Technical Officers will review the programme, PPT presentations, compendium if applicable, and report of workshop. • Time allocated for these support services is 5 working days @ 500/day per workshop. • Total time for 1 workshops is 5 days. In-kind contribution = 5*500 = 2,500 $
2.2 Created global knowledge sharing forums on energy efficiency within maritime sector including port infrastructure and logistics facilities	Activity 2.2.1 Publish and distribute six-monthly newsletters	Global	Electronic document	$5,500	• IMO MED Technical Officers will review the documents. • Time allocated for review is 11 working days @ 500/day in view of the need to align the model course to IMO requirements. In-kind contribution = 11*500 = 5,500 $
	Activity 2.2.2 Develop, and translate GloMEEP brochures and publications	Global	Soft and and hard copies	$5,000	• IMO MED Technical Officers will review the documents. • Time allocated for review is 10 working days @ 500/days. In-kind contribution = 10*500 = 5,000 $
	Activity 2.2.3 Develop and maintain GloMEEP website	Global	Webpage	$10,000	• IMO MED Technical officers will review the documents (web contents). • Time allocated for review is 20 working days @ 500/day in view of the need to align the content to IMO requirements. In-kind contribution = 20*500 = 10,000 $
2.3 Developed a pool of global trainers who have successfully completed trainer certification through "train-the-trainer" workshops	Activity 2.3.1-1 Conduct one "train-the-trainer" course on "ship energy efficiency regulations, technologies and management"	Global (WMU)	Workshop	$5,000	• IMO MED Technical Officers will review the programme, PPT presentations, compendium if applicable, and report of workshop. • Time allocated for these support services is 10 working daysin view of the repeat of the course; @ 500/day per workshop In-kind contribution = 10*500 = $5,000
	Activity 2.3.1-2 Conduct one "train-the-trainer" course on "ship energy efficiency regulations, technologies and management"	Regional	Workshop	$2,500	• IMO MED Technical officers will support this activity throughout the project • Time allocated is 5 working days @ 500/day. In-kind contribution = 5*500 = $2,500

	Activity 2.3.2 Develop the LPCs roster of maritime energy efficiency experts.	Global (PCU)	Database	$5,000	• IMO MED Technical Officers will review the documents and take part in technical debates. • Time allocated for review is 10 working days @ 500/day in view of the need to align the documents to IMO requirements. In-kind contribution = 10*500 = 5,000 $
2.4 Conducted training workshops at national levels and integrated into national maritime academic and practical training curriculum	Activity 2.4.1 Share tools with national academics/institutions who will be invited to national training courses	National	Dissemination of training material	2,500 $	• IMO MED Technical Officers will review the documents and take part in technical debates. • Time allocated for review is 5 working days @ 500/day In-kind contribution = 5*500 = 2,500 $
2.5 Capacity building for port management and port developments for energy efficiency	Activity 2.5.1 Develop workshop material on "port management and port developments for maritime energy efficiency".	Global	Training package	10,000 $	• IMO MED Technical officers will review the programme, PPT presentations, compendium if applicable, and report of workshop. • Time allocated for these support services is 20 working days @ 500/day per workshop taking into account 10 LPCs In-kind contribution = 20*500 = 10,000 $
	Activity 2.5.2 Capacity building for "port management and port developments for maritime energy efficiency".	National	National workshop	$5,500	• IMO MED Technical Officers will review the documents. • Time allocated for review is 11 working days @ 500/day in view of the need to align the model course to IMO requirements. In-kind contribution = 11*500 = 5,500 $
Sub-Total				**$106,000**	

Organization: IMO
Table of IMO IN-KIND Support for Project Activities

Component / Outcome 3

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
3.1 Establishment of Global Industry Alliance (GIA) for MEEF as a private-sector collaboration platform;	Activity 3.1.1 Formation of GloMEEP GIA	Global	Partnership Agreement	$20,000	• IMO will lead the identification GIA members, its Terms of Reference and legal formalities. • Organise relevant meetings and participation. • IMO Technical Officers will do most of this type of activities. • 40 day @ 500/day is allocated. In-kind support: 40*500 = $20,000.
	Activity 3.1.2 Setup the GloMEEP GIA Fund	Global	Fund	$10,000	• Definition of finacial and legal procedures regarding the fund. • Activites to set up the Fund and collection of meberships. • 20 day @ 500/day is allocated. In-kind support: 20*500 = $10,000.
	Activity 3.1.3 GIA will meet periodically to steer industry-GloMEEP activities	Global	Meetings	$15,000	• 2 meetings are foreseen. • IMO participation 3 people each 5 days / meeting including preparations. • Total tile: 2*3*5 = 30 In kind support: 30*500 = 15,000
3.2 Under the auspecies of GIA, catalyze the development and maintenance of a global database on energy efficient ship technologies and port facilities	Activity 3.2.1 Setup an EETs (Energy Efficiency Technologies) database	Global	Electronic Database	$10,000	• IMO MED Technical Officers will review the content; take part in relevant meetings and oversee the work of external contractors. • Time allocated for these support services is 20 working days @ 500/day In-kind contribution = 20*500 = 10,000 $
	Activity 3.2.2 Organize workshops on ship energy efficiency technologies for ship design and operation including alternative fuels	National	Workshop	$5,000	• IMO MED Technical Officers will review the programme, PPT presentations, compendium if applicable, and report of workshop. • Time allocated for these support services is 10 working days @ 500/day. In-kind contribution = 10*500 = $5,000

3.3 Facilitate forums for private sector and technology developers for demonstrating application of EE measures and dissemination of particularly notable improvements in maritime transport efficiency technology and practices	Activity 3.3.1: Establish a global conference series to be co-ordinated in partnership with Singapore under the framework of GIA	Global	Conference series	$10,000	• Conference to be organised through BMA (Bilateral or Mltilateral Agreements). • A minimum of one conference series is freseen. • IMO will be closely working with organiser. • 10 days of in-kind support @ $500/day • 2 conferences In-kind support: 2*10*500 = $10,000
	Activity 3.3.2 Participate in one global ship/port/energy management relevant event	Global	2 persons	$10,000	• Time of praticipation to be in-kind • 2 participants from IMO • Days per conference: 5 • 2 conferences 2*2*5*500 = $10,000
Sub-Total				**$80,000**	

Organization: IMO
Table of IMO IN-KIND Support for Project Activities

Component / Outcome 4

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output 4.1 Project Management and coordination structures is in place at global and national levels .	Activity 4.1.1 Global Project Task Force (GPTF)	Global	Project steering	$19,000	• Two representatives from IMO. • Time per meeting is 5 days including preparations • Number of meetings: 2 for the whole of project. • 2-day meeting room for 15 participants with IMO overhead of 300$/person/day • IMO overhead = 15*2*300=9,000 In kind support 2*2*5*500 = $19,000
	Activity 4.1.2 Organise Industry Task Force (ITF)	Global	GIA steering	$20,000	• Two representatives from IMO. • Time per meeting is 4 days including preparations • Number of meetings: 2 for the whole of project. • 2-day meeting room for 20 participants with IMO overhead of 300$/person/day • IMO overhead = 20*2*300=12,000 In kind support 2*2*4*500 = $20,000
	Activity 4.1.3 National Task Force (NTF)	National	4 national meetings	0	
	Activity 4.1.4 National Stakeholders Workshops (NSW)	National	2 national meetings	0	
Output 4.2 Project monitoring, evaluation and reporting systems established and implemented	Activity 4.2.1 Final evaluation	Global	Document	2,500	• IMO MED Technical officers will review the documents. • Time allocated for review is 5 working days @ 500/day In-kind contribution = 5*500 = 2,500 $
	Activity 4.2.2 Project Reports (PRs)	Global	Document	20,000	• IMO MED Technical officers will take part in preparation and review the documents. • Time allocated for review is 4 working days @ 500/day for each document. • Number of periodical, annual, implementation, etc. reports is 10. In-kind contribution = 10*4*500 = 20,000 $
Sub-Total				**$61,500**	

Organization: IMO
Table of IMO IN-KIND Support for Project Activities

Project Management

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output PM.1 Project Management and coordination structures is in place at global and national levels .	Activity PM.1.1 Project Coordination Unit (PCU) and Project Executive (PE)	Global	Project management	$48,000	• 5% of departmental directors at 10 days per year; 20 days for two years @600$/day. • 15% of MED Senior Technical Staff to oversee the project and act as the project's Chief Technical Officer. For two year 60 days @600/day In-kind = (20+60)*600= 48,000
	Activity PM.1.2 National Level Management and Coordination	National	Project management	0	No cash element considered.
Sub-Total				**$48,000**	

Organization: IMO Member Governments <u>In-Kind</u> Support					
Expected Outputs	**Activity**	**Nature**	**Product**	**Support**	**Basis for calculation of support**
1.1 Global tools and guidance for LPIR developed including model legislations, guidance on compliance monitoring and enforcement methodologies and best practices; and guidance on Energy Efficiency Operational Indicator (EEOI) calculation and analysis tools. IMO MEEF regulatory is updated and refined and new regulatory features are developed for ensuring future sustainability and effectiveness of the shipping energy efficiency regulations Pilot countries established National Task Forces (inter-ministerial and cross-sectoral) and drafted national legislation in line with the international regulations on GHG emissions from ships. Developed capacity-building tools and training courses on ship EEDI and SEEMP (regulations, implementation, enforcement, technologies and best practice);	Regulatory debates and decision making within MEPC meetings (plenary, GHG EWG, Data collection WG, AHEWG-TT, etc.) supporting project Outputs 1.1 to 1.4	Global	Enhanced Regulatory Framework	$5,490,000	MEPC meeting time • Number of meetings during project: 3 • Meeting period: 7 days (including travel time) • No of participants in plenary meeting including preparations: 900 • Time allocated to GHG/EE debate: Minimum 20% of MEPC Meeting time • Total participantion time for GHG: 3*900*0.2*7 = 3,780 days • In-kind support: 3,780*500 = $1,890,000. Travel to MEPC meetings • 3*900*5,000 = 13,500,000 • 20% GHG share = 2,700,000. IMO overheads • IMO overheads for each meeting: $1.5m for GHG share for 3 meetings = 1.5m*3*0.2 = 900,000. Total: 1.890m+2.700m+.900m = 5,490,000
	IMO AHEWG-TT (Ad Hoc Expert Wrking Group on Technology Transfer) and other additional meetings supporting project Outputs 2.1 to 2.5	Global	Enhanced Global Capacity	876,000	Participants • 3 additional meetings by AHEWG-TT are foreseen during the course of the project; each 3 days. • Paricitpants 40 each for 4 days including travel time. • Travel expenses at $5,000 per participant • Cost of time: 3*40*4*500 = 240,000 • Travel = 3*40*5,000 = 600,000 • Total = 600,000+240,000 = 840,000 IMO overheads and organisational time: • Per person-day meeting: $300 • Total = 40*3*300 = 36,000 Grand total = 840,000+36,000=876,000
Sub-Total				**6,366,000**	
IMO GRAND TOTAL				**$6,794,000**	

7.3 Annex 3 – LPCs' GEF Country Endorsement Letters and Co-financing tables

Table below shows the status of various countries in supply of this information.

No	Country	Status
1	Argentina	Endorsed
2	China	Endorsed
3	India	Endorsed
4	India	Endorsed
5	Jamaica	Endorsed
6	Malaysia	Endorsed
7	Panama	Endorsed
8	Philippines	Endorsed
9	Morocco	Endorsed
10	South Africa	Endorsed

The co-financing tables for each country are given separately in subsequent pages.

7.3.1 ARGENTINA ENDORSEMENT LETTER AND CO-FINANCING TABLES

"2014 – Year in Tribute to Admiral Guillermo Brown, in the Bicentennial of the Naval Battle of Montevideo"

Ministerio de Seguridad
Prefectura Naval Argentina

N°: 369/14.-
Letter: ASIN, HB8.-

BUENOS AIRES, 29 SEP 2014

Dr. Andrew Hudson
Cluster Leader & Principal Technical Advisor
UNDP Water Governance Programme
FF-998, 1 United Nations Plaza
New York, NY 10017, United States
Tel: +1 212 906 6228
Email: andrew.hudson@undp.org

Dear Dr. Hudson,

Subject: GEF-UNDP-IMO Project on "Transforming the Global Maritime Transport Industry towards a Low Carbon Future through Improved Energy Efficiency"

On behalf of **Argentina**, through **Prefectura Naval Argentina** [the Argentine Coast Guard], I hereby confirm our participation as a Lead Pilot Country in the project "Transforming the Global Maritime Transport Industry towards a Low Carbon Future through Improved Energy Efficiency" (GloMEEP), as detailed in the project document developed by the International Maritime Organization.

It is our understanding that this project will facilitate the international shipping's move to a more energy efficient and low carbon maritime transport via supporting legal, policy and institutional reforms, capacity building and public-private partnership in participating countries.

We would welcome the opportunity to partner with other countries and organizations in our region and globally to address the very important issue of maritime fuel efficiency and Greenhouse Gas Emissions.

As a Lead Pilot Country of the above project, the Government of **Argentina**, through **Prefectura Naval Argentina** [the Argentine Coast Guard], is pleased to inform you that we will ensure to support the project through in-kind contributions as attached.

We look forward to the successful implementation of this project.

Yours Sincerely,

REPUBLICA ARGENTINA
MINISTERIO DE SEGURIDAD
PREFECTURA NAVAL ARGENTINA

LUIS ALBERTO HEILER
ADMIRAL
PREFECTURA NAVALARGENTINA
COMMANDANT

Country: Argentina

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Component / Outcome 1

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
1.1 Global tools and guidance for LPIR developed including model legislations, guidance on compliance monitoring and enforcement methodologies and best practices; and guidance on Energy Efficiency Operational Indicator (EEOI) calculation and analysis tools.	Activity 1.1.1 Develop template and guidance for rapid assessment of "country maritime status, energy baselines, targets and roadmap"	Global	Document	2,000 $	• The document will be developed globally. • LPCs will make a review of the document. • Time allocated for review is 5 working days @ 400/day • LPC in-kind contribution = 5*400 = 2,000 $
	Activity 1.1.2 Develop template and guidance for maritime energy efficiency strategies development and LPIR road mapping	Global	Document	2,000 $	• As above
	Activity 1.1.3 Develop model legislation for inclusion of the energy policy and MEEF requirements within national law and prepare related training manuals	Global	Document	2,000 $	• As above
	Activity 1.1.4 Enhance LPCs institutional capacities for LPIR development and implementation	National	2 National workshops; 2 days each	45,600$	In-kind contribution by LPC **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics, food and refreshments: 2 days * 30 participants * 20 = 1200 Total/LPC 22,800$
1.2 Pilot countries established National Task Forces (inter-ministerial and cross-sectoral) and drafted national legislation in line with the international regulations on GHG emissions from ships.	Activity 1.2.1 Development of national "Maritime Energy Status, Baselines, Targets and Roadmaps (ME-SBTR)" assessment report	National	Document	64,000$	In-kind contribution include: • NFP and NPC time (included in management) • NTF time that will review the documentations to ensure their fitness for purpose (15 NTF members x 1 day meetings x 4 meetings) • 4*15*400 = 24,000$ • National experts for support of national consultant from different organisations (data provision, technical support, etc.) 100 days for all 1.2 activities. • 100*400 = 40,000 • The above are for all activities under 1.2.
	Activity 1.2.2 National Maritime Energy Efficiency Strategies (NMEES) developed and approved	National	Document	Included in above	See above.
	Activity 1.2.3 Forward planning for NMEES Implementation	National	Document	As above	See above.
	Activity 1.2.4 Develop national legislation text	National	Document	As above	See above.

1.3 Pilot countries integrated MEEF into port and infrastructure planning for future growth.	Activity 1.3.1 Develop guidance document on port energy analysis	Global	Document	$2000	• LPCs will make a review of the document. • Time allocated for review is 5 working days @ 400/day • LPC in-kind contribution = 5*400 = 2,000 $
	Activity 1.3.2 Port energy analysis for reduced ship energy use and improved local air quality	National	Report analysis in 3 LPCs	6,000 $	In-kind contribution include: • Port personnel time to support the study. • One personnel at 15 days for port study • 15*400 = 6,000$
	Activity 1.3.3 Develop guidance document for estimating the financial / economic benefits of port energy efficiency measures	Global	Document	0	•
	Activity 1.3.4 Undertake financial and economic benefits assessment for port energy efficiency	National	Report	0	
1.4 Global Tools and pilot country experiences will be shared and disseminated at global level	Activity 1.4.1 Publication and dissemination of LPIR global tools and related GloMEEP achievements	Global	Electronic/Hard copies	0	
Sub-Total				**$123,600**	

Country: Argentina
Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities
Component / Outcome 2

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
2.1 Developed capacity-building tools and training courses on ship EEDI and SEEMP (regulations, implementation, enforcement, technologies and best practice);	Activity 2.1.1 Hold training courses on "Ship Energy Efficiency Regulations and Flag State Implementation" including an optional extra day on technology transfer for ship energy efficiency.	National	Workshop	22,800	In-kind contribution by LPCs **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total: 22,800
	Activity 2.1.2 Update / refine /translate the IMO Model Course on ship energy efficiency	Global	Training package	0	
	Activity 2.1.3 Capacitate national maritime training institute(s) for delivery of IMO Model Course on ship energy efficiency	National	Workshop	22,800$	In-kind contribution by LPCs **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total/LPC 22,800$
	Activity 2.1.4 Develop workshop material on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Global	Training package	0	
	Activity 2.1.5 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Regional	Workshop	13,800 $	Per 3 day workshop, 20 participants total, 8 national: • 8 participants per workshop at 300$/day; 8*3days*300=7,200$ • 2 admin/organizer personnel for 6 days each at 200$/day = 2*6*200 = 2400$ • Venue 3days * 1000 = 3000 • Local logistics and refreshments: 3 days * 20 participants * 20 = 1200 • Total: 13,800
	Activity 2.1.6 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	National	Workshop	0	

2.2 Created global knowledge sharing forums on energy efficiency within maritime sector including port infrastructure and logistics facilities	Activity 2.2.1 Publish and distribute six-monthly newsletters	Global	Electronic document	0	
	Activity 2.2.2 Develop, and translate GloMEEP brochures and publications	Global	Soft and and hard copies	0	
	Activity 2.2.3 Develop and maintain GloMEEP website	Global	Webpage	0	
2.3 Developed a pool of global trainers who have successfully completed trainer certification through "train-the-trainer" workshops	Activity 2.3.1 Conduct one "train-the-trainer" course on "ship energy efficiency regulations, technologies and management"	Global (WMU)	Workshop	2,100	• 1 person per LPC • Cost of time: 1*7*300 = 2,100$
	Activity 2.3.2 Develop the LPCs roster of maritime energy efficiency experts.	Global (PCU)	Database	0	• LPCs will support via provision of names and other details of national experts.
2.4 Conducted training workshops at national levels and integrated into national maritime academic and practical training curriculum	Activity 2.4.1 Share tools with national academics/institutions who will be invited to national training courses	National	Dissemination of training material	Included in other activities	0
2.5 Capacity building for port management and port developments for energy efficiency	Activity 2.5.1 Develop workshop material on "port management and port developments for maritime energy efficiency".	Global	Training package	0	
	Activity 2.5.2 Capacity building for "port management and port developments for maritime energy efficiency".	National	National workshop	21,800	In-kind contribution by LPCs **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 500 = 1000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total: 21,800
Sub-Total				**$83,300**	

Country: Argentina
Table of Lead Pilot Country (LPC) In-Kind Support for National Activities and Hosting Regional Activities
Component / Outcome 3

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
3.1 Establishment of Global Industry Alliance (GIA) for MEEF as a private-sector collaboration platform;	Activity 3.1.1 Formation of GloMEEP GIA	Global	Partnership Agreement	0	
	Activity 3.1.2 Setup the GloMEEP GIA Fund	Global	Fund	0	
	Activity 3.1.3 GIA will meet periodically to steer industry-GloMEEP activities	Global	Meetings	0	• 2 meetings are foreseen
3.2 Under the auspecies of GIA, catalyze the development and maintenance of a global database on energy efficient ship technologies and port facilities	Activity 3.2.1 Setup an EETs (Energy Efficiency Technologies) database	Global	Electronic Database	0	
	Activity 3.2.2 Organize workshops on ship energy efficiency technologies for ship design and operation including alternative fuels	National	Workshop	0	
3.3 Facilitate forums for private sector and technology developers for demonstrating application of EE measures and dissemination of particularly notable improvements in maritime transport efficiency technology and practices	Activity 3.3.1: Establish a global conference series to be co-ordinated in partnership with Singapore under the framework of GIA	Global	Conference series	0	• Conference to be organised through BMA (Bilateral or Mltilateral Agreements). • A minimum of one conference series is freseen.
	Activity 3.3.2 Participate in one global ship/port/energy management relevant event	Global	2 persons	3,000	• Time to be in-kind LPC funding: • 2*5*300 = 3000 per LPC
Sub-Total				**$3,000**	

Country: Argentina
Table of Lead Pilot Country (LPC) In-Kind Support for National Activities and Hosting Regional Activities
Component / Outcome 4

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output 4.1 Project Management and coordination structures is in place at global and national levels .	Activity 4.1.1 Global Project Task Force (GPTF)	Global	Project steering	0	• One representative from LPC willl take part. • LPCs in-kind is included under NFP and NPC.
	Activity 4.1.2 Organise Industry Task Force (ITF)	Global	GIA steering	0	• LPCs are not expected to take part.
	Activity 4.1.3 National Task Force (NTF)	National	4 national meetings	0	• In-kind support is accounted under the document reviews of Component 1.
	Activity 4.1.4 National Stakeholders Workshops (NSW)	National	2 national meetings	14,800	• 2 meetings per LPC, 20 stakeholder participation: • 2*20*300= 12,000$ • Venue: 2*1000=2000$ • Lunch and refreshment: 2*20*20=800$ • Total: 14,800$
Output 4.2 Project monitoring, evaluation and reporting systems established and implemented	Activity 4.2.1 Final evaluation	Global	Document	0	
	Activity 4.2.2 Project Reports (PRs)	Global	Document	0	
Sub-Total				**14,800**	

Country: Argentina

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Project Management

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output PM.1 Project Management and coordination structures is in place at global and national levels.	Activity PM.1.1 Project Coordination Unit (PCU) and Project Executive (PE)	Global	Project management	0	
	Activity PM.1.2 National Level Management and Coordination	National	Project management	80,000	• NFP (10% load = 40 days) • NPC (15% load = 60 days) • Support staff (10 each 5% load = 200days) • In-kind: (40+60)*400+200*200= 80,000
Sub-Total				**80,000**	
GRAND TOTAL				**$304,700**	

7.3.2 CHINA ENDORSEMENT LETTER AND CO-FINANCING TABLES

中华人民共和国海事局

Maritime Safety Administration of the People's Republic of China

Dr. Andrew Hudson
Cluster Leader & Principal Technical Advisor
UNDP Water Governance Programme
FF-998, 1 United Nations Plaza
New York, NY 10017, United States
Tel: +1 212 906 6228
Email: andrew.hudson@undp.org

Dr. Jose Matheickal,
Senior Technical Officer
Marine Environment Division,
IMO, Albert Embankment, London SE1, 7SR, UK
Email: jmatheic@imo.org

Date: 22 Sep 2014

Subject: GEF-UNDP-IMO Project on "Transforming the Global Maritime Transport Industry towards a Low Carbon Future through Improved Energy Efficiency"

Dear Dr. Hudson,

On behalf of Maritime Safety Administration of the People's Republic of China, I hereby confirm our participation as a Lead Pilot Country in the project "Transforming the Global Maritime Transport Industry towards a Low Carbon Future through Improved Energy Efficiency" (GloMEEP), as detailed in the project document developed by the International Maritime Organization.

It is our understanding that this project will facilitate the international shipping's move to a more energy efficient and low carbon maritime transport via supporting legal, policy and institutional reforms, capacity building and public-private partnership in participating countries.

We would welcome the opportunity to partner with other countries and organizations in our region and globally to address the very important issue of maritime fuel efficiency and sustainable development.

1

As a Lead Pilot Country of the above project, Maritime Safety Administration of the People's Republic of China is pleased to inform you that we will ensure to support the project through in-kind contributions as attached.

We look forward to the successful implementation of this project.

Yours Sincerely,

Signed by: 

Mr. Li Shixin
Deputy Director General
Maritime Safety Administration of the People's Republic of China
11 Jianguomen nei Avenue, Beijing, 100736
Email: lishixin@msa.gov.cn

2

Country: China

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Component / Outcome 1

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
1.1 Global tools and guidance for LPIR developed including model legislations, guidance on compliance monitoring and enforcement methodologies and best practices; and guidance on Energy Efficiency Operational Indicator (EEOI) calculation and analysis tools.	Activity 1.1.1 Develop template and guidance for rapid assessment of "country maritime status, energy baselines, targets and roadmap"	Global	Document	2,000 $	• The document will be developed globally. • LPCs will make a review of the document. • Time allocated for review is 5 working days @ 400/day • LPC in-kind contribution = 5*400 = 2,000 $
	Activity 1.1.2 Develop template and guidance for maritime energy efficiency strategies development and LPIR road mapping	Global	Document	2,000 $	• As above
	Activity 1.1.3 Develop model legislation for inclusion of the energy policy and MEEF requirements within national law and prepare related training manuals	Global	Document	2,000 $	• As above
	Activity 1.1.4 Enhance LPCs institutional capacities for LPIR development and implementation	National	2 National workshops; 2 days each	45,600$	In-kind contribution by LPC **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics, food and refreshments: 2 days * 30 participants * 20 = 1200 Total/LPC 22,800$
1.2 Pilot countries established National Task Forces (inter-ministerial and cross-sectoral) and drafted national legislation in line with the international regulations on GHG emissions from ships.	Activity 1.2.1 Development of national "Maritime Energy Status, Baselines, Targets and Roadmaps (ME-SBTR)" assessment report	National	Document	64,000$	In-kind contribution include: • NFP and NPC time (included in management) • NTF time that will review the documentations to ensure their fitness for purpose (15 NTF members x 1 day meetings x 4 meetings) • 4*15*400 = 24,000$ • National experts for support of national consultant from different organisations (data provision, technical support, etc.) 100 days for all 1.2 activities. • 100*400 = 40,000 • The above are for all activities under 1.2.

	Activity 1.2.2 National Maritime Energy Efficiency Strategies (NMEES) developed and approved	National	Document	Included in above	See above.
	Activity 1.2.3 Forward planning for NMEES Implementation	National	Document	Included in above	See above.
	Activity 1.2.4 Develop national legislation text	National	Document	Included in above	See above.
1.3 Pilot countries integrated MEEF into port and infrastructure planning for future growth.	Activity 1.3.1 Develop guidance document on port energy analysis	Global	Document	0	•
	Activity 1.3.2 Port energy analysis for reduced ship energy use and improved local air quality	National	Report analysis in 3 LPCs	0	•
	Activity 1.3.3 Develop guidance document for estimating the financial / economic benefits of port energy efficiency measures	Global	Document	0	•
	Activity 1.3.4 Undertake financial and economic benefits assessment for port energy efficiency	National	Report	0	
1.4 Global Tools and pilot country experiences will be shared and disseminated at global level	Activity 1.4.1 Publication and dissemination of LPIR global tools and related GloMEEP achievements	Global	Electronic/Hard copies	0	
Sub-Total				**$115,600**	

Country: China

Table of Lead Pilot Country (LPC) In-Kind Support for National Activities and Hosting Regional Activities

Component / Outcome 2

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
2.1 Developed capacity-building tools and training courses on ship EEDI and SEEMP (regulations, implementation, enforcement, technologies and best practice);	Activity 2.1.1 Hold training courses on "Ship Energy Efficiency Regulations and Flag State Implementation" including an optional extra day on technology transfer for ship energy efficiency.	National	Workshop	22,800	In-kind contribution by LPCs **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total: 22,800
	Activity 2.1.2 Update / refine /translate the IMO Model Course on ship energy efficiency	Global	Training package	0	
	Activity 2.1.3 Capacitate national maritime training institute(s) for delivery of IMO Model Course on ship energy efficiency	National	Workshop	22,800$	In-kind contribution by LPCs **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total/LPC 22,800$
	Activity 2.1.4 Develop workshop material on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Global	Training package	0	
	Activity 2.1.5 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Regional	Workshop	13,800 $	Per 3 day workshop, 20 participants total, 8 national: • 8 participants per workshop at 300$/day; 8*3days*300=7,200$ • 2 admin/organizer personnel for 6 days each at 200$/day = 2*6*200 = 2400$ • Venue 3days * 1000 = 3000 • Local logistics and refreshments: 3 days * 20 participants * 20 = 1200 • Total: 13,800
	Activity 2.1.6 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	National	Workshop	0	

2.2 Created global knowledge sharing forums on energy efficiency within maritime sector including port infrastructure and logistics facilities	Activity 2.2.1 Publish and distribute six-monthly newsletters	Global	Electronic document	0	
	Activity 2.2.2 Develop, and translate GloMEEP brochures and publications	Global	Soft and and hard copies	0	
	Activity 2.2.3 Develop and maintain GloMEEP website	Global	Webpage	0	
2.3 Developed a pool of global trainers who have successfully completed trainer certification through "train-the-trainer" workshops	Activity 2.3.1 Conduct one "train-the-trainer" course on "ship energy efficiency regulations, technologies and management"	Global (WMU)	Workshop	2,100	• 1 person per LPC • Cost of time: 1*7*300 = 2,100$
	Activity 2.3.2 Develop the LPCs roster of maritime energy efficiency experts.	Global (PCU)	Database	0	• LPCs will support via provision of names and other details of national experts.
2.4 Conducted training workshops at national levels and integrated into national maritime academic and practical training curriculum	Activity 2.4.1 Share tools with national academics/institutions who will be invited to national training courses	National	Dissemination of training material	Included in other activities	0
2.5 Capacity building for port management and port developments for energy efficiency	Activity 2.5.1 Develop workshop material on "port management and port developments for maritime energy efficiency".	Global	Training package	0	
	Activity 2.5.2 Capacity building for "port management and port developments for maritime energy efficiency".	National	National workshop	0	
Sub-Total				**$61,500**	

Country: China

Table of Lead Pilot Country (LPC) In-Kind Support for National Activities and Hosting Regional Activities

Component / Outcome 3

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
3.1 Establishment of Global Industry Alliance (GIA) for MEEF as a private-sector collaboration platform;	Activity 3.1.1 Formation of GloMEEP GIA	Global	Partnership Agreement	0	
	Activity 3.1.2 Setup the GloMEEP GIA Fund	Global	Fund	0	
	Activity 3.1.3 GIA will meet periodically to steer industry-GloMEEP activities	Global	Meetings	0	• 2 meetings are foreseen
3.2 Under the auspecies of GIA, catalyze the development and maintenance of a global database on energy efficient ship technologies and port facilities	Activity 3.2.1 Setup an EETs (Energy Efficiency Technologies) database	Global	Electronic Database	0	
	Activity 3.2.2 Organize workshops on ship energy efficiency technologies for ship design and operation including alternative fuels	National	Workshop	22,800	In-kind contribution by LPCs **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 100 = 2000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total: 22,800
3.3 Facilitate forums for private sector and technology developers for demonstrating application of EE measures and dissemination of particularly notable improvements in maritime transport efficiency technology and practices	Activity 3.3.1: Establish a global conference series to be co-ordinated in partnership with Singapore under the framework of GIA	Global	Conference series	0	• Conference to be organised through BMA (Bilateral or Mltilateral Agreements). • A minimum of one conference series is freseen.
	Activity 3.3.2 Participate in one global ship/port/energy management relevant event	Global	2 persons	3,000	• Time to be in-kind LPC funding: • 2*5*300 = 3000 per LPC
Sub-Total				**$25,800**	

Country: China

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Component / Outcome 4

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output 4.1 Project Management and coordination structures is in place at global and national levels .	Activity 4.1.1 Global Project Task Force (GPTF)	Global	Project steering	0	• One representative from LPC willl take part. • LPCs in-kind is included under NFP and NPC.
	Activity 4.1.2 Organise Industry Task Force (ITF)	Global	GIA steering	0	• LPCs are not expected to take part.
	Activity 4.1.3 National Task Force (NTF)	National	4 national meetings	0	• In-kind support is accounted under the document reviews of Component 1.
	Activity 4.1.4 National Stakeholders Workshops (NSW)	National	2 national meetings	14,800	• 2 meetings per LPC, 20 stakeholder participation: • 2*20*300= 12,000$ • Venue: 2*1000=2000$ • Lunch and refreshment: 2*20*20=800$ • Total: 14,800$
Output 4.2 Project monitoring, evaluation and reporting systems established and implemented	Activity 4.2.1 Final evaluation	Global	Document	0	
	Activity 4.2.2 Project Reports (PRs)	Global	Document	0	
Sub-Total				**14,800**	

Country: China

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Project Management

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output PM.1 Project Management and coordination structures is in place at global and national levels .	Activity PM.1.1 Project Coordination Unit (PCU) and Project Executive (PE)	Global	Project management	0	
	Activity PM.1.2 National Level Management and Coordination	National	Project management	80,000	• NFP (10% load = 40 days) • NPC (15% load = 60 days) • Support staff (10 each 5% load = 200days) • In-kind: (40+60)*400+200*200= 80,000
Sub-Total				**80,000**	
GRAND TOTAL				**$297,700**	

7.3.3 GEORGIA ENDORSEMENT LETTER AND CO-FINANCING TABLES

საქართველოს
ეკონომიკისა და მდგრადი
განვითარების
სამინისტრო

MINISTRY OF ECONOMY
AND SUSTAINABLE
DEVELOPMENT OF
GEORGIA

სსიპ საზღვაო ტრანსპორტის
სააგენტო

LEPL MARITIME TRANSPORT
AGENCY

KA020132015170914

სსიპ საზღვაო ტრანსპორტის სააგენტო საქართველო, ქ.ბათუმი, 6000, ნინოშვილი ქუჩა N23. ტელ.:+995 422 27 49 25/26
23 Ninoshvili Str., 6000, Batumi, Georgia. Tel.:+995 422 27 49 25/26

№ 10/2244 **10 / October / 2014**

Dr. Andrew Hudson
Cluster Leader & Principal Technical Advisor
UNDP Water Governance Programme
FF-998, 1 United Nations Plaza
New York, NY 10017, United States
Tel: +1 212 906 6228
Email: andrew.hudson@undp.org

Dr. Jose Matheickal,
Senior Technical Officer
Marine Environment Division,
IMO, Albert Embankment, London SE1, 7SR, UK
Email: jmatheic@imo.org

Subject: *GEF-UNDP-IMO Project on "Transforming the Global Maritime Transport Industry towards a Low Carbon Future through Improved Energy Efficiency"*

Dear Dr. Hudson,

On behalf of Georgia, I herewith confirm the participation as a Lead Pilot Country in the project "Transforming the Global Maritime Transport Industry towards a Low Carbon Future through Improved Energy Efficiency" (GloMEEP), as detailed in the project document developed by the International Maritime Organization.

It is our understanding that this project will facilitate the international shipping's move to a more energy efficient and low carbon maritime transport via supporting legal, policy and institutional reforms, capacity building and public-private partnership in participating countries.

We would welcome the opportunity to partner with other countries and organizations in our region and globally to address the very important issue of maritime fuel efficiency and Greenhouse Gas Emissions.

As a Lead Pilot Country of the above project, the Government of Georgia is pleased to inform you that we will ensure to support the project through in-kind contributions as attached.

We look forward to our strong and successful participation in this project.

Yours Sincerely,

Director

Mamuka Akhaladze

Country: Georgia

Table of Lead Pilot Country (LPC) In-Kind Support for National Activities and Hosting Regional Activities

Component / Outcome 1

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
1.1 Global tools and guidance for LPIR developed including model legislations, guidance on compliance monitoring and enforcement methodologies and best practices; and guidance on Energy Efficiency Operational Indicator (EEOI) calculation and analysis tools.	Activity 1.1.1 Develop template and guidance for rapid assessment of "country maritime status, energy baselines, targets and roadmap"	Global	Document	2,000 $	• The document will be developed globally. • LPCs will make a review of the document. • Time allocated for review is 5 working days @ 400/day • LPC in-kind contribution = 5*400 = 2,000 $
	Activity 1.1.2 Develop template and guidance for maritime energy efficiency strategies development and LPIR road mapping	Global	Document	2,000 $	• As above
	Activity 1.1.3 Develop model legislation for inclusion of the energy policy and MEEF requirements within national law and prepare related training manuals	Global	Document	2,000 $	• As above
	Activity 1.1.4 Enhance LPCs institutional capacities for LPIR development and implementation	National	2 National workshops; 2 days each	45,600$	In-kind contribution by LPC **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics, food and refreshments: 2 days * 30 participants * 20 = 1200 Total/LPC 22,800$
1.2 Pilot countries established National Task Forces (inter-ministerial and cross-sectoral) and drafted national legislation in line with the international regulations on GHG emissions from ships.	Activity 1.2.1 Development of national "Maritime Energy Status, Baselines, Targets and Roadmaps (ME-SBTR)" assessment report	National	Document	64,000$	In-kind contribution include: • NFP and NPC time (included in management) • NTF time that will review the documentations to ensure their fitness for purpose (15 NTF members x 1 day meetings x 4 meetings) • 4*15*400 = 24,000$ • National experts for support of national consultant from different organisations (data provision, technical support, etc.) 100 days for all 1.2 activities. • 100*400 = 40,000 • The above are for all activities under 1.2.
	Activity 1.2.2 National Maritime Energy Efficiency Strategies (NMEES) developed and approved	National	Document	Included in above	See above.
	Activity 1.2.3 Forward planning for NMEES Implementation	National	Document	As above	See above.
	Activity 1.2.4 Develop national legislation text	National	Document	As above	See above.

1.3 Pilot countries integrated MEEF into port and infrastructure planning for future growth.	Activity 1.3.1 Develop guidance document on port energy analysis	Global	Document	0	•
	Activity 1.3.2 Port energy analysis for reduced ship energy use and improved local air quality	National	Report analysis in 3 LPCs	0	•
	Activity 1.3.3 Develop guidance document for estimating the financial / economic benefits of port energy efficiency measures	Global	Document	0	•
	Activity 1.3.4 Undertake financial and economic benefits assessment for port energy efficiency	National	Report	0	
1.4 Global Tools and pilot country experiences will be shared and disseminated at global level	Activity 1.4.1 Publication and dissemination of LPIR global tools and related GloMEEP achievements	Global	Electronic/Hard copies	0	
Sub-Total				**$115,600**	

Country: Georgia

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Component / Outcome 2

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
2.1 Developed capacity-building tools and training courses on ship EEDI and SEEMP (regulations, implementation, enforcement, technologies and best practice);	Activity 2.1.1 Hold training courses on "Ship Energy Efficiency Regulations and Flag State Implementation" including an optional extra day on technology transfer for ship energy efficiency.	National	Workshop	22,800	In-kind contribution by LPCs **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total: 22,800
	Activity 2.1.2 Update / refine /translate the IMO Model Course on ship energy efficiency	Global	Training package	0	
	Activity 2.1.3 Capacitate national maritime training institute(s) for delivery of IMO Model Course on ship energy efficiency	National	Workshop	22,800$	In-kind contribution by LPCs **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total/LPC 22,800$
	Activity 2.1.4 Develop workshop material on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Global	Training package	0	
	Activity 2.1.5 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Regional	Workshop	3,000 $	Attendance in regional workshop. Georgia will participate in the regional 3-day workshop to be organised by South Africa. • 2 participants per LPC at 300$/day • 2*5days*300=3,000$ for time spent travelling and attending workshop
	Activity 2.1.6 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	National	Workshop	0	

2.2 Created global knowledge sharing forums on energy efficiency within maritime sector including port infrastructure and logistics facilities	Activity 2.2.1 Publish and distribute six-monthly newsletters	Global	Electronic document	0	
	Activity 2.2.2 Develop, and translate GloMEEP brochures and publications	Global	Soft and and hard copies	0	
	Activity 2.2.3 Develop and maintain GloMEEP website	Global	Webpage	0	
2.3 Developed a pool of global trainers who have successfully completed trainer certification through "train-the-trainer" workshops	Activity 2.3.1 Conduct one "train-the-trainer" course on "ship energy efficiency regulations, technologies and management"	Global (WMU)	Workshop	2,100	• 1 person per LPC • Cost of time: 1*7*300 = 2,100$
	Activity 2.3.2 Develop the LPCs roster of maritime energy efficiency experts.	Global (PCU)	Database	0	• LPCs will support via provision of names and other details of national experts.
2.4 Conducted training workshops at national levels and integrated into national maritime academic and practical training curriculum	Activity 2.4.1 Share tools with national academics/institutions who will be invited to national training courses	National	Dissemination of training material	Included in other activities	0
2.5 Capacity building for port management and port developments for energy efficiency	Activity 2.5.1 Develop workshop material on "port management and port developments for maritime energy efficiency".	Global	Training package	0	
	Activity 2.5.2 Capacity building for "port management and port developments for maritime energy efficiency".	National	National workshop	21,800	In-kind contribution by LPCs **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 500 = 1000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total: 21,800
Sub-Total				**$72,500**	

Country: Georgia

Table of Lead Pilot Country (LPC) In-Kind Support for National Activities and Hosting Regional Activities

Component / Outcome 3

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
3.1 Establishment of Global Industry Alliance (GIA) for MEEF as a private-sector collaboration platform;	Activity 3.1.1 Formation of GloMEEP GIA	Global	Partnership Agreement	0	
	Activity 3.1.2 Setup the GloMEEP GIA Fund	Global	Fund	0	
	Activity 3.1.3 GIA will meet periodically to steer industry-GloMEEP activities	Global	Meetings	0	• 2 meetings are foreseen
3.2 Under the auspecies of GIA, catalyze the development and maintenance of a global database on energy efficient ship technologies and port facilities	Activity 3.2.1 Setup an EETs (Energy Efficiency Technologies) database	Global	Electronic Database	0	
	Activity 3.2.2 Organize workshops on ship energy efficiency technologies for ship design and operation including alternative fuels	National	Workshop	0	
3.3 Facilitate forums for private sector and technology developers for demonstrating application of EE measures and dissemination of particularly notable improvements in maritime transport efficiency technology and practices	Activity 3.3.1: Establish a global conference series to be co-ordinated in partnership with Singapore under the framework of GIA	Global	Conference series	0	• Conference to be organised through BMA (Bilateral or Mltilateral Agreements). • A minimum of one conference series is freseen.
	Activity 3.3.2 Participate in one global ship/port/energy management relevant event	Global	2 persons	3,000	• Time to be in-kind LPC funding: • 2*5*300 = 3000 per LPC
Sub-Total				**$3,000**	

Country: Georgia

Table of Lead Pilot Country (LPC) In-Kind Support for National Activities and Hosting Regional Activities

Component / Outcome 4

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output 4.1 Project Management and coordination structures is in place at global and national levels .	Activity 4.1.1 Global Project Task Force (GPTF)	Global	Project steering	0	• One representative from LPC willl take part. • LPCs in-kind is included under NFP and NPC.
	Activity 4.1.2 Organise Industry Task Force (ITF)	Global	GIA steering	0	• LPCs are not expected to take part.
	Activity 4.1.3 National Task Force (NTF)	National	4 national meetings	0	• In-kind support is accounted under the document reviews of Component 1.
	Activity 4.1.4 National Stakeholders Workshops (NSW)	National	2 national meetings	14,800	• 2 meetings per LPC, 20 stakeholder participation: • 2*20*300= 12,000$ • Venue: 2*1000=2000$ • Lunch and refreshment: 2*20*20=800$ • Total: 14,800$
Output 4.2 Project monitoring, evaluation and reporting systems established and implemented	Activity 4.2.1 Final evaluation	Global	Document	0	
	Activity 4.2.2 Project Reports (PRs)	Global	Document	0	
Sub-Total				**14,800**	

Country: Georgia

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Project Management

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output PM.1 Project Management and coordination structures is in place at global and national levels .	Activity PM.1.1 Project Coordination Unit (PCU) and Project Executive (PE)	Global	Project management	0	
	Activity PM.1.2 National Level Management and Coordination	National	Project management	80,000	• NFP (10% load = 40 days) • NPC (15% load = 60 days) • Support staff (10 each 5% load = 200days) • In-kind: (40+60)*400+200*200= 80,000
Sub-Total				**80,000**	
GRAND TOTAL				**$285,900**	

7.3.4 INDIA ENDORSEMENT LETTER AND CO-FINANCING TABLES

भारत सरकार / GOVERNMENT OF INDIA
पोत परिवहन मंत्रालय / MINISTRY OF SHIPPING
नौवहन महानिदेशालय / DIRECTORATE GENERAL OF SHIPPING

टेलीफोन: 022 – 25752040/1/2/3
फैक्स: 022 – 25752029 / 35
ई-मेल: dgship-dgs@nic.in
वेब: www.dgshipping.gov.in

"बिटा बिल्डिंग", 9 वी मंजिल / "BETA BUILDING", 9th FLOOR
आई-थिंक टेक्नो कैम्पस / I-THINK TECHNO CAMPUS
कांजुर गाँव रोड / KANJUR VILLAGE ROAD
कांजुर मार्ग (ईस्ट) / KANJUR MARG (EAST)
मुंबई - 400 042 / MUMBAI – 400 042

Tele: 022 - 25752040/1/2/3
Fax: 022 – 25752029 / 35
E-mail: dgship-dgs@nic.in
Web: www.dgshipping.gov.in

No. ENG/IMO-26(2)/2014 Date: 20.10.2014

1) Dr. Andrew Hudson
Cluster Leader & Principal Technical Advisor
UNDP Water Governance Programme
FF-998, 1 United Nations Plaza
New York, NY 10017, United Statee
Tel: +1 212 906 6228
Email: andrew.hudson@undp.org

2) Dr. Jose Matheickal,
Senior Technical Officer
Marine Environment Division,
IMO, Albert Embankment, London SE1, 7SR, UK
Email: jmatheic@imo.org

Sir,

Subject: GEF-UNDP-IMO Project on "Transforming the Global Maritime Transport Industry towards a Low Carbon Future through Improved Energy Efficiency"

On behalf of INDIA, I hereby confirm our participation as a Lead Pilot Country in the project "Transforming the Global Maritime Transport Industry towards a Low Carbon Future through Improved Energy Efficiency" (GloMEEP), as detailed in the project document developed by the International Maritime Organization.

2. It is our understanding that this project will facilitate the international shipping's move to a more energy efficient and low carbon maritime transport via supporting legal, policy and institutional reforms, capacity building and public-private partnership in participating countries.

3. We would welcome the opportunity to partner with other countries and organizations in our region and globally to address the very important issue of maritime fuel efficiency and Greenhouse Gas Emissions.

4. As a Lead Pilot Country of the above project, the Government of India is pleased to inform you that we will ensure to support the project through in-kind contributions as attached.

5. We look forward to the successful implementation of this project.

Yours faithfully,

(Gautam Chatterjee)
Director-General of Shipping & ex-officio
Additional Secretary to the Govt. of India

Encl:- As stated above.

Country: India

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Component / Outcome 1

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
1.1 Global tools and guidance for LPIR developed including model legislations, guidance on compliance monitoring and enforcement methodologies and best practices; and guidance on Energy Efficiency Operational Indicator (EEOI) calculation and analysis tools.	Activity 1.1.1 Develop template and guidance for rapid assessment of "country maritime status, energy baselines, targets and roadmap"	Global	Document	2,000 $	• The document will be developed globally. • LPCs will make a review of the document. • Time allocated for review is 5 working days @ 400/day • LPC in-kind contribution = 5*400 = 2,000 $
	Activity 1.1.2 Develop template and guidance for maritime energy efficiency strategies development and LPIR road mapping	Global	Document	2,000 $	• As above
	Activity 1.1.3 Develop model legislation for inclusion of the energy policy and MEEF requirements within national law and prepare related training manuals	Global	Document	2,000 $	• As above
	Activity 1.1.4 Enhance LPCs institutional capacities for LPIR development and implementation	National	2 National workshops; 2 days each	45,600$	In-kind contribution by LPC **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics, food and refreshments: 2 days * 30 participants * 20 = 1200 Total/LPC 22,800$
1.2 Pilot countries established National Task Forces (inter-ministerial and cross-sectoral) and drafted national legislation in line with the international regulations on GHG emissions from ships.	Activity 1.2.1 Development of national "Maritime Energy Status, Baselines, Targets and Roadmaps (ME-SBTR)" assessment report	National	Document	64,000$	In-kind contribution include: • NFP and NPC time (included in management) • NTF time that will review the documentations to ensure their fitness for purpose (15 NTF members x 1 day meetings x 4 meetings) • 4*15*400 = 24,000$ • National experts for support of national consultant from different organisations (data provision, technical support, etc.) 100 days for all 1.2 activities. • 100*400 = 40,000 • The above are for all activities under 1.2.
	Activity 1.2.2 National Maritime Energy Efficiency Strategies (NMEES) developed and approved	National	Document	Included in above	See above.
	Activity 1.2.3 Forward planning for NMEES Implementation	National	Document	As above	See above.
	Activity 1.2.4 Develop national legislation text	National	Document	As above	See above.

1.3 Pilot countries integrated MEEF into port and infrastructure planning for future growth.	Activity 1.3.1 Develop guidance document on port energy analysis	Global	Document	0	•
	Activity 1.3.2 Port energy analysis for reduced ship energy use and improved local air quality	National	Report analysis in 3 LPCs	0	•
	Activity 1.3.3 Develop guidance document for estimating the financial / economic benefits of port energy efficiency measures	Global	Document	0	•
	Activity 1.3.4 Undertake financial and economic benefits assessment for port energy efficiency	National	Report	0	
1.4 Global Tools and pilot country experiences will be shared and disseminated at global level	Activity 1.4.1 Publication and dissemination of LPIR global tools and related GloMEEP achievements	Global	Electronic/Hard copies	0	
Sub-Total				**$115,600**	

Country: India
Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities
Component / Outcome 2

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
2.1 Developed capacity-building tools and training courses on ship EEDI and SEEMP (regulations, implementation, enforcement, technologies and best practice);	Activity 2.1.1 Hold training courses on "Ship Energy Efficiency Regulations and Flag State Implementation" including an optional extra day on technology transfer for ship energy efficiency.	National	Workshop	0	
	Activity 2.1.2 Update / refine /translate the IMO Model Course on ship energy efficiency	Global	Training package	0	
	Activity 2.1.3 Capacitate national maritime training institute(s) for delivery of IMO Model Course on ship energy efficiency	National	Workshop	22,800$	In-kind contribution by LPCs **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total/LPC 22,800$
	Activity 2.1.4 Develop workshop material on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Global	Training package	0	
	Activity 2.1.5 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Regional	Workshop	3,000 $	Attendance in regional workshop. India will participate in the regional 3-day workshop to be organised by China. • 2 participants per LPC at 300$/day • 2*5days*300=3,000$ for time spent travelling and attending workshop
	Activity 2.1.6 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	National	Workshop	0	
2.2 Created global knowledge sharing forums on energy efficiency within maritime sector including port infrastructure and logistics facilities	Activity 2.2.1 Publish and distribute six-monthly newsletters	Global	Electronic document	0	
	Activity 2.2.2 Develop, and translate GloMEEP brochures and publications	Global	Soft and and hard copies	0	
	Activity 2.2.3 Develop and maintain GloMEEP website	Global	Webpage	0	

2.3 Developed a pool of global trainers who have successfully completed trainer certification through "train-the-trainer" workshops	Activity 2.3.1-1 Conduct one "train-the-trainer" course on "ship energy efficiency regulations, technologies and management"	Global (WMU)	Workshop	2,100	• 1 person per LPC • Cost of time: 1*7*300 = 2,100$
	Activity 2.3.1-2 Conduct one "train-the-trainer" course on "ship energy efficiency regulations, technologies and management"	Regional	Workshop	34,400 $	Per 5 day workshop, 20 participants total, 10 national: • 10 participants per workshop at 300$/day; 10*5days*300=15,000$ • 2 admin/organizer personnel for 6 days each at 200$/day = 2*6*200 = 2400$ • Venue 5days * 1000 = 5000 • Local logistics and refreshments: 5 days * 20 participants * 20 = 2000 • Local facilitators 10 days each including preparations, 2 persons: 2*10*500=10,000 • Total: 34,400
	Activity 2.3.2 Develop the LPCs roster of maritime energy efficiency experts.	Global (PCU)	Database	0	• LPCs will support via provision of names and other details of national experts.
2.4 Conducted training workshops at national levels and integrated into national maritime academic and practical training curriculum	Activity 2.4.1 Share tools with national academics/institutions who will be invited to national training courses	National	Dissemination of training material	Included in other activities	0
2.5 Capacity building for port management and port developments for energy efficiency	Activity 2.5.1 Develop workshop material on "port management and port developments for maritime energy efficiency".	Global	Training package	0	
	Activity 2.5.2 Capacity building for "port management and port developments for maritime energy efficiency".	National	National workshop	0	
Sub-Total				**$62,300**	

Country: India

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Component / Outcome 3

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
3.1 Establishment of Global Industry Alliance (GIA) for MEEF as a private-sector collaboration platform;	Activity 3.1.1 Formation of GloMEEP GIA	Global	Partnership Agreement	0	
	Activity 3.1.2 Setup the GloMEEP GIA Fund	Global	Fund	0	
	Activity 3.1.3 GIA will meet periodically to steer industry-GloMEEP activities	Global	Meetings	0	• 2 meetings are foreseen
3.2 Under the auspecies of GIA, catalyze the development and maintenance of a global database on energy efficient ship technologies and port facilities	Activity 3.2.1 Setup an EETs (Energy Efficiency Technologies) database	Global	Electronic Database	0	
	Activity 3.2.2 Organize workshops on ship energy efficiency technologies for ship design and operation including alternative fuels	National	Workshop	22,800	In-kind contribution by LPCs **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 100 = 2000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total: 22,800
3.3 Facilitate forums for private sector and technology developers for demonstrating application of EE measures and dissemination of particularly notable improvements in maritime transport efficiency technology and practices	Activity 3.3.1: Establish a global conference series to be co-ordinated in partnership with Singapore under the framework of GIA	Global	Conference series	0	• Conference to be organised through BMA (Bilateral or Mltilateral Agreements). • A minimum of one conference series is freseen.
	Activity 3.3.2 Participate in one global ship/port/energy management relevant event	Global	2 persons	3,000	• Time to be in-kind LPC funding: • 2*5*300 = 3000 per LPC
Sub-Total				**$25.800**	

Country: India

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Component / Outcome 4

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output 4.1 Project Management and coordination structures is in place at global and national levels .	Activity 4.1.1 Global Project Task Force (GPTF)	Global	Project steering	0	• One representative from LPC willl take part. • LPCs in-kind is included under NFP and NPC.
	Activity 4.1.2 Organise Industry Task Force (ITF)	Global	GIA steering	0	• LPCs are not expected to take part.
	Activity 4.1.3 National Task Force (NTF)	National	4 national meetings	0	• In-kind support is accounted under the document reviews of Component 1.
	Activity 4.1.4 National Stakeholders Workshops (NSW)	National	2 national meetings	14,800	• 2 meetings per LPC, 20 stakeholder participation: • 2*20*300= 12,000$ • Venue: 2*1000=2000$ • Lunch and refreshment: 2*20*20=800$ • Total: 14,800$
Output 4.2 Project monitoring, evaluation and reporting systems established and implemented	Activity 4.2.1 Final evaluation	Global	Document	0	
	Activity 4.2.2 Project Reports (PRs)	Global	Document	0	
Sub-Total				**14,800**	

Country: India

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Project Management

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output PM.1 Project Management and coordination structures is in place at global and national levels .	Activity PM.1.1 Project Coordination Unit (PCU) and Project Executive (PE)	Global	Project management	0	
	Activity PM.1.2 National Level Management and Coordination	National	Project management	80,000	• NFP (10% load = 40 days) • NPC (15% load = 60 days) • Support staff (10 each 5% load = 200days) • In-kind: (40+60)*400+200*200= 80,000
Sub-Total				**80,000**	
GRAND TOTAL				**$298,500**	

7.3.5 JAMAICA ENDORSEMENT LETTER AND CO-FINANCING TABLES

The Maritime Authority of Jamaica
2nd Floor, The Office Centre Building, 12 Ocean Boulevard
Kingston, Jamaica, W.I.
Tel: (876) 967-1060-5, 967-1087
Fax: (876) 922-5765
E-mail: maj@jamaicaships.com, website: www.jamaicaships.com

September 26, 2014

Dr. Andrew Hudson
Cluster Leader & Principal Technical Advisor
UNDP Water Governance Programme
FF-998, 1 United Nations Plaza
New York, NY 10017
United States

Dear Dr. Hudson,

Subject: GEF-UNDP-IMO Project on "Transforming the Global Maritime Transport Industry towards a Low Carbon Future through Improved Energy Efficiency"

On behalf of Jamaica, I hereby confirm our participation as a Lead Pilot Country in the project "Transforming the Global Maritime Transport Industry towards a Low Carbon Future through Improved Energy Efficiency" (GloMEEP), as detailed in the project document developed by the International Maritime Organization.

It is our understanding that this project will facilitate international shipping's move to a more energy efficient and low carbon maritime transport via supporting legal, policy and institutional reforms, capacity building and public-private partnership in participating countries.

We would welcome the opportunity to partner with other countries and organizations in our region and globally to address the very important issue of maritime fuel efficiency and Greenhouse Gas Emissions.

As a Lead Pilot Country of the above project, the Government of Jamaica is pleased to inform you that we will ensure to support the project through in-kind contributions as outlined in the attached document.

We look forward to the successful implementation of this project.

Yours sincerely,

.....
Peter L. Brady
Rear Admiral (Ret'd)
DIRECTOR GENERAL

Copy: Dr. Jose Matheickal, Senior Technical Officer, Marine Environment Division, IMO

Country: Jamaica

Table of Lead Pilot Country (LPC) In-Kind Support for National Activities and Hosting Regional Activities

Component / Outcome 1

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
1.1 Global tools and guidance for LPIR developed including model legislations, guidance on compliance monitoring and enforcement methodologies and best practices; and guidance on Energy Efficiency Operational Indicator (EEOI) calculation and analysis tools.	Activity 1.1.1 Develop template and guidance for rapid assessment of "country maritime status, energy baselines, targets and roadmap"	Global	Document	2,000 $	• The document will be developed globally. • LPCs will make a review of the document. • Time allocated for review is 5 working days @ 400/day • LPC in-kind contribution = 5*400 = 2,000 $
	Activity 1.1.2 Develop template and guidance for maritime energy efficiency strategies development and LPIR road mapping	Global	Document	2,000 $	• As above
	Activity 1.1.3 Develop model legislation for inclusion of the energy policy and MEEF requirements within national law and prepare related training manuals	Global	Document	2,000 $	• As above
	Activity 1.1.4 Enhance LPCs institutional capacities for LPIR development and implementation	National	2 National workshops; 2 days each	45,600$	In-kind contribution by LPC **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics, food and refreshments: 2 days * 30 participants * 20 = 1200 Total/LPC 22,800$
1.2 Pilot countries established National Task Forces (inter-ministerial and cross-sectoral) and drafted national legislation in line with the international regulations on GHG emissions from ships.	Activity 1.2.1 Development of national "Maritime Energy Status, Baselines, Targets and Roadmaps (ME-SBTR)" assessment report	National	Document	64,000$	In-kind contribution include: • NFP and NPC time (included in management) • NTF time that will review the documentations to ensure their fitness for purpose (15 NTF members x 1 day meetings x 4 meetings) • 4*15*400 = 24,000$ • National experts for support of national consultant from different organisations (data provision, technical support, etc.) 100 days for all 1.2 activities. • 100*400 = 40,000 • The above are for all activities under 1.2.
	Activity 1.2.2 National Maritime Energy Efficiency Strategies (NMEES) developed and approved	National	Document	Included in above	See above.
	Activity 1.2.3 Forward planning for NMEES Implementation	National	Document	As above	See above.
	Activity 1.2.4 Develop national legislation text	National	Document	As above	See above.

1.3 Pilot countries integrated MEEF into port and infrastructure planning for future growth.	Activity 1.3.1 Develop guidance document on port energy analysis	Global	Document	$2000	• LPCs will make a review of the document. • Time allocated for review is 5 working days @ 400/day • LPC in-kind contribution = 5*400 = 2,000 $
	Activity 1.3.2 Port energy analysis for reduced ship energy use and improved local air quality	National	Report analysis in 3 LPCs	6,000 $	In-kind contribution include: • Port personnel time to support the study. • One personnel at 15 days for port study • 15*400 = 6,000$
	Activity 1.3.3 Develop guidance document for estimating the financial / economic benefits of port energy efficiency measures	Global	Document	2,000 $	• Contributions by LPCs members in the form of reviews. • 5 days/LPC for review
	Activity 1.3.4 Undertake financial and economic benefits assessment for port energy efficiency	National	Report	6,0000	In-kind contribution include: • Port personnel time to support the study. • One personnel at 15 days for port study 15*400 = 6,000$
1.4 Global Tools and pilot country experiences will be shared and disseminated at global level	Activity 1.4.1 Publication and dissemination of LPIR global tools and related GloMEEP achievements	Global	Electronic/Hard copies	0	
Sub-Total				**$131,600**	

Country: Jamaica

Table of Lead Pilot Country (LPC) In-Kind Support for National Activities and Hosting Regional Activities

Component / Outcome 2

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
2.1 Developed capacity-building tools and training courses on ship EEDI and SEEMP (regulations, implementation, enforcement, technologies and best practice);	Activity 2.1.1 Hold training courses on "Ship Energy Efficiency Regulations and Flag State Implementation" including an optional extra day on technology transfer for ship energy efficiency.	National	Workshop	0	
	Activity 2.1.2 Update / refine /translate the IMO Model Course on ship energy efficiency	Global	Training package	0	
	Activity 2.1.3 Capacitate national maritime training institute(s) for delivery of IMO Model Course on ship energy efficiency	National	Workshop	22,800$	In-kind contribution by LPCs **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total/LPC 22,800$
	Activity 2.1.4 Develop workshop material on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Global	Training package	0	
	Activity 2.1.5 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Regional	Workshop	3,000 $	Attendance in regional workshop. Jamaica will participate in the regional 3-day workshop to be organised by Aregentina. • 2 participants per LPC at 300$/day • 2*5days*300=3,000$ for time spent travelling and attending workshop
	Activity 2.1.6 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	National	Workshop	0	
2.2 Created global knowledge sharing forums on energy efficiency within maritime sector including port infrastructure and logistics facilities	Activity 2.2.1 Publish and distribute six-monthly newsletters	Global	Electronic document	0	
	Activity 2.2.2 Develop, and translate GloMEEP brochures and publications	Global	Soft and and hard copies	0	
	Activity 2.2.3 Develop and maintain GloMEEP website	Global	Webpage	0	

2.3 Developed a pool of global trainers who have successfully completed trainer certification through "train-the-trainer" workshops	Activity 2.3.1 Conduct one "train-the-trainer" course on "ship energy efficiency regulations, technologies and management"	Global (WMU)	Workshop	2,100	• 1 person per LPC • Cost of time: 1*7*300 = 2,100$
	Activity 2.3.2 Develop the LPCs roster of maritime energy efficiency experts.	Global (PCU)	Database	0	• LPCs will support via provision of names and other details of national experts.
2.4 Conducted training workshops at national levels and integrated into national maritime academic and practical training curriculum	Activity 2.4.1 Share tools with national academics/institutions who will be invited to national training courses	National	Dissemination of training material	Included in other activities	0
2.5 Capacity building for port management and port developments for energy efficiency	Activity 2.5.1 Develop workshop material on "port management and port developments for maritime energy efficiency".	Global	Training package	0	
	Activity 2.5.2 Capacity building for "port management and port developments for maritime energy efficiency".	National	National workshop	21,800	In-kind contribution by LPCs **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 500 = 1000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total: 21,800
Sub-Total				**$49,700**	

Country: Jamaica

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Component / Outcome 3

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
3.1 Establishment of Global Industry Alliance (GIA) for MEEF as a private-sector collaboration platform;	Activity 3.1.1 Formation of GloMEEP GIA	Global	Partnership Agreement	0	
	Activity 3.1.2 Setup the GloMEEP GIA Fund	Global	Fund	0	
	Activity 3.1.3 GIA will meet periodically to steer industry-GloMEEP activities	Global	Meetings	0	• 2 meetings are foreseen
3.2 Under the auspecies of GIA, catalyze the development and maintenance of a global database on energy efficient ship technologies and port facilities	Activity 3.2.1 Setup an EETs (Energy Efficiency Technologies) database	Global	Electronic Database	0	
	Activity 3.2.2 Organize workshops on ship energy efficiency technologies for ship design and operation including alternative fuels	National	Workshop	0	
3.3 Facilitate forums for private sector and technology developers for demonstrating application of EE measures and dissemination of particularly notable improvements in maritime transport efficiency technology and practices	Activity 3.3.1: Establish a global conference series to be co-ordinated in partnership with Singapore under the framework of GIA	Global	Conference series	0	• Conference to be organised through BMA (Bilateral or Mltilateral Agreements). • A minimum of one conference series is freseen.
	Activity 3.3.2 Participate in one global ship/port/energy management relevant event	Global	2 persons	3,000	• Time to be in-kind LPC funding: • 2*5*300 = 3000 per LPC
Sub-Total				**$3,000**	

Country: Jamaica

Table of Lead Pilot Country (LPC) In-Kind Support for National Activities and Hosting Regional Activities

Component / Outcome 4

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output 4.1 Project Management and coordination structures is in place at global and national levels .	Activity 4.1.1 Global Project Task Force (GPTF)	Global	Project steering	0	• One representative from LPC willl take part. • LPCs in-kind is included under NFP and NPC.
	Activity 4.1.2 Organise Industry Task Force (ITF)	Global	GIA steering	0	• LPCs are not expected to take part.
	Activity 4.1.3 National Task Force (NTF)	National	4 national meetings	0	• In-kind support is accounted under the document reviews of Component 1.
	Activity 4.1.4 National Stakeholders Workshops (NSW)	National	2 national meetings	14,800	• 2 meetings per LPC, 20 stakeholder participation: • 2*20*300= 12,000$ • Venue: 2*1000=2000$ • Lunch and refreshment: 2*20*20=800$ • Total: 14,800$
Output 4.2 Project monitoring, evaluation and reporting systems established and implemented	Activity 4.2.1 Final evaluation	Global	Document	0	
	Activity 4.2.2 Project Reports (PRs)	Global	Document	0	
Sub-Total				**14,800**	

Country: Jamaica

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Project Management

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output PM.1 Project Management and coordination structures is in place at global and national levels .	Activity PM.1.1 Project Coordination Unit (PCU) and Project Executive (PE)	Global	Project management	0	
	Activity PM.1.2 National Level Management and Coordination	National	Project management	80,000	• NFP (10% load = 40 days) • NPC (15% load = 60 days) • Support staff (10 each 5% load = 200days) • In-kind: (40+60)*400+200*200= 80,000
Sub-Total				**80,000**	
GRAND TOTAL				**$279,500**	

7.3.6 MALAYSIA ENDORSEMENT LETTER AND CO-FINANCING TABLES

JABATAN LAUT MALAYSIA
MARINE DEPARTMENT OF MALAYSIA
MARINE HEADQUARTERS
P.O BOX 12, JALAN LIMBUNGAN
42007 PORT KLANG
SELANGOR DARUL EHSAN
MALAYSIA

Tel : 603-3346 7777
Faks (Fax) : 603-3168 5289
Laman Web (Web): www.marine.gov.my

Our Ref : (18) dlm IPL 1218 -H
Date : 10 September 2014

Dear Sir,

Dr. Andrew Hudson
Cluster Leader & Principal Technical Advisor
UNDP Water Governance Programme
FF-998, 1 United Nations Plaza
New York, NY 10017, United States
Tel: +1 212 906 6228
Email: andrew.hudson@undp.org

Dr. Jose Matheickal,
Senior Technical Officer
Marine Environment Division,
IMO, Albert Embankment, London SE1, 7SR, UK
Email: jmatheic@imo.org

Dear Dr. Hudson,

Subject: GEF-UNDP-IMO Project on "Transforming the Global Maritime Transport Industry towards a Low Carbon Future through Improved Energy Efficiency"

On behalf of Malaysia, I hereby confirm our participation as a Lead Pilot Country in the project "Transforming the Global Maritime Transport Industry towards a Low Carbon Future through Improved Energy Efficiency" (GloMEEP), as detailed in the project document developed by the International Maritime Organization.

It is our understanding that this project will facilitate the international shipping's move to a more energy efficient and low carbon maritime transport via supporting legal, policy and institutional reforms, capacity building and public-private partnership in participating countries.

We would welcome the opportunity to partner with other countries and organizations in our region and globally to address the very important issue of maritime fuel efficiency and Greenhouse Gas Emissions.

As a Lead Pilot Country of the above project, the Government of Malaysia is pleased to inform you that we will ensure to support the project through in-kind contributions as [attachment 1].

We look forward to the successful implementation of this project.

Yours Sincerely,

for **(DATO' KAPTEN AHMAD BIN OTHMAN)**
for Director of Marine
Marine Department Of Malaysia

C.C Maritme Division
Ministry of Transport, Malaysia
Block D5, Complex D
Federal Government Administrative Centre
62616 Putrajaya,Malaysia
Tel: 03-8000 8000 I Fax: 03-8889 1569
(Mohd Saiful Redzuan Bin Jamil)

Country: Malaysia
Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Component / Outcome 1

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
1.1 Global tools and guidance for LPIR developed including model legislations, guidance on compliance monitoring and enforcement methodologies and best practices; and guidance on Energy Efficiency Operational Indicator (EEOI) calculation and analysis tools.	Activity 1.1.1 Develop template and guidance for rapid assessment of "country maritime status, energy baselines, targets and roadmap"	Global	Document	2,000 $	• The document will be developed globally. • LPCs will make a review of the document. • Time allocated for review is 5 working days @ 400/day • LPC in-kind contribution = 5*400 = 2,000 $
	Activity 1.1.2 Develop template and guidance for maritime energy efficiency strategies development and LPIR road mapping	Global	Document	2,000 $	• As above
	Activity 1.1.3 Develop model legislation for inclusion of the energy policy and MEEF requirements within national law and prepare related training manuals	Global	Document	2,000 $	• As above
	Activity 1.1.4 Enhance LPCs institutional capacities for LPIR development and implementation	National	2 National workshops; 2 days each	45,600$	In-kind contribution by LPC **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics, food and refreshments: 2 days * 30 participants * 20 = 1200 Total/LPC 22,800$
1.2 Pilot countries established National Task Forces (inter-ministerial and cross-sectoral) and drafted national legislation in line with the international regulations on GHG emissions from ships.	Activity 1.2.1 Development of national "Maritime Energy Status, Baselines, Targets and Roadmaps (ME-SBTR)" assessment report	National	Document	64,000$	In-kind contribution include: • NFP and NPC time (included in management) • NTF time that will review the documentations to ensure their fitness for purpose (15 NTF members x 1 day meetings x 4 meetings) • 4*15*400 = 24,000$ • National experts for support of national consultant from different organisations (data provision, technical support, etc.) 100 days for all 1.2 activities. • 100*400 = 40,000 • The above are for all activities under 1.2.
	Activity 1.2.2 National Maritime Energy Efficiency Strategies (NMEES) developed and approved	National	Document	Included in above	See above.
	Activity 1.2.3 Forward planning for NMEES Implementation	National	Document	As above	See above.
	Activity 1.2.4 Develop national legislation text	National	Document	As above	See above.

1.3 Pilot countries integrated MEEF into port and infrastructure planning for future growth.	Activity 1.3.1 Develop guidance document on port energy analysis	Global	Document	$2000	• LPCs will make a review of the document. • Time allocated for review is 5 working days @ 400/day • LPC in-kind contribution = 5*400 = 2,000 $
	Activity 1.3.2 Port energy analysis for reduced ship energy use and improved local air quality	National	Report analysis in 3 LPCs	6,000 $	In-kind contribution include: • Port personnel time to support the study. • One personnel at 15 days for port study • 15*400 = 6,000$
	Activity 1.3.3 Develop guidance document for estimating the financial / economic benefits of port energy efficiency measures	Global	Document	0	•
	Activity 1.3.4 Undertake financial and economic benefits assessment for port energy efficiency	National	Report	0	
1.4 Global Tools and pilot country experiences will be shared and disseminated at global level	Activity 1.4.1 Publication and dissemination of LPIR global tools and related GloMEEP achievements	Global	Electronic/Hard copies	0	
Sub-Total				**$123,600**	

Country: Malaysia

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Component / Outcome 2

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
2.1 Developed capacity-building tools and training courses on ship EEDI and SEEMP (regulations, implementation, enforcement, technologies and best practice);	Activity 2.1.1 Hold training courses on "Ship Energy Efficiency Regulations and Flag State Implementation" including an optional extra day on technology transfer for ship energy efficiency.	National	Workshop	22,800	In-kind contribution by LPCs per 2 days workshop: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total: 22,800
	Activity 2.1.2 Update / refine /translate the IMO Model Course on ship energy efficiency	Global	Training package	0	
	Activity 2.1.3 Capacitate national maritime training institute(s) for delivery of IMO Model Course on ship energy efficiency	National	Workshop	22,800$	In-kind contribution by LPCs **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total/LPC 22,800$
	Activity 2.1.4 Develop workshop material on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Global	Training package	0	
	Activity 2.1.5 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Regional	Workshop	3,000 $	Attendance in regional workshop. Malaysia will participate in the regional 3-day workshop to be organised by China. • 2 participants per LPC at 300$/day • 2*5days*300=3,000$ for time spent travelling and attending workshop
	Activity 2.1.6 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	National	Workshop	33,400	In-kind contribution by LPCs **per 3 days workshop**: • 30 participants per workshop at 300$/day; 30*3days*300=27,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 3 days * 1000 = 3000 • Local logistics and refreshments: 3 days * 30 participants * 20 = 1800 Total: 33,400

2.2 Created global knowledge sharing forums on energy efficiency within maritime sector including port infrastructure and logistics facilities	Activity 2.2.1 Publish and distribute six-monthly newsletters	Global	Electronic document	0	
	Activity 2.2.2 Develop, and translate GloMEEP brochures and publications	Global	Soft and and hard copies	0	
	Activity 2.2.3 Develop and maintain GloMEEP website	Global	Webpage	0	
2.3 Developed a pool of global trainers who have successfully completed trainer certification through "train-the-trainer" workshops	Activity 2.3.1 Conduct one "train-the-trainer" course on "ship energy efficiency regulations, technologies and management"	Global (WMU)	Workshop	2,100	• 1 person per LPC • Cost of time: 1*7*300 = 2,100$
	Activity 2.3.2 Develop the LPCs roster of maritime energy efficiency experts.	Global (PCU)	Database	0	• LPCs will support via provision of names and other details of national experts.
2.4 Conducted training workshops at national levels and integrated into national maritime academic and practical training curriculum	Activity 2.4.1 Share tools with national academics/institutions who will be invited to national training courses	National	Dissemination of training material	Included in other activities	0
2.5 Capacity building for port management and port developments for energy efficiency	Activity 2.5.1 Develop workshop material on "port management and port developments for maritime energy efficiency".	Global	Training package	0	
	Activity 2.5.2 Capacity building for "port management and port developments for maritime energy efficiency".	National	National workshop	21,800	In-kind contribution by LPCs **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 500 = 1000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total: 21,800
Sub-Total				**$105,900**	

Country: Malaysia

Table of Lead Pilot Country (LPC) In-Kind Support for National Activities and Hosting Regional Activities

Component / Outcome 3

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
3.1 Establishment of Global Industry Alliance (GIA) for MEEF as a private-sector collaboration platform;	Activity 3.1.1 Formation of GloMEEP GIA	Global	Partnership Agreement	0	
	Activity 3.1.2 Setup the GloMEEP GIA Fund	Global	Fund	0	
	Activity 3.1.3 GIA will meet periodically to steer industry-GloMEEP activities	Global	Meetings	0	• 2 meetings are foreseen
3.2 Under the auspecies of GIA, catalyze the development and maintenance of a global database on energy efficient ship technologies and port facilities	Activity 3.2.1 Setup an EETs (Energy Efficiency Technologies) database	Global	Electronic Database	0	
	Activity 3.2.2 Organize workshops on ship energy efficiency technologies for ship design and operation including alternative fuels	National	Workshop	0	
3.3 Facilitate forums for private sector and technology developers for demonstrating application of EE measures and dissemination of particularly notable improvements in maritime transport efficiency technology and practices	Activity 3.3.1: Establish a global conference series to be co-ordinated in partnership with Singapore under the framework of GIA	Global	Conference series	0	• Conference to be organised through BMA (Bilateral or Mltilateral Agreements). • A minimum of one conference series is freseen.
	Activity 3.3.2 Participate in one global ship/port/energy management relevant event	Global	2 persons	3,000	• Time to be in-kind LPC funding: • 2*5*300 = 3000 per LPC
Sub-Total				**$3,000**	•

Country: Malaysia

Table of Lead Pilot Country (LPC) In-Kind Support for National Activities and Hosting Regional Activities

Component / Outcome 4

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output 4.1 Project Management and coordination structures is in place at global and national levels .	Activity 4.1.1 Global Project Task Force (GPTF)	Global	Project steering	0	• One representative from LPC willl take part. • LPCs in-kind is included under NFP and NPC.
	Activity 4.1.2 Organise Industry Task Force (ITF)	Global	GIA steering	0	• LPCs are not expected to take part.
	Activity 4.1.3 National Task Force (NTF)	National	4 national meetings	0	• In-kind support is accounted under the document reviews of Component 1.
	Activity 4.1.4 National Stakeholders Workshops (NSW)	National	2 national meetings	14,800	• 2 meetings per LPC, 20 stakeholder participation: • 2*20*300= 12,000$ • Venue: 2*1000=2000$ • Lunch and refreshment: 2*20*20=800$ • Total: 14,800$
Output 4.2 Project monitoring, evaluation and reporting systems established and implemented	Activity 4.2.1 Final evaluation	Global	Document	0	
	Activity 4.2.2 Project Reports (PRs)	Global	Document	0	
Sub-Total				**14,800**	

Country: Malaysia

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Project Management

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output PM.1 Project Management and coordination structures is in place at global and national levels .	Activity PM.1.1 Project Coordination Unit (PCU) and Project Executive (PE)	Global	Project management	0	
	Activity PM.1.2 National Level Management and Coordination	National	Project management	80,000	• NFP (10% load = 40 days) • NPC (15% load = 60 days) • Support staff (10 each 5% load = 200days) • In-kind: (40+60)*400+200*200= 80,000
Sub-Total				**80,000**	
GRAND TOTAL				**$327,300**	

7.3.7 MOROCCO ENDORSEMENT LETTER AND CO-FINANCING TABLES

المملكة المغربية
ROYAUME DU MAROC

ROYAUME DU MAROC
MINISTERE DE L'EQUIPEMENT, DU
TRANSPORT ET DE LA LOGISTIQUE

المملكة المغربية
وزارة التجهيز
و النقل واللوجستيك

N°220/03/DMM/DNM/SPP

Casablanca, le 13 OCT 2014

Dr.Andrew Hudson
Cluster Leader & Principal Technical Advisor
UNDP Water Governance Programme
FF-998, 1 United Nations Plaza
New York, NY 10017, United States
Tel :+1 212 906 6228
Email : andew.hudson@undp.org

Dr. Jose Mathieckal,
Senior Technical Officer
Marine Environment Division,
IMO, Albert Embankment, London SE1, 7SR, UK
Email : jmatheic@imo.org

09 Octobre 2014

Sujet : le projet de GEF-UNDP-IMO sur « la transformation de l'industrie du transport maritime vers un avenir à faible émission de carbone à travers l'amélioration du rendement énergétique ».

Au nom du Maroc, je vous confirme par la présente lettre notre participation comme pays pilote dans le projet de la transformation de l'industrie du transport maritime vers un avenir à faible émission de gaz et à travers une efficacité énergétique efficiente (GloMEEP) comme détaillé dans le document de projet élaboré par l'Organisation Maritime Internationale.

Nous sommes convaincu que ce projet facilitera l'évolution de la navigation internationale vers un meilleur rendement énergétique et à une faible émission du carbone provenant de l'industrie du transport maritime et ce à travers l'appui juridique, politique et les réformes institutionnelles, le renforcement des capacités et le partenariat public-privé dans les pays participants.

Nous saisissons cette opportunité pour promouvoir le partenariat avec les autres pays de notre région et sur le plan mondial en vue de renforcer les solutions d'accès aux énergies à faible émission du carbone et réduire les émissions de gaz à effet de serre provenant des navires.

Cette Administration, a le plaisir de vous informer qu'elle apporte son soutien à ce projet.

Veuillez agréer, Messieurs l'expression, de mes salutations distinguées.

Le Directeur de la Marine Marchande

Signé : Hicham N'HAMMOUCHA

DIRECTION DE LA MARINE MARCHANDE
Boulevard Félix Houphouët Boigny Casablanca- Tel. +212 529 028 602- Fax. +212 522 273 340 www.equipementransport.gov.ma

Country: Morocco
Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities
Component / Outcome 1

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
1.1 Global tools and guidance for LPIR developed including model legislations, guidance on compliance monitoring and enforcement methodologies and best practices; and guidance on Energy Efficiency Operational Indicator (EEOI) calculation and analysis tools.	Activity 1.1.1 Develop template and guidance for rapid assessment of "country maritime status, energy baselines, targets and roadmap"	Global	Document	2,000 $	• The document will be developed globally. • LPCs will make a review of the document. • Time allocated for review is 5 working days @ 400/day • LPC in-kind contribution = 5*400 = 2,000 $
	Activity 1.1.2 Develop template and guidance for maritime energy efficiency strategies development and LPIR road mapping	Global	Document	2,000 $	• As above
	Activity 1.1.3 Develop model legislation for inclusion of the energy policy and MEEF requirements within national law and prepare related training manuals	Global	Document	2,000 $	• As above
	Activity 1.1.4 Enhance LPCs institutional capacities for LPIR development and implementation	National	2 National workshops; 2 days each	45,600$	In-kind contribution by LPC **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics, food and refreshments: 2 days * 30 participants * 20 = 1200 Total/LPC 22,800$
1.2 Pilot countries established National Task Forces (inter-ministerial and cross-sectoral) and drafted national legislation in line with the international regulations on GHG emissions from ships.	Activity 1.2.1 Development of national "Maritime Energy Status, Baselines, Targets and Roadmaps (ME-SBTR)" assessment report	National	Document	64,000$	In-kind contribution include: • NFP and NPC time (included in management) • NTF time that will review the documentations to ensure their fitness for purpose (15 NTF members x 1 day meetings x 4 meetings) • 4*15*400 = 24,000$ • National experts for support of national consultant from different organisations (data provision, technical support, etc.) 100 days for all 1.2 activities. • 100*400 = 40,000 • The above are for all activities under 1.2.
	Activity 1.2.2 National Maritime Energy Efficiency Strategies (NMEES) developed and approved	National	Document	Included in above	See above.
	Activity 1.2.3 Forward planning for NMEES Implementation	National	Document	As above	See above.
	Activity 1.2.4 Develop national legislation text	National	Document	As above	See above.

1.3 Pilot countries integrated MEEF into port and infrastructure planning for future growth.	Activity 1.3.1 Develop guidance document on port energy analysis	Global	Document	0	
	Activity 1.3.2 Port energy analysis for reduced ship energy use and improved local air quality	National	Report analysis in 3 LPCs	0	
	Activity 1.3.3 Develop guidance document for estimating the financial / economic benefits of port energy efficiency measures	Global	Document	0	
	Activity 1.3.4 Undertake financial and economic benefits assessment for port energy efficiency	National	Report	0	
1.4 Global Tools and pilot country experiences will be shared and disseminated at global level	Activity 1.4.1 Publication and dissemination of LPIR global tools and related GloMEEP achievements	Global	Electronic/Hard copies	0	
Sub-Total				**$115,600**	

Country: Morocco

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Component / Outcome 2

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
2.1 Developed capacity-building tools and training courses on ship EEDI and SEEMP (regulations, implementation, enforcement, technologies and best practice);	Activity 2.1.1 Hold training courses on "Ship Energy Efficiency Regulations and Flag State Implementation" including an optional extra day on technology transfer for ship energy efficiency.	National	Workshop	22,800	In-kind contribution by LPCs per 2 days workshop: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total: 22,800
	Activity 2.1.2 Update / refine /translate the IMO Model Course on ship energy efficiency	Global	Training package	0	
	Activity 2.1.3 Capacitate national maritime training institute(s) for delivery of IMO Model Course on ship energy efficiency	National	Workshop	22,800$	In-kind contribution by LPCs per 2 days workshop: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total/LPC 22,800$
	Activity 2.1.4 Develop workshop material on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Global	Training package	0	
	Activity 2.1.5 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Regional	Workshop	3,000 $	Attendance in regional workshop. Morocco will participate in the regional 3-day workshop to be organised by South Africa. • 2 participants per LPC at 300$/day • 2*5days*300=3,000$ for time spent travelling and attending workshop
	Activity 2.1.6 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	National	National workshop	22,800	In-kind contribution by LPCs per 2 days workshop: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200: Total: 21,800

2.2 Created global knowledge sharing forums on energy efficiency within maritime sector including port infrastructure and logistics facilities	Activity 2.2.1 Publish and distribute six-monthly newsletters	Global	Electronic document	0	
	Activity 2.2.2 Develop, and translate GloMEEP brochures and publications	Global	Soft and and hard copies	0	
	Activity 2.2.3 Develop and maintain GloMEEP website	Global	Webpage	0	
2.3 Developed a pool of global trainers who have successfully completed trainer certification through "train-the-trainer" workshops	Activity 2.3.1 Conduct one "train-the-trainer" course on "ship energy efficiency regulations, technologies and management"	Global (WMU)	Workshop	2,100	• 1 person per LPC • Cost of time: 1*7*300 = 2,100$
	Activity 2.3.2 Develop the LPCs roster of maritime energy efficiency experts.	Global (PCU)	Database	0	• LPCs will support via provision of names and other details of national experts.
2.4 Conducted training workshops at national levels and integrated into national maritime academic and practical training curriculum	Activity 2.4.1 Share tools with national academics/institutions who will be invited to national training courses	National	Dissemination of training material	Included in other activities	0
2.5 Capacity building for port management and port developments for energy efficiency	Activity 2.5.1 Develop workshop material on "port management and port developments for maritime energy efficiency".	Global	Training package	0	
	Activity 2.5.2 Capacity building for "port management and port developments for maritime energy efficiency".	National	National workshop	21,800	In-kind contribution by LPCs **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 500 = 1000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total: 21,800
Sub-Total				**$95,300**	

Country: Morocco

Table of Lead Pilot Country (LPC) In-Kind Support for National Activities and Hosting Regional Activities

Component / Outcome 3

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
3.1 Establishment of Global Industry Alliance (GIA) for MEEF as a private-sector collaboration platform;	Activity 3.1.1 Formation of GloMEEP GIA	Global	Partnership Agreement	0	
	Activity 3.1.2 Setup the GloMEEP GIA Fund	Global	Fund	0	
	Activity 3.1.3 GIA will meet periodically to steer industry-GloMEEP activities	Global	Meetings	0	• 2 meetings are foreseen
3.2 Under the auspecies of GIA, catalyze the development and maintenance of a global database on energy efficient ship technologies and port facilities	Activity 3.2.1 Setup an EETs (Energy Efficiency Technologies) database	Global	Electronic Database	0	
	Activity 3.2.2 Organize workshops on ship energy efficiency technologies for ship design and operation including alternative fuels	National	Workshop	0	
3.3 Facilitate forums for private sector and technology developers for demonstrating application of EE measures and dissemination of particularly notable improvements in maritime transport efficiency technology and practices	Activity 3.3.1: Establish a global conference series to be co-ordinated in partnership with Singapore under the framework of GIA	Global	Conference series	0	• Conference to be organised through BMA (Bilateral or Mltilateral Agreements). • A minimum of one conference series is freseen.
	Activity 3.3.2 Participate in one global ship/port/energy management relevant event	Global	2 persons	3,000	• Time to be in-kind LPC funding: • 2*5*300 = 3000 per LPC
Sub-Total				**$3,000**	

Country: Morocco

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Component / Outcome 4

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output 4.1 Project Management and coordination structures is in place at global and national levels .	Activity 4.1.1 Global Project Task Force (GPTF)	Global	Project steering	0	• One representative from LPC willl take part. • LPCs in-kind is included under NFP and NPC.
	Activity 4.1.2 Organise Industry Task Force (ITF)	Global	GIA steering	0	• LPCs are not expected to take part.
	Activity 4.1.3 National Task Force (NTF)	National	4 national meetings	0	• In-kind support is accounted under the document reviews of Component 1.
	Activity 4.1.4 National Stakeholders Workshops (NSW)	National	2 national meetings	14,800	• 2 meetings per LPC, 20 stakeholder participation: • 2*20*300= 12,000$ • Venue: 2*1000=2000$ • Lunch and refreshment: 2*20*20=800$ • Total: 14,800$
Output 4.2 Project monitoring, evaluation and reporting systems established and implemented	Activity 4.2.1 Final evaluation	Global	Document	0	
	Activity 4.2.2 Project Reports (PRs)	Global	Document	0	
Sub-Total				**14,800**	

Country: Morocco

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Project Management

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output PM.1 Project Management and coordination structures is in place at global and national levels .	Activity PM.1.1 Project Coordination Unit (PCU) and Project Executive (PE)	Global	Project management	0	
	Activity PM.1.2 National Level Management and Coordination	National	Project management	80,000	• NFP (10% load = 40 days) • NPC (15% load = 60 days) • Support staff (10 each 5% load = 200days) • In-kind: (40+60)*400+200*200= 80,000
Sub-Total				**80,000**	
GRAND TOTAL				**$308,700**	

7.3.8 PANAMA ENDORSEMENT LETTER AND CO-FINANCING TABLES

AUTORIDAD MARÍTIMA DE PANAMÁ
DIRECCIÓN GENERAL DE MARINA MERCANTE

Panama, 14th. October 2014.
Letter No. 100-01-123-14-DGMM

Dear:

Dr. ANDREW HUDSON
Cluster Leader & principal Technical Advisor
UNDP Water Governance Programme

Dr. JOSE MATHEICKAL
Senior Technical Office
Marine Environment Division

Subject: GEF-UNDP-IMO Project on "Transforming the Global Maritime Transport Industry Towards a Low Carbon Future Through Improved Energy Efficiency"

On behalf of Panama Maritime Authority, I hereby confirm our participation as a Lead Pilot Country in the project "Transforming the Global Maritime Transport Industry Towards a Low Carbon Future Through Improved Energy Efficiency" (GloMEEP), as detailed in the project document developed by the International Maritime Organization.

It is our understanding that this project will facilitate the international shipping's move to a more energy efficient and low carbon maritime transport via supporting legal, policy and institutional reforms, capacity building and public-private partnership in participating countries.

We would welcome the opportunity to partner with other countries and organizations in our region and globally to address the very important issue of maritime fuel efficiency and Greenhouse Gas Emissions.

Ave. Omar Torrijos Herrera-Albrook, Edif. Pan Canal Plaza, Piso 3, Oficina #308,
Tel.: (507) 501/5050/5006/5008 Fax:(507)501-5007 http:/www.amp.gob.pa

Panama, 14th. October 2014.
Letter No. 100-01-123-14-DGMM
N° 2.....

As a Lead Pilot Country of the above project, the Government of Panama is pleased to inform you that we will ensure to support the project through in-kind contributions as shown attached.

We look forward to the successful implementation of this project.

Yours sincerely,

Licenciada ELENA de OLMEDO
General Director of Marine Merchant a.i.

Dr. ANDREW HUDSON
Cluster Leader & principal Technical Advisor
UNDP Water Governance Programme

Dr. JOSE MATHEICKAL
Senior Technical Office
Marine Environment Division

EO/RB/amb

Country: Panama

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Component / Outcome 1

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
1.1 Global tools and guidance for LPIR developed including model legislations, guidance on compliance monitoring and enforcement methodologies and best practices; and guidance on Energy Efficiency Operational Indicator (EEOI) calculation and analysis tools.	Activity 1.1.1 Develop template and guidance for rapid assessment of "country maritime status, energy baselines, targets and roadmap"	Global	Document	2,000 $	• The document will be developed globally. • LPCs will make a review of the document. • Time allocated for review is 5 working days @ 400/day • LPC in-kind contribution = 5*400 = 2,000 $
	Activity 1.1.2 Develop template and guidance for maritime energy efficiency strategies development and LPIR road mapping	Global	Document	2,000 $	• As above
	Activity 1.1.3 Develop model legislation for inclusion of the energy policy and MEEF requirements within national law and prepare related training manuals	Global	Document	2,000 $	• As above
	Activity 1.1.4 Enhance LPCs institutional capacities for LPIR development and implementation	National	2 National workshops; 2 days each	45,600$	In-kind contribution by LPC **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics, food and refreshments: 2 days * 30 participants * 20 = 1200 Total/LPC 22,800$
1.2 Pilot countries established National Task Forces (inter-ministerial and cross-sectoral) and drafted national legislation in line with the international regulations on GHG emissions from ships.	Activity 1.2.1 Development of national "Maritime Energy Status, Baselines, Targets and Roadmaps (ME-SBTR)" assessment report	National	Document	64,000$	In-kind contribution include: • NFP and NPC time (included in management) • NTF time that will review the documentations to ensure their fitness for purpose (15 NTF members x 1 day meetings x 4 meetings) • 4*15*400 = 24,000$ • National experts for support of national consultant from different organisations (data provision, technical support, etc.) 100 days for all 1.2 activities. • 100*400 = 40,000 • The above are for all activities under 1.2.
	Activity 1.2.2 National Maritime Energy Efficiency Strategies (NMEES) developed and approved	National	Document	Included in above	See above.
	Activity 1.2.3 Forward planning for NMEES Implementation	National	Document	As above	See above.
	Activity 1.2.4 Develop national legislation text	National	Document	As above	See above.

1.3 Pilot countries integrated MEEF into port and infrastructure planning for future growth.	Activity 1.3.1 Develop guidance document on port energy analysis	Global	Document	0	•
	Activity 1.3.2 Port energy analysis for reduced ship energy use and improved local air quality	National	Report analysis in 3 LPCs	0	•
	Activity 1.3.3 Develop guidance document for estimating the financial / economic benefits of port energy efficiency measures	Global	Document	0	•
	Activity 1.3.4 Undertake financial and economic benefits assessment for port energy efficiency	National	Report	0	
1.4 Global Tools and pilot country experiences will be shared and disseminated at global level	Activity 1.4.1 Publication and dissemination of LPIR global tools and related GloMEEP achievements	Global	Electronic/Hard copies	0	
Sub-Total				**$115,600**	

Country: Panama

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Component / Outcome 2

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
2.1 Developed capacity-building tools and training courses on ship EEDI and SEEMP (regulations, implementation, enforcement, technologies and best practice);	Activity 2.1.1 Hold training courses on "Ship Energy Efficiency Regulations and Flag State Implementation" including an optional extra day on technology transfer for ship energy efficiency.	National	Workshop	22,800	In-kind contribution by LPCs **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total: 22,800
	Activity 2.1.2 Update / refine /translate the IMO Model Course on ship energy efficiency	Global	Training package	0	
	Activity 2.1.3 Capacitate national maritime training institute(s) for delivery of IMO Model Course on ship energy efficiency	National	Workshop	22,800$	In-kind contribution by LPCs **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total/LPC 22,800$
	Activity 2.1.4 Develop workshop material on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Global	Training package	0	
	Activity 2.1.5 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Regional	Workshop	3,000 $	Attendance in regional workshop. Panama will participate in the regional 3-day workshop to be organised by Aregentina. • 2 participants per LPC at 300$/day • 2*5days*300=3,000$ for time spent travelling and attending workshop
	Activity 2.1.6 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	National	Workshop	0	

2.2 Created global knowledge sharing forums on energy efficiency within maritime sector including port infrastructure and logistics facilities	Activity 2.2.1 Publish and distribute six-monthly newsletters	Global	Electronic document	0	
	Activity 2.2.2 Develop, and translate GloMEEP brochures and publications	Global	Soft and and hard copies	0	
	Activity 2.2.3 Develop and maintain GloMEEP website	Global	Webpage	0	
2.3 Developed a pool of global trainers who have successfully completed trainer certification through "train-the-trainer" workshops	Activity 2.3.1 Conduct one "train-the-trainer" course on "ship energy efficiency regulations, technologies and management"	Global (WMU)	Workshop	2,100	• 1 person per LPC • Cost of time: 1*7*300 = 2,100$
	Activity 2.3.2 Develop the LPCs roster of maritime energy efficiency experts.	Global (PCU)	Database	0	• LPCs will support via provision of names and other details of national experts.
2.4 Conducted training workshops at national levels and integrated into national maritime academic and practical training curriculum	Activity 2.4.1 Share tools with national academics/institutions who will be invited to national training courses	National	Dissemination of training material	Included in other activities	0
2.5 Capacity building for port management and port developments for energy efficiency	Activity 2.5.1 Develop workshop material on "port management and port developments for maritime energy efficiency".	Global	Training package	0	
	Activity 2.5.2 Capacity building for "port management and port developments for maritime energy efficiency".	National	National workshop	21,800	In-kind contribution by LPCs **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 500 = 1000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total: 21,800
Sub-Total				**$72,500**	

Country: Panama

Table of Lead Pilot Country (LPC) In-Kind Support for National Activities and Hosting Regional Activities

Component / Outcome 3

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
3.1 Establishment of Global Industry Alliance (GIA) for MEEF as a private-sector collaboration platform;	Activity 3.1.1 Formation of GloMEEP GIA	Global	Partnership Agreement	0	
	Activity 3.1.2 Setup the GloMEEP GIA Fund	Global	Fund	0	
	Activity 3.1.3 GIA will meet periodically to steer industry-GloMEEP activities	Global	Meetings	0	• 2 meetings are foreseen
3.2 Under the auspecies of GIA, catalyze the development and maintenance of a global database on energy efficient ship technologies and port facilities	Activity 3.2.1 Setup an EETs (Energy Efficiency Technologies) database	Global	Electronic Database	0	
	Activity 3.2.2 Organize workshops on ship energy efficiency technologies for ship design and operation including alternative fuels	National	Workshop	0	
3.3 Facilitate forums for private sector and technology developers for demonstrating application of EE measures and dissemination of particularly notable improvements in maritime transport efficiency technology and practices	Activity 3.3.1: Establish a global conference series to be co-ordinated in partnership with Singapore under the framework of GIA	Global	Conference series	0	• Conference to be organised through BMA (Bilateral or Mltilateral Agreements). • A minimum of one conference series is freseen.
	Activity 3.3.2 Participate in one global ship/port/energy management relevant event	Global	2 persons	3,000	• Time to be in-kind LPC funding: • 2*5*300 = 3000 per LPC
Sub-Total				**$3,000**	

Country: Panama

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Component / Outcome 4

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output 4.1 Project Management and coordination structures is in place at global and national levels .	Activity 4.1.1 Global Project Task Force (GPTF)	Global	Project steering	0	• One representative from LPC willl take part. • LPCs in-kind is included under NFP and NPC.
	Activity 4.1.2 Organise Industry Task Force (ITF)	Global	GIA steering	0	• LPCs are not expected to take part.
	Activity 4.1.3 National Task Force (NTF)	National	4 national meetings	0	• In-kind support is accounted under the document reviews of Component 1.
	Activity 4.1.4 National Stakeholders Workshops (NSW)	National	2 national meetings	14,800	• 2 meetings per LPC, 20 stakeholder participation: • 2*20*300= 12,000$ • Venue: 2*1000=2000$ • Lunch and refreshment: 2*20*20=800$ • Total: 14,800$
Output 4.2 Project monitoring, evaluation and reporting systems established and implemented	Activity 4.2.1 Final evaluation	Global	Document	0	
	Activity 4.2.2 Project Reports (PRs)	Global	Document	0	
Sub-Total				**14,800**	

Country: Panama
Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities
Project Management

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output PM.1 Project Management and coordination structures is in place at global and national levels .	Activity PM.1.1 Project Coordination Unit (PCU) and Project Executive (PE)	Global	Project management	0	
	Activity PM.1.2 National Level Management and Coordination	National	Project management	80,000	• NFP (10% load = 40 days) • NPC (15% load = 60 days) • Support staff (10 each 5% load = 200days) • In-kind: (40+60)*400+200*200= 80,000
Sub-Total				**80,000**	
GRAND TOTAL				**$285,900**	

7.3.9 PHILIPPINES ENDORSEMENT LETTER AND CO-FINANCING TABLES

REPUBLIC OF THE PHILIPPINES
DEPARTMENT OF TRANSPORTATION AND COMMUNICATIONS

MARITIME INDUSTRY AUTHORITY
PANGASIWAAN NG KALAKALANG PANDAGAT
http://www.marina.gov.ph

30 September 2014

1) **Dr. Andrew Hudson**
Cluster Leader & Principal Technical Advisor
UNDP Water Governance Programme
FF-998, 1 United Nations Plaza
New York, NY 10017, United States
Tel: +1 212 906 6228
Email: andrew.hudson@undp.org

2) **Dr. Jose Matheickal**
Senior Technical Officer
Marine Environment Division,
IMO, Albert Embankment, London SE1, 7SR, UK
Email: jmatheic@imo.org

Dear Dr. Hudson:

Subject: GEF-UNDP-IMO Project on "Transforming the Global Maritime Transport Industry towards a Low Carbon Future through Improved Energy Efficiency"

On behalf of the Maritime Industry Authority of the Philippines, I hereby confirm our participation as a Lead Pilot Country in the project "Transforming the Global Maritime Transport Industry towards a Low Carbon Future through Improved Energy Efficiency" (GloMEEP), as detailed in the project document developed by the International Maritime Organization.

It is our understanding that this project will facilitate the international shipping's move to a more energy efficient and low carbon maritime transport via supporting legal, policy and institutional reforms, capacity building and public-private partnership in participating countries.

We would welcome the opportunity to partner with other countries and organizations in our region and globally to address the very important issue of maritime fuel efficiency and Greenhouse Gas Emissions.

As a Lead Pilot Country of the above project, the Government of the Philippines is pleased to inform you that we will ensure to support the project through in-kind contributions as attached.

We look forward to the successful implementation of this project.

Yours Sincerely,

MAXIMO Q MEJIA JR, Ph.D.
Administrator

MARITIME PHILIPPINES

Parkview Plaza, 984 Taft Ave cor. TM Kalaw, Ermita, Manila • Tel No. 526-0971; 523-9078 • Email: oadm@marina.gov.ph

Country: Philippines
Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities
Component / Outcome 1

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
1.1 Global tools and guidance for LPIR developed including model legislations, guidance on compliance monitoring and enforcement methodologies and best practices; and guidance on Energy Efficiency Operational Indicator (EEOI) calculation and analysis tools.	Activity 1.1.1 Develop template and guidance for rapid assessment of "country maritime status, energy baselines, targets and roadmap"	Global	Document	2,000 $	• The document will be developed globally. • LPCs will make a review of the document. • Time allocated for review is 5 working days @ 400/day • LPC in-kind contribution = 5*400 = 2,000 $
	Activity 1.1.2 Develop template and guidance for maritime energy efficiency strategies development and LPIR road mapping	Global	Document	2,000 $	• As above
	Activity 1.1.3 Develop model legislation for inclusion of the energy policy and MEEF requirements within national law and prepare related training manuals	Global	Document	2,000 $	• As above
	Activity 1.1.4 Enhance LPCs institutional capacities for LPIR development and implementation	National	2 National workshops; 2 days each	45,600$	In-kind contribution by LPC **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics, food and refreshments: 2 days * 30 participants * 20 = 1200 Total/LPC 22,800$
1.2 Pilot countries established National Task Forces (inter-ministerial and cross-sectoral) and drafted national legislation in line with the international regulations on GHG emissions from ships.	Activity 1.2.1 Development of national "Maritime Energy Status, Baselines, Targets and Roadmaps (ME-SBTR)" assessment report	National	Document	64,000$	In-kind contribution include: • NFP and NPC time (included in management) • NTF time that will review the documentations to ensure their fitness for purpose (15 NTF members x 1 day meetings x 4 meetings) • 4*15*400 = 24,000$ • National experts for support of national consultant from different organisations (data provision, technical support, etc.) 100 days for all 1.2 activities. • 100*400 = 40,000 • The above are for all activities under 1.2.
	Activity 1.2.2 National Maritime Energy Efficiency Strategies (NMEES) developed and approved	National	Document	Included in above	See above.
	Activity 1.2.3 Forward planning for NMEES Implementation	National	Document	As above	See above.
	Activity 1.2.4 Develop national legislation text	National	Document	As above	See above.

1.3 Pilot countries integrated MEEF into port and infrastructure planning for future growth.	Activity 1.3.1 Develop guidance document on port energy analysis	Global	Document	0	•
	Activity 1.3.2 Port energy analysis for reduced ship energy use and improved local air quality	National	Report analysis in 3 LPCs	0	•
	Activity 1.3.3 Develop guidance document for estimating the financial / economic benefits of port energy efficiency measures	Global	Document	0	•
	Activity 1.3.4 Undertake financial and economic benefits assessment for port energy efficiency	National	Report	0	
1.4 Global Tools and pilot country experiences will be shared and disseminated at global level	Activity 1.4.1 Publication and dissemination of LPIR global tools and related GloMEEP achievements	Global	Electronic/Hard copies	0	
Sub-Total				**$115,600**	

Country: Philippines

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Component / Outcome 2

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
2.1 Developed capacity-building tools and training courses on ship EEDI and SEEMP (regulations, implementation, enforcement, technologies and best practice);	Activity 2.1.1 Hold training courses on "Ship Energy Efficiency Regulations and Flag State Implementation" including an optional extra day on technology transfer for ship energy efficiency.	National	Workshop	0	
	Activity 2.1.2 Update / refine /translate the IMO Model Course on ship energy efficiency	Global	Training package	0	
	Activity 2.1.3 Capacitate national maritime training institute(s) for delivery of IMO Model Course on ship energy efficiency	National	Workshop	22,800$	In-kind contribution by LPCs **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total/LPC 22,800$
	Activity 2.1.4 Develop workshop material on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Global	Training package	0	
	Activity 2.1.5 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Regional	Workshop	3,000 $	Attendance in regional workshop. Philippines will participate in the regional 3-day workshop to be organised by China. • 2 participants per LPC at 300$/day • 2*5days*300=3,000$ for time spent travelling and attending workshop
	Activity 2.1.6 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	National	Workshop	0	
2.2 Created global knowledge sharing forums on energy efficiency within maritime sector including port infrastructure and logistics facilities	Activity 2.2.1 Publish and distribute six-monthly newsletters	Global	Electronic document	0	
	Activity 2.2.2 Develop, and translate GloMEEP brochures and publications	Global	Soft and and hard copies	0	
	Activity 2.2.3 Develop and maintain GloMEEP website	Global	Webpage	0	

2.3 Developed a pool of global trainers who have successfully completed trainer certification through "train-the-trainer" workshops	Activity 2.3.1 Conduct one "train-the-trainer" course on "ship energy efficiency regulations, technologies and management"	Global (WMU)	Workshop	2,100	• 1 person per LPC • Cost of time: 1*7*300 = 2,100$
	Activity 2.3.2 Develop the LPCs roster of maritime energy efficiency experts.	Global (PCU)	Database	0	• LPCs will support via provision of names and other details of national experts.
2.4 Conducted training workshops at national levels and integrated into national maritime academic and practical training curriculum	Activity 2.4.1 Share tools with national academics/institutions who will be invited to national training courses	National	Dissemination of training material	Included in other activities	0
2.5 Capacity building for port management and port developments for energy efficiency	Activity 2.5.1 Develop workshop material on "port management and port developments for maritime energy efficiency".	Global	Training package	0	
	Activity 2.5.2 Capacity building for "port management and port developments for maritime energy efficiency".	National	National workshop	21,800	In-kind contribution by LPCs **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 500 = 1000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total: 21,800
Sub-Total				**$49,700**	

Country: Philippines
Table of Lead Pilot Country (LPC) In-Kind Support for National Activities and Hosting Regional Activities
Component / Outcome 3

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
3.1 Establishment of Global Industry Alliance (GIA) for MEEF as a private-sector collaboration platform;	Activity 3.1.1 Formation of GloMEEP GIA	Global	Partnership Agreement	0	
	Activity 3.1.2 Setup the GloMEEP GIA Fund	Global	Fund	0	
	Activity 3.1.3 GIA will meet periodically to steer industry-GloMEEP activities	Global	Meetings	0	• 2 meetings are foreseen
3.2 Under the auspecies of GIA, catalyze the development and maintenance of a global database on energy efficient ship technologies and port facilities	Activity 3.2.1 Setup an EETs (Energy Efficiency Technologies) database	Global	Electronic Database	0	
	Activity 3.2.2 Organize workshops on ship energy efficiency technologies for ship design and operation including alternative fuels	National	Workshop	0	
3.3 Facilitate forums for private sector and technology developers for demonstrating application of EE measures and dissemination of particularly notable improvements in maritime transport efficiency technology and practices	Activity 3.3.1: Establish a global conference series to be co-ordinated in partnership with Singapore under the framework of GIA	Global	Conference series	0	• Conference to be organised through BMA (Bilateral or Mltilateral Agreements). • A minimum of one conference series is freseen.
	Activity 3.3.2 Participate in one global ship/port/energy management relevant event	Global	2 persons	3,000	• Time to be in-kind LPC funding: • 2*5*300 = 3000 per LPC
Sub-Total				**$3,000**	

Country: Philippines
Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities
Component / Outcome 4

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output 4.1 Project Management and coordination structures is in place at global and national levels .	Activity 4.1.1 Global Project Task Force (GPTF)	Global	Project steering	0	• One representative from LPC willl take part. • LPCs in-kind is included under NFP and NPC.
	Activity 4.1.2 Organise Industry Task Force (ITF)	Global	GIA steering	0	• LPCs are not expected to take part.
	Activity 4.1.3 National Task Force (NTF)	National	4 national meetings	0	• In-kind support is accounted under the document reviews of Component 1.
	Activity 4.1.4 National Stakeholders Workshops (NSW)	National	2 national meetings	14,800	• 2 meetings per LPC, 20 stakeholder participation: • 2*20*300= 12,000$ • Venue: 2*1000=2000$ • Lunch and refreshment: 2*20*20=800$ • Total: 14,800$
Output 4.2 Project monitoring, evaluation and reporting systems established and implemented	Activity 4.2.1 Final evaluation	Global	Document	0	
	Activity 4.2.2 Project Reports (PRs)	Global	Document	0	
Sub-Total				**14,800**	

Country: Philippines

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Project Management

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output PM.1 Project Management and coordination structures is in place at global and national levels .	Activity PM.1.1 Project Coordination Unit (PCU) and Project Executive (PE)	Global	Project management	0	
	Activity PM.1.2 National Level Management and Coordination	National	Project management	80,000	• NFP (10% load = 40 days) • NPC (15% load = 60 days) • Support staff (10 each 5% load = 200days) • In-kind: (40+60)*400+200*200= 80,000
Sub-Total				**80,000**	
GRAND TOTAL				**$263,100**	

7.3.10 SOUTH AFRICA ENDORSEMENT LETTER AND CO-FINANCING TABLES

MINISTER
TRANSPORT
REPUBLIC OF SOUTH AFRICA

Private Bag X193, Pretoria, 0001, Tel: +27 12 309 3860, Fax: +27 12 328 3194
Private Bag X9129, Cape Town, 8000, Tel: +27 21 465 7260, Fax: +27 21 461 6845
www.dot.gov.za

1) Dr. Andrew Hudson
Cluster Leader & Principal Technical Advisor
UNDP Water Governance Programme
FF-998, 1 United Nations Plaza
New York, NY 10017, United States
Tel: +1 212 906 6228
Email: andrew.hudson@undp.org

2) Dr. Jose Matheickal,
Senior Technical Officer
Marine Environment Division,
IMO, Albert Embankment, London SE1, 7SR, UK
Email: jmatheic@imo.org

Dear Dr. Hudson,

GEF-UNDP-IMO PROJECT ON "TRANSFORMING THE GLOBAL MARITIME TRANSPORT INDUSTRY TOWARDS A LOW CARBON FUTURE THROUGH IMPROVED ENERGY EFFICIENCY"

On behalf of South Africa, I hereby confirm our participation as a Lead Pilot Country in the project "Transforming the Global Maritime Transport Industry towards a Low Carbon Future through Improved Energy Efficiency" (GloMEEP), as detailed in the project document developed by the International Maritime Organization.

It is our understanding that this project will facilitate the international shipping's move to a more energy efficient and low carbon maritime transport via supporting legal, policy and institutional reforms, capacity building and public-private partnership in participating countries.

We would welcome the opportunity to partner with other countries and organizations in our region and globally to address the very important issue of maritime fuel efficiency and Greenhouse Gas Emissions.

As a Lead Pilot Country of the above project, the Government of South Africa is pleased to inform you that we will ensure to support the project through in-kind contributions.

We look forward to the successful implementation of this project.

Warm regards,

Ms Dipuo Peters
MINISTER OF TRANSPORT

Date: 11/09/2014

Country: South Africa

Table of Lead Pilot Country (LPC) In-Kind Support for National Activities and Hosting Regional Activities

Component / Outcome 1

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
1.1 Global tools and guidance for LPIR developed including model legislations, guidance on compliance monitoring and enforcement methodologies and best practices; and guidance on Energy Efficiency Operational Indicator (EEOI) calculation and analysis tools.	Activity 1.1.1 Develop template and guidance for rapid assessment of "country maritime status, energy baselines, targets and roadmap"	Global	Document	2,000 $	• The document will be developed globally. • LPCs will make a review of the document. • Time allocated for review is 5 working days @ 400/day • LPC in-kind contribution = 5*400 = 2,000 $
	Activity 1.1.2 Develop template and guidance for maritime energy efficiency strategies development and LPIR road mapping	Global	Document	2,000 $	• As above
	Activity 1.1.3 Develop model legislation for inclusion of the energy policy and MEEF requirements within national law and prepare related training manuals	Global	Document	2,000 $	• As above
	Activity 1.1.4 Enhance LPCs institutional capacities for LPIR development and implementation	National	2 National workshops; 2 days each	45,600$	In-kind contribution by LPC **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics, food and refreshments: 2 days * 30 participants * 20 = 1200 Total/LPC 22,800$
1.2 Pilot countries established National Task Forces (inter-ministerial and cross-sectoral) and drafted national legislation in line with the international regulations on GHG emissions from ships.	Activity 1.2.1 Development of national "Maritime Energy Status, Baselines, Targets and Roadmaps (ME-SBTR)" assessment report	National	Document	64,000$	In-kind contribution include: • NFP and NPC time (included in management) • NTF time that will review the documentations to ensure their fitness for purpose (15 NTF members x 1 day meetings x 4 meetings) • 4*15*400 = 24,000$ • National experts for support of national consultant from different organisations (data provision, technical support, etc.) 100 days for all 1.2 activities. • 100*400 = 40,000 • The above are for all activities under 1.2.
	Activity 1.2.2 National Maritime Energy Efficiency Strategies (NMEES) developed and approved	National	Document	Included in above	See above.
	Activity 1.2.3 Forward planning for NMEES Implementation	National	Document	As above	See above.
	Activity 1.2.4 Develop national legislation text	National	Document	As above	See above.

1.3 Pilot countries integrated MEEF into port and infrastructure planning for future growth.	Activity 1.3.1 Develop guidance document on port energy analysis	Global	Document	0	•
	Activity 1.3.2 Port energy analysis for reduced ship energy use and improved local air quality	National	Report analysis in 3 LPCs	0	•
	Activity 1.3.3 Develop guidance document for estimating the financial / economic benefits of port energy efficiency measures	Global	Document	0	•
	Activity 1.3.4 Undertake financial and economic benefits assessment for port energy efficiency	National	Report	0	
1.4 Global Tools and pilot country experiences will be shared and disseminated at global level	Activity 1.4.1 Publication and dissemination of LPIR global tools and related GloMEEP achievements	Global	Electronic/Hard copies	0	
Sub-Total				**$115,600**	

Country: South Africa

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities
Component / Outcome 2

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
2.1 Developed capacity-building tools and training courses on ship EEDI and SEEMP (regulations, implementation, enforcement, technologies and best practice);	Activity 2.1.1 Hold training courses on "Ship Energy Efficiency Regulations and Flag State Implementation" including an optional extra day on technology transfer for ship energy efficiency.	National	Workshop	22,800	In-kind contribution by LPCs **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total: 22,800
	Activity 2.1.2 Update / refine /translate the IMO Model Course on ship energy efficiency	Global	Training package	0	
	Activity 2.1.3 Capacitate national maritime training institute(s) for delivery of IMO Model Course on ship energy efficiency	National	Workshop	22,800$	In-kind contribution by LPCs **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 1000 = 2000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total/LPC 22,800$
	Activity 2.1.4 Develop workshop material on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Global	Training package	0	
	Activity 2.1.5 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Regional	Workshop	13,800 $	Per 3 day workshop, 20 participants total, 8 national: • 8 participants per workshop at 300$/day; 8*3days*300=7,200$ • 2 admin/organizer personnel for 6 days each at 200$/day = 2*6*200 = 2400$ • Venue 3days * 1000 = 3000 • Local logistics and refreshments: 3 days * 20 participants * 20 = 1200 • Total: 13,800
	Activity 2.1.6 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	National	Workshop	0	

2.2 Created global knowledge sharing forums on energy efficiency within maritime sector including port infrastructure and logistics facilities	Activity 2.2.1 Publish and distribute six-monthly newsletters	Global	Electronic document	0	
	Activity 2.2.2 Develop, and translate GloMEEP brochures and publications	Global	Soft and and hard copies	0	
	Activity 2.2.3 Develop and maintain GloMEEP website	Global	Webpage	0	
2.3 Developed a pool of global trainers who have successfully completed trainer certification through "train-the-trainer" workshops	Activity 2.3.1 Conduct one "train-the-trainer" course on "ship energy efficiency regulations, technologies and management"	Global (WMU)	Workshop	2,100	• 1 person per LPC • Cost of time: 1*7*300 = 2,100$
	Activity 2.3.2 Develop the LPCs roster of maritime energy efficiency experts.	Global (PCU)	Database	0	• LPCs will support via provision of names and other details of national experts.
2.4 Conducted training workshops at national levels and integrated into national maritime academic and practical training curriculum	Activity 2.4.1 Share tools with national academics/institutions who will be invited to national training courses	National	Dissemination of training material	Included in other activities	0
2.5 Capacity building for port management and port developments for energy efficiency	Activity 2.5.1 Develop workshop material on "port management and port developments for maritime energy efficiency".	Global	Training package	0	
	Activity 2.5.2 Capacity building for "port management and port developments for maritime energy efficiency".	National	National workshop	21,800	In-kind contribution by LPCs **per 2 days workshop**: • 30 participants per workshop at 300$/day; 30*2days*300=18,000$ • 2 admin/organizer personnel for 4 days each at 200$/day = 2*4*200 = 1600$ • Venue 2 days * 500 = 1000 • Local logistics and refreshments: 2 days * 30 participants * 20 = 1200 Total: 21,800
Sub-Total				**$83,300**	

Country: South Africa
Table of Lead Pilot Country (LPC) In-Kind Support for National Activities and Hosting Regional Activities
Component / Outcome 3

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
3.1 Establishment of Global Industry Alliance (GIA) for MEEF as a private-sector collaboration platform;	Activity 3.1.1 Formation of GloMEEP GIA	Global	Partnership Agreement	0	
	Activity 3.1.2 Setup the GloMEEP GIA Fund	Global	Fund	0	
	Activity 3.1.3 GIA will meet periodically to steer industry-GloMEEP activities	Global	Meetings	0	• 2 meetings are foreseen
3.2 Under the auspecies of GIA, catalyze the development and maintenance of a global database on energy efficient ship technologies and port facilities	Activity 3.2.1 Setup an EETs (Energy Efficiency Technologies) database	Global	Electronic Database	0	
	Activity 3.2.2 Organize workshops on ship energy efficiency technologies for ship design and operation including alternative fuels	National	Workshop	0	
3.3 Facilitate forums for private sector and technology developers for demonstrating application of EE measures and dissemination of particularly notable improvements in maritime transport efficiency technology and practices	Activity 3.3.1: Establish a global conference series to be co-ordinated in partnership with Singapore under the framework of GIA	Global	Conference series	0	• Conference to be organised through BMA (Bilateral or Mltilateral Agreements). • A minimum of one conference series is freseen.
	Activity 3.3.2 Participate in one global ship/port/energy management relevant event	Global	2 persons	3,000	• Time to be in-kind LPC funding: • 2*5*300 = 3000 per LPC
Sub-Total				**$3,000**	

Country: South Africa

Table of Lead Pilot Country (LPC) <u>In-Kind</u> Support for National Activities and Hosting Regional Activities

Component / Outcome 4

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output 4.1 Project Management and coordination structures is in place at global and national levels .	Activity 4.1.1 Global Project Task Force (GPTF)	Global	Project steering	0	• One representative from LPC willl take part. • LPCs in-kind is included under NFP and NPC.
	Activity 4.1.2 Organise Industry Task Force (ITF)	Global	GIA steering	0	• LPCs are not expected to take part.
	Activity 4.1.3 National Task Force (NTF)	National	4 national meetings	0	• In-kind support is accounted under the document reviews of Component 1.
	Activity 4.1.4 National Stakeholders Workshops (NSW)	National	2 national meetings	14,800	• 2 meetings per LPC, 20 stakeholder participation: • 2*20*300= 12,000$ • Venue: 2*1000=2000$ • Lunch and refreshment: 2*20*20=800$ • Total: 14,800$
Output 4.2 Project monitoring, evaluation and reporting systems established and implemented	Activity 4.2.1 Final evaluation	Global	Document	0	
	Activity 4.2.2 Project Reports (PRs)	Global	Document	0	
Sub-Total				**14,800**	

Country: South Africa

Table of Lead Pilot Country (LPC) In-Kind Support for National Activities and Hosting Regional Activities

Project Management

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation of support
Output PM.1 Project Management and coordination structures is in place at global and national levels .	Activity PM.1.1 Project Coordination Unit (PCU) and Project Executive (PE)	Global	Project management	0	
	Activity PM.1.2 National Level Management and Coordination	National	Project management	80,000	• NFP (10% load = 40 days) • NPC (15% load = 60 days) • Support staff (10 each 5% load = 200days) • In-kind: (40+60)*400+200*200= 80,000
Sub-Total				**80,000**	
GRAND TOTAL				**$296,700**	

7.4 Annex 4 – GIA co-financing tables

NOTE: Discussion with industry on formation of GIA started during PPG phase. Industry showed a significant interest during one stakeholder informal meeting that was organised at IMO. Further meetings are planned to outreach wider number of industry player as soon as the project starts.

It is expected that 10 industry participants will join the GIA. A number of organisations have already sent their initial letter of interest and the likely in-kind and cash input that they will be willing to bring into the GIA Fund; subject to substantive negotiation after the approval of GloMEEP.

7.4.1 Expression of Interest and Commitment

Table below shows the private sector industries that so far have agreed in principal to join the GIA.

No.	Organisation	Endorsement method	Note
1	Lloyd's Register, UK	Letter	See below
2	Indian Register of Shipping, India	Email	See below
3	MARORKA, Iceland	Letter	See below
4	International Paint, Singapore	Letter	See below
4	Great Eastern Shipping Company of India	Email	See below

Lloyd's Register

Mr Stefan Micallef
Director, Marine Environment Division
International Maritime Organization
4 Albert Embankment
London
UK
SE1 7SR

03 October 2014

Dear Mr Micallef

Global Maritime Energy Efficiency Partnership – Global Industry Alliance (GloMEEP-GIA)

Further to our discussions with IMO on the possible formation of a Global Industry Alliance under the framework of the GEF-UNDP-IMO Global Maritime Energy Efficiency Partnership project, I wish to confirm Lloyd's Register's intention to participate in the GloMEEP-GIA and its Task Force.

Lloyd's Register's participation in the GloMEEP GIA and its Task Force is conditional upon final written partnership agreement concluded between GIA participating parties. Once the agreement is concluded, Lloyd's Register will commit to contributing up to US$ 50,000 each year for the next two years (which will include both cash and in-kind co-financing), subject to all of the currently intended members participating on the same basis.

We would also like to highlight that Lloyd's Register is currently undertaking a number of initiatives towards finding better solutions to the energy efficiency issue and for facilitating the implementation of energy efficiency requirements stipulated by the international regulations. We are keen to publicise some of these initiatives through the global forums that GloMEEP and GloMEEP-GIA would be establishing, so that appropriate and relevant information can be shared with participants from a number of IMO member Governments and other industry stakeholders.

Lloyd's Register look forward to working with GEF-UNDP-IMO GloMEEP project and other industry members on removing barriers and promoting innovative solutions to improve energy efficiency of shipping and maritime industry in general and with specific references to issues faced by the developing countries

Yours sincerely

Katharine Palmer
Environmental Manager
Environment & Sustainability

Email: Katharine.palmer@lr.org
Telephone: +44 (0)23 8024 9661 telephone
+44(0)7771 980 458 mobile

Working together for a safer world

International Paint Singapore Pte Ltd

AkzoNobel

Mr. Stefan Micallef
Director, Marine Environment Division
International Maritime Organization
4 Albert Embankment
London SE1 7SR, UK

14 October, 2014

Dear Mr Micallef

Global Maritime Energy Efficiency Partnership – Global Industry Alliance (GloMEEP-GIA)

Further to our discussions with IMO on the possible formation of a Global Industry Alliance under the framework of the GEF-UNDP-IMO Global Maritime Energy Efficiency Partnership project, I wish to confirm International Paint's intention to participate in the GloMEEP-GIA and its Task Force.

International Paint's participation in the GloMEEP GIA and its Task Force is conditional upon final written partnership agreement concluded between GIA participating parties. Once the agreement is concluded, International Paint will commit to contributing up to US$20,000 each year for the next two years (which will include both cash and in-kind co-financing), subject to all of the currently intended members participating on the same basis.

We would also like to highlight that International Paint is currently undertaking a number of initiatives towards finding better solutions to the energy efficiency issue and for facilitating the implementation of energy efficiency requirements stipulated by the international regulations. The value of such in-house initiatives is approximately [US$ 100,000 per annum]. We are keen to publicize some of these initiatives through the global forums that GloMEEP and GloMEEP-GIA would be establishing, so that appropriate and relevant information can be shared with participants from a number of IMO member Governments and other industry stakeholders]

International Paint look forward to working with GEF-UNDP-IMO GloMEEP project and other industry members on removing barriers and promoting innovative solutions to improve energy efficiency of shipping and maritime industry in general and with specific references to issues faced by the developing countries.

Yours sincerely

Robert Wong

Marketing Director
Marine Coatings
International Paint

21 Tuas South Street 3
Singapore 638023

T +65 6594 8800
F +65 6594 8897
www.akzonobel.com/international

Company Registered Number 198205049R

MARORKA

MARORKA® ehf.
Borgartun 20, 105 Reykjavik
tel: (+354)582 8000, fax: (+354)582 8499
marorka@marorka.com
www.marorka.com

14th of October 2014

Mr. Stefan Micallef

Director, Marine Environment Division

International Maritime Organization

4 Albert Embankment

London SE1 7SR, UK

Date: 13.10.2014

Dear Mr Micallef

Global Maritime Energy Efficiency Partnership – Global Industry Alliance (GloMEEP-GIA)

Further to our discussions with IMO on the possible formation of a Global Industry Alliance under the framework of the GEF-UNDP-IMO Global Maritime Energy Efficiency Partnership project, I wish to confirm **Marorka's** intention to participate in the GloMEEP-GIA and its Task Force.

Marorka's participation in the GloMEEP GIA and its Task Force is conditional upon final written partnership agreement concluded between GIA participating parties. We would also like to highlight that Marorka is currently undertaking a number of initiatives towards finding better solutions to the energy efficiency issue and for facilitating the implementation of energy efficiency requirements stipulated by the international regulations.

We are keen to publicize some of these initiatives through the global forums that GloMEEP and GloMEEP-GIA would be establishing, so that appropriate and relevant information can be shared with participants from a number of IMO member Governments and other industry stakeholders.

Marorka look forward to working with GEF-UNDP-IMO GloMEEP project and other industry members on removing barriers and promoting innovative solutions to improve energy efficiency of shipping and maritime industry in general and with specific references to issues faced by the developing countries.

Yours sincerely

Dr. Jon Agust Thorsteinsson
Chairman of the Board

Email by Great Eastern Shipping Company, India

From: indra_bose@greatship.com

Sent: Monday, October 20, 2014 12:59 PM

To: Jose Matheickal

Cc: zabi.bazari@enemsol.com

Subject: Re: FW: Great Eastern participation in GloMEEP GIA?

Dear Jose / Zabi,

Thank you for your mail.

In principle, our Company will be happy to join GIA and I shall be happy to contribute into the functions of ITF.

It will be helpful if the terms and conditions or the expectations from GIA Members or ITF Members in terms of costs are clarified.

Best regards.

Indra

Indra Nath Bose
Head - Vessel Performance Management
The Great Eastern Shipping Co. Ltd.
Ocean House
134/A, Dr. Annie Besant Road
Worli
Mumbai 400 078
India
Tel +91 22 6661 3205 (Direct)
+91 22 2492 2100 (Board)
+91 22 6661 3000 (Board)
Fax: +91 22 2498 5343
Mobile: +91 98203 15397
Website: www.greatship.com
CIN No.: L35110MH1948PLC006472

Email by Indian Register of Shipping

From: C.Sriramamurthy@irclass.org [mailto:C.Sriramamurthy@irclass.org]
Sent: 14 October 2014 12:07
To: Jose Matheickal
Cc: arun.sharma@irclass.org; PK.Mishra@irclass.org
Subject: RE: IRS and the IMO-GloMEEP Global Industry Alliance

Dear Mr. Jose Matheickal

Good day.

This refers to your under mentioned mail regarding IMO - GloMEEP global industry alliance.

We have discussed this matter internally and are pleased to inform you that IRS will join the GIA of GloMEEP project.

Our Sr. Principal Surveyor Mr. P.K. Mishra will co-ordinate with you on this project.

With this public-private partnership in maritime energy efficiency area, we are hopeful that IRS will reap benefits
and build the foundation to support the objectives for a sustainable maritime transport.

With Warm Regards
C.Sriramamurthy
Chief Operating Officer (Technical)

GIA IN-KIND AND CASH TABLES

The following Tables provides the estimated level of contribution (both cash and in-kind) contribution that has been agreed by the above mentioned organisations who has expressed interest in the work of GloMEEP. The number of organisations and their contribution is expected to be much higher when substantive negotiations for formation of GIA together with relevant outreach activities are formally initiated after the GEF/UNDP endorsement of the project.

7.4.2 GIA IN-KIND CONTRIBUTION TABLES

Organization: GIA

Table of GIA IN-KIND Support for Project Activities

Component / Outcome 1

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation
1.1 Global tools and guidance for LPIR developed including model legislations, guidance on compliance monitoring and enforcement methodologies and best practices; and guidance on Energy Efficiency Operational Indicator (EEOI) calculation and analysis tools.	Activity 1.1.1 Develop template and guidance for rapid assessment of "country maritime status, energy baselines, targets and roadmap"	Global	Document	0	
	Activity 1.1.2 Develop template and guidance for maritime energy efficiency strategies development and LPIR road mapping	Global	Document	0	
	Activity 1.1.3 Develop model legislation for inclusion of the energy policy and MEEF requirements within national law and prepare related training manuals	Global	Document	0	
	Activity 1.1.4 Enhance LPCs institutional capacities for LPIR development and implementation	National	2 National workshops	0	
1.2 Pilot countries established National Task Forces (inter-ministerial and cross-sectoral) and drafted national legislation in line with the international regulations on GHG emissions from ships.	Activity 1.2.1 Development of national "Maritime Energy Status, Baselines, Targets and Roadmaps (ME-SBTR)" assessment report	National	Document	0	
	Activity 1.2.2 National Maritime Energy Efficiency Strategies (NMEES) developed and approved	National	Document	0	
	Activity 1.2.3 Forward planning for NMEES Implementation	National	Document	0	
	Activity 1.2.4 Develop national legislation text	National	Document	0	
1.3 Pilot countries integrated MEEF into port and infrastructure planning for future growth.	Activity 1.3.1 Develop guidance document on port energy analysis	Global	Document	0	
	Activity 1.3.2 Port energy analysis for reduced ship energy use and improved local air quality	National	Report analysis in 3 LPCs	0	

	Activity 1.3.3 Develop guidance document for estimating the financial / economic benefits of port energy efficiency measures	Global	Document	0	
	Activity 1.3.4 Undertake financial and economic benefits assessment for port energy efficiency	National	Report	0	
1.4 Global Tools and pilot country experiences will be shared and disseminated at global level	Activity 1.4.1 Publication and dissemination of LPIR global tools and related GloMEEP achievements	Global	Electronic/Hard copies	0	
Sub-Total				**0**	

Organization: GIA
Table of GIA IN-KIND Support for Project Activities

Component / Outcome 2

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation
2.1 Developed capacity-building tools and training courses on ship EEDI and SEEMP (regulations, implementation, enforcement, technologies and best practice);	Activity 2.1.1 Hold training courses on "Ship Energy Efficiency Regulations and Flag State Implementation" including an optional extra day on technology transfer for ship energy efficiency.	National	Workshop	0	
	Activity 2.1.2 Update / refine /translate the GIA Model Course on ship energy efficiency	Global	Training package	0	
	Activity 2.1.3 Capacitate national maritime training institute(s) for delivery of GIA Model Course on ship energy efficiency	National	Workshop	0	
	Activity 2.1.4 Develop workshop material on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Global	Training package	0	
	Activity 2.1.5 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Regional	Workshop	0	•
	Activity 2.1.6 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	National	Workshop	0	
2.2 Created global knowledge sharing forums on energy efficiency within maritime sector including port infrastructure and logistics facilities	Activity 2.2.1 Publish and distribute six-monthly newsletters	Global	Electronic document	0	
	Activity 2.2.2 Develop, and translate GloMEEP brochures and publications	Global	Soft and and hard copies	0	
	Activity 2.2.3 Develop and maintain GloMEEP website	Global	Webpage	0	

2.3 Developed a pool of global trainers who have successfully completed trainer certification through "train-the-trainer" workshops	Activity 2.3.1-1 Conduct one "train-the-trainer" course on "ship energy efficiency regulations, technologies and management"	Global (WMU)	Workshop	0	
	Activity 2.3.1-2 Conduct one "train-the-trainer" course on "ship energy efficiency regulations, technologies and management"	Regional	Workshop	0	
	Activity 2.3.2 Develop the LPCs roster of maritime energy efficiency experts.	Global (PCU)	Database	0	
2.4 Conducted training workshops at national levels and integrated into national maritime academic and practical training curriculum	Activity 2.4.1 Share tools with national academics/institutions who will be invited to national training courses	National	Dissemination of training material	0	
2.5 Capacity building for port management and port developments for energy efficiency	Activity 2.5.1 Develop workshop material on "port management and port developments for maritime energy efficiency".	Global	Training package	0	
	Activity 2.5.2 Capacity building for "port management and port developments for maritime energy efficiency".	National	National workshop	0	
Sub-Total				0	

Organization: GIA
Table of GIA IN-KIND Support for Project Activities

Component / Outcome 3

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation
3.1 Establishment of Global Industry Alliance (GIA) for MEEF as a private-sector collaboration platform;	Activity 3.1.1 Formation of GloMEEP GIA	Global	Partnership Agreement	0	
	Activity 3.1.2 Setup the GloMEEP GIA Fund	Global	Fund	0	
	Activity 3.1.3 GIA will meet periodically to steer industry-GloMEEP activities	Global	Meetings	$35,000	• GIA members will take part in 3 ITF meetings; each one day. • 10 Partner is expected • In-kind cost of ITF meetings = 10*3*500 = 15,000 • GIA members will take part in 2 GPTF meetings, each 2 days. • 10 partners are expected. • In-kind cost of industry participation in meetings = 2*2*10*500 = 20,000 Total costs:15,000+20,000 = 35,000$
3.2 Under the auspecies of GIA, catalyze the development and maintenance of a global database on energy efficient ship technologies and port facilities	Activity 3.2.1 Setup an EETs (Energy Efficiency Technologies) database	Global	Electronic Database	40,000	• GIA members will provide in-kind support in the form of expert international consultant to the effort. 40 person-days @1000/day = 40,000
	Activity 3.2.2 Organize workshops on ship energy efficiency technologies for ship design and operation including alternative fuels	National	Workshop	0	•
3.3 Facilitate forums for private sector and technology developers for demonstrating application of EE measures and dissemination of particularly notable improvements in maritime transport efficiency technology and practices	Activity 3.3.1: Establish a global conference series to be co-ordinated in partnership with Singapore under the framework of GIA	Global	Conference series	30,000	• GIA members will provide in-kind support for the conference series including scientific committee and delivery of presentations. 30 person-days effort @$1000/day = $30,000
	Activity 3.3.2 Participate in one global ship/port/energy management relevant event	Global	2 persons	0	
Sub-Total				$105,000	

Organization: GIA
Table of GIA <u>IN-KIND</u> Support for Project Activities

Component / Outcome 4

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation
Output 4.1 Project Management and coordination structures is in place at global and national levels .	Activity 4.1.1 Global Project Task Force (GPTF)	Global	Project steering	0	
	Activity 4.1.2 Organise Industry Task Force (ITF)	Global	GIA steering	0	
	Activity 4.1.3 National Task Force (NTF)	National	4 national meetings	0	
	Activity 4.1.4 National Stakeholders Workshops (NSW)	National	2 national meetings	0	
Output 4.2 Project monitoring, evaluation and reporting systems established and implemented	Activity 4.2.1 Final evaluation	Global	Document	0	
	Activity 4.2.2 Project Reports (PRs)	Global	Document	0	
Sub-Total				**0**	

Organization: GIA
Table of GIA <u>IN-KIND</u> Support for Project Activities

Project Management

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation
Output PM.1 Project Management and coordination structures is in place at global and national levels .	Activity PM.1.1 Project Coordination Unit (PCU) and Project Executive Committee (Ex-Com)	Global	Project management	0	
	Activity PM.1.2 National Level Management and Coordination	National	Project management	0	
Sub-Total				**0**	
Grand Total				**$105,000**	

7.4.3 GIA CASH CONTRIBUTION TABLES

Organization: GIA
Table of GIA CASH Support for Project Activities

Component / Outcome 1

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation
1.1 Global tools and guidance for LPIR developed including model legislations, guidance on compliance monitoring and enforcement methodologies and best practices; and guidance on Energy Efficiency Operational Indicator (EEOI) calculation and analysis tools.	Activity 1.1.1 Develop template and guidance for rapid assessment of "country maritime status, energy baselines, targets and roadmap"	Global	Document	0	
	Activity 1.1.2 Develop template and guidance for maritime energy efficiency strategies development and LPIR road mapping	Global	Document	0	
	Activity 1.1.3 Develop model legislation for inclusion of the energy policy and MEEF requirements within national law and prepare related training manuals	Global	Document	0	
	Activity 1.1.4 Enhance LPCs institutional capacities for LPIR development and implementation	National	2 National workshops	0	
1.2 Pilot countries established National Task Forces (inter-ministerial and cross-sectoral) and drafted national legislation in line with the international regulations on GHG emissions from ships.	Activity 1.2.1 Development of national "Maritime Energy Status, Baselines, Targets and Roadmaps (ME-SBTR)" assessment report	National	Document	0	
	Activity 1.2.2 National Maritime Energy Efficiency Strategies (NMEES) developed and approved	National	Document	0	
	Activity 1.2.3 Forward planning for NMEES Implementation	National	Document	0	
	Activity 1.2.4 Develop national legislation text	National	Document	0	
1.3 Pilot countries integrated MEEF into port and infrastructure planning for future growth.	Activity 1.3.1 Develop guidance document on port energy analysis	Global	Document	0	
	Activity 1.3.2 Port energy analysis for reduced ship energy use and improved local air quality	National	Report analysis in 3 LPCs	0	

	Activity 1.3.3 Develop guidance document for estimating the financial / economic benefits of port energy efficiency measures	Global	Document	0	
	Activity 1.3.4 Undertake financial and economic benefits assessment for port energy efficiency	National	Report	0	
1.4 Global Tools and pilot country experiences will be shared and disseminated at global level	Activity 1.4.1 Publication and dissemination of LPIR global tools and related GloMEEP achievements	Global	Electronic/Hard copies	0	
Sub-Total				**0**	

Organization: GIA
Table of GIA CASH Support for Project Activities

Component / Outcome 2

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation
2.1 Developed capacity-building tools and training courses on ship EEDI and SEEMP (regulations, implementation, enforcement, technologies and best practice);	Activity 2.1.1 Hold training courses on "Ship Energy Efficiency Regulations and Flag State Implementation" including an optional extra day on technology transfer for ship energy efficiency.	National	Workshop	0	
	Activity 2.1.2 Update / refine /translate the GIA Model Course on ship energy efficiency	Global	Training package	0	
	Activity 2.1.3 Capacitate national maritime training institute(s) for delivery of GIA Model Course on ship energy efficiency	National	Workshop	0	
	Activity 2.1.4 Develop workshop material on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Global	Training package	0	
	Activity 2.1.5 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Regional	Workshop	0	•
	Activity 2.1.6 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	National	Workshop	0	
2.2 Created global knowledge sharing forums on energy efficiency within maritime sector including port infrastructure and logistics facilities	Activity 2.2.1 Publish and distribute six-monthly newsletters	Global	Electronic document	0	
	Activity 2.2.2 Develop, and translate GloMEEP brochures and publications	Global	Soft and and hard copies	0	
	Activity 2.2.3 Develop and maintain GloMEEP website	Global	Webpage	0	
2.3 Developed a pool of global trainers who have successfully completed trainer certification through "train-the-trainer" workshops	Activity 2.3.1-1 Conduct one "train-the-trainer" course on "ship energy efficiency regulations, technologies and management"	Global (WMU)	Workshop	0	
	Activity 2.3.1-2 Conduct one "train-the-trainer" course on "ship energy efficiency regulations, technologies and management"	Regional	Workshop	0	

	Activity 2.3.2 Develop the LPCs roster of maritime energy efficiency experts.	Global (PCU)	Database	0	
2.4 Conducted training workshops at national levels and integrated into national maritime academic and practical training curriculum	Activity 2.4.1 Share tools with national academics/institutions who will be invited to national training courses	National	Dissemination of training material	0	
2.5 Capacity building for port management and port developments for energy efficiency	Activity 2.5.1 Develop workshop material on "port management and port developments for maritime energy efficiency".	Global	Training package	0	
	Activity 2.5.2 Capacity building for "port management and port developments for maritime energy efficiency".	National	National workshop	0	
Sub-Total				0	

Organization: GIA
Table of GIA CASH Support for Project Activities

Component / Outcome 3

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation
3.1 Establishment of Global Industry Alliance (GIA) for MEEF as a private-sector collaboration platform;	Activity 3.1.1 Formation of GloMEEP GIA	Global	Partnership Agreement	0	
	Activity 3.1.2 Setup the GloMEEP GIA Fund	Global	Fund	0	
	Activity 3.1.3 GIA will meet periodically to steer industry-GloMEEP activities	Global	Meetings	0	
3.2 Under the auspecies of GIA, catalyze the development and maintenance of a global database on energy efficient ship technologies and port facilities	Activity 3.2.1 Setup an EETs (Energy Efficiency Technologies) database	Global	Electronic Database	$46,000	• GIA will fund the design and development of the database and its population with data.
	Activity 3.2.2 Organize workshops on ship energy efficiency technologies for ship design and operation including alternative fuels	National	Workshop	$12,000	• GIA will provide or fund international consultants for one training workshop. • International consultants of travel and DSA estimated at $6000 per person plus cost of time at $6,000 • Total cost: 2*6000 = $12,000
3.3 Facilitate forums for private sector and technology developers for demonstrating application of EE measures and dissemination of particularly notable improvements in maritime transport efficiency technology and practices	Activity 3.3.1: Establish a global conference series to be co-ordinated in partnership with Singapore under the framework of GIA	Global	Conference series	$12,000	• GIA will provide international consultants as member of conference series committee and presenter. • International consultants of travel and DSA estimated at $6000 per person Total cost: 2*6000 = $12,000
	Activity 3.3.2 Participate in one global ship/port/energy management relevant event	Global	2 persons	0	
Sub-Total				**$70,000**	

Organization: GIA
Table of GIA CASH Support for Project Activities

Component / Outcome 4

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation
Output 4.1 Project Management and coordination structures is in place at global and national levels .	Activity 4.1.1 Global Project Task Force (GPTF)	Global	Project steering	0	
	Activity 4.1.2 Organise Industry Task Force (ITF)	Global	GIA steering	0	
	Activity 4.1.3 National Task Force (NTF)	National	4 national meetings	0	
	Activity 4.1.4 National Stakeholders Workshops (NSW)	National	2 national meetings	0	
Output 4.2 Project monitoring, evaluation and reporting systems established and implemented	Activity 4.2.1 Final evaluation	Global	Document	0	
	Activity 4.2.2 Project Reports (PRs)	Global	Document	0	
Sub-Total				**0**	

Organization: GIA
Table of GIA CASH Support for Project Activities

Project Management

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation
Output PM.1 Project Management and coordination structures is in place at global and national levels .	Activity PM.1.1 Project Coordination Unit (PCU) and Project Executive Committee (Ex-Com)	Global	Project management	0	
	Activity PM.1.2 National Level Management and Coordination	National	Project management	0	
Sub-Total				**0**	
Grand Total				**$70,000**	

7.5 Annex 5 – GLOBAL STRATEGIC PARTNERS (GSPs) LETTER AND CO-FINANCING TABLES

Maritime and Port Authority of Singapore
460 Alexandra Road PSA Building #19-00 Singapore 119963
Tel: (65) 6375 1600 Fax: (65) 6275 9247
http://www.mpa.gov.sg

MPA
SINGAPORE

13 October 2014

Dr. Stefan Micallef
Director
Marine Environment Division,
IMO, Albert Embankment, London SE1, 7SR, UK

Dr. Andrew Hudson
Cluster Leader & Principal Technical Advisor
UNDP Water Governance Programme
FF-998, 1 United Nations Plaza
New York, NY 10017, United States

Dear Stefan & Andrew,

GEF-UNDP-IMO PROJECT ON "TRANSFORMING THE GLOBAL MARITIME TRANSPORT INDUSTRY TOWARDS A LOW CARBON FUTURE THROUGH IMPROVED ENERGY EFFICIENCY"

We understand from the recent MEPC discussions and documents submitted by the Secretariat to MEPC66 and MEPC 67 that the Global Environment Facility (GEF) has, in principle, endorsed funding for a global project titled "Transforming the Global Maritime Transport Industry towards a Low Carbon Future through Improved Energy Efficiency" (in short, Global Maritime Energy Efficiency Project - GloMEEP), to be implemented by UNDP and executed by the IMO.

2 It is our understanding that this project will facilitate international shipping's move to a more energy-efficient and low-carbon maritime transport via supporting legal, policy and institutional reforms, capacity building and public-private partnership in participating countries. We also understand that within the public-private sector partnership component of this project, it is expected that a global conference will be organized to stimulate information-sharing on best practices, technology developments and technology transfer aspects with a view to facilitate technology deployment, diffusion and transfer.

3 Considering the success of the global conference series on ballast water management (ICBWM) that Singapore established jointly with the GEF-UNDP-IMO GloBallast Project, Singapore is interested to explore how a similar event would contribute towards the above objectives of the GloMEEP project as well as the

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SINGAPORE QUALITY CLASS STAR

objectives of IMO in the area of maritime energy efficiency and relevant technology transfer activities. Consequently, Singapore supports, in principle, the concept of hosting a global conference in 2015 jointly with IMO under the IMO-GloMEEP Project, with the possibility of co-hosting another conference in 2016, subject to a review of the first conference. The 2015 conference would have an expected participation of up to approximately 200 participants. We hope that our contributions to this conference would be captured as support to the project's objectives, showing Singapore's commitment to the improvement of energy efficiency in shipping.

4 We would welcome the opportunity to partner with other organizations in our region and globally to address the very important issue of maritime fuel efficiency and Greenhouse Gas Emissions.

5 We look forward to the successful implementation of this project.

Yours sincerely,

ANDREW TAN
CHIEF EXECUTIVE
MARITIME AND PORT AUTHORITY OF SINGAPORE

Organization: GSP - Singapore MPA
Table of GSPs IN-KIND Support for Project Activities

Component / Outcome 1

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation
1.1 Global tools and guidance for LPIR developed including model legislations, guidance on compliance monitoring and enforcement methodologies and best practices; and guidance on Energy Efficiency Operational Indicator (EEOI) calculation and analysis tools.	Activity 1.1.1 Develop template and guidance for rapid assessment of "country maritime status, energy baselines, targets and roadmap"	Global	Document	0	
	Activity 1.1.2 Develop template and guidance for maritime energy efficiency strategies development and LPIR road mapping	Global	Document	0	
	Activity 1.1.3 Develop model legislation for inclusion of the energy policy and MEEF requirements within national law and prepare related training manuals	Global	Document	0	
	Activity 1.1.4 Enhance LPCs institutional capacities for LPIR development and implementation	National	2 National workshops	0	
1.2 Pilot countries established National Task Forces (inter-ministerial and cross-sectoral) and drafted national legislation in line with the international regulations on GHG emissions from ships.	Activity 1.2.1 Development of national "Maritime Energy Status, Baselines, Targets and Roadmaps (ME-SBTR)" assessment report	National	Document	0	
	Activity 1.2.2 National Maritime Energy Efficiency Strategies (NMEES) developed and approved	National	Document	0	
	Activity 1.2.3 Forward planning for NMEES Implementation	National	Document	0	
	Activity 1.2.4 Develop national legislation text	National	Document	0	
1.3 Pilot countries integrated MEEF into port and infrastructure planning for future growth.	Activity 1.3.1 Develop guidance document on port energy analysis	Global	Document	0	
	Activity 1.3.2 Port energy analysis for reduced ship energy use and improved local air quality	National	Report analysis in 3 LPCs	0	
	Activity 1.3.3 Develop guidance document for estimating the financial / economic benefits of port energy efficiency measures	Global	Document	0	

	Activity 1.3.4 Undertake financial and economic benefits assessment for port energy efficiency	National	Report	0	
1.4 Global Tools and pilot country experiences will be shared and disseminated at global level	Activity 1.4.1 Publication and dissemination of LPIR global tools and related GloMEEP achievements	Global	Electronic/Hard copies	0	
Sub-Total				**0**	

Organization: GSPs – Singapore MPA
Table of GSPs IN-KIND Support for Project Activities

Component / Outcome 2

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation
2.1 Developed capacity-building tools and training courses on ship EEDI and SEEMP (regulations, implementation, enforcement, technologies and best practice);	Activity 2.1.1 Hold training courses on "Ship Energy Efficiency Regulations and Flag State Implementation" including an optional extra day on technology transfer for ship energy efficiency.	National	Workshop	0	
	Activity 2.1.2 Update / refine /translate the GSPs Model Course on ship energy efficiency	Global	Training package	0	
	Activity 2.1.3 Capacitate national maritime training institute(s) for delivery of GSPs Model Course on ship energy efficiency	National	Workshop	0	
	Activity 2.1.4 Develop workshop material on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Global	Training package	0	
	Activity 2.1.5 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	Regional	Workshop	0	•
	Activity 2.1.6 Hold training on "MARPOL Annex VI enforcement and Port State Control" with specific reference to energy efficiency regulations	National	Workshop	0	
2.2 Created global knowledge sharing forums on energy efficiency within maritime sector including port infrastructure and logistics facilities	Activity 2.2.1 Publish and distribute six-monthly newsletters	Global	Electronic document	0	
	Activity 2.2.2 Develop, and translate GloMEEP brochures and publications	Global	Soft and and hard copies	0	
	Activity 2.2.3 Develop and maintain GloMEEP website	Global	Webpage	0	
2.3 Developed a pool of global trainers who have successfully completed trainer certification through "train-the-trainer" workshops	Activity 2.3.1-1 Conduct one "train-the-trainer" course on "ship energy efficiency regulations, technologies and management"	Global (WMU)	Workshop	0	
	Activity 2.3.1-2 Conduct one "train-the-trainer" course on "ship energy efficiency regulations, technologies and management"	Regional	Workshop	0	
	Activity 2.3.2 Develop the LPCs roster of maritime energy efficiency experts.	Global (PCU)	Database	0	

2.4 Conducted training workshops at national levels and integrated into national maritime academic and practical training curriculum	Activity 2.4.1 Share tools with national academics/institutions who will be invited to national training courses	National	Dissemination of training material	0	
2.5 Capacity building for port management and port developments for energy efficiency	Activity 2.5.1 Develop workshop material on "port management and port developments for maritime energy efficiency".	Global	Training package	0	
	Activity 2.5.2 Capacity building for "port management and port developments for maritime energy efficiency".	National	National workshop	0	
Sub-Total				0	

Organization: GSPs – Singapore MPA
Table of GSPs IN-KIND Support for Project Activities

Component / Outcome 3

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation
3.1 Establishment of Global Industry Alliance (GIA) for MEEF as a private-sector collaboration platform;	Activity 3.1.1 Formation of GloMEEP GIA	Global	Partnership Agreement	0	
	Activity 3.1.2 Setup the GloMEEP GIA Fund	Global	Fund	0	
	Activity 3.1.3 GIA will meet periodically to steer industry-GloMEEP activities	Global	Meetings	0	
3.2 Under the auspecies of GIA, catalyze the development and maintenance of a global database on energy efficient ship technologies and port facilities	Activity 3.2.1 Setup an EETs (Energy Efficiency Technologies) database	Global	Electronic Database	0	
	Activity 3.2.2 Organize workshops on ship energy efficiency technologies for ship design and operation including alternative fuels	National	Workshop	0	
3.3 Facilitate forums for private sector and technology developers for demonstrating application of EE measures and dissemination of particularly notable improvements in maritime transport efficiency technology and practices	Activity 3.3.1: Establish a global conference series to be co-ordinated in partnership with Singapore under the framework of GIA	Global	Conference series	1,260,000	• Singapore MPA has in principle agreed to develop and organise this conference series as a joint activity under the auspices of GloMEEP.. • 2 conferences; each 2 days; with 150 participants. • Travel expenses for participants $2000; DSA $400/day • Registeration fee: $1000 Total costs:2* (3*400+2000+1000)*150=$1,260,000
	Activity 3.3.2 Participate in one global ship/port/energy management relevant event	Global	2 persons	0	
Sub-Total				$1,260,000	

Organization: GSPs – Singapore MPA
Table of GSPs <u>IN-KIND</u> Support for Project Activities

Component / Outcome 4

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation
Output 4.1 Project Management and coordination structures is in place at global and national levels .	Activity 4.1.1 Global Project Task Force (GPTF)	Global	Project steering	0	
	Activity 4.1.2 Organise Industry Task Force (ITF)	Global	GIA steering	0	
	Activity 4.1.3 National Task Force (NTF)	National	4 national meetings	0	
	Activity 4.1.4 National Stakeholders Workshops (NSW)	National	2 national meetings	0	
Output 4.2 Project monitoring, evaluation and reporting systems established and implemented	Activity 4.2.1 Final evaluation	Global	Document	0	
	Activity 4.2.2 Project Reports (PRs)	Global	Document	0	
Sub-Total				**0**	

Organization: GSPs – Singapore MPA
Table of GSPs <u>IN-KIND</u> Support for Project Activities

Project Management

Expected Outputs	Activity	Nature	Product	Support	Basis for calculation
Output PM.1 Project Management and coordination structures is in place at global and national levels .	Activity PM.1.1 Project Coordination Unit (PCU) and Project Executive Committee (Ex-Com)	Global	Project management	0	
	Activity PM.1.2 National Level Management and Coordination	National	Project management	0	
Sub-Total				**0**	
Grand Total				**$1,260,000**	

7.6 Annex 6 – Terms of References for key project staff and main sub-contracts

A. Project Coordinator (PC), P-5 Level, IMO cash co-financing

The PC's main responsibilities will be in the role as an environmental expert / Project Management expert responsible for the delivery of the overall outcomes and providing coordination oversight of all related activities identified in the GloMEEP project. The PC will also be responsible for the management of the project (10% of time) and overall co-ordination of all aspects of the project in general. The PC will liaise directly with the units established under the project, i.e., the Global Project Task Force (GPTF), the National Focal Point (NFP) and National Project Coordinator (NPC), potential additional project donors, private sector, national focal points and the representatives of Global Environment Facility (GEF) partners and UNDP FP, in order to co-ordinate the annual work plan and other joint working elements.

The PC will in particular:

- Manage the GEF components of the Project Coordination Unit (PCU), its staff, budget and GIA funds if any;
- Prepare the project's Annual Work Plans on the basis of the Project Document, in close consultation and co-ordination with the GPTF, national focal points, GEF partners and relevant donors;
- Co-ordinate and monitor the activities described in the work plan and provide progress reports to IMO and UNDP as per the project M&E plan;
- Ensure consistency between the various project's elements and related activities provided or funded by other donor organizations;
- Oversee the development of terms of reference for additional consultants and contractors when needed;
- Oversee the preparation of various reports of the project;
- Foster and establish links with other related GEF programmes and, where appropriate.

Qualifications and Experience

These include:

- Post-graduate degree in environmental science, engineering, marine engineering or a directly related field (e.g. marine science, natural resources economics, etc.).
- At least fifteen years experience in related fields, of which at least 8 years' experience in shipping environmental issues and related capacity building activities.
- Experience as a senior project manager.
- Demonstrated diplomatic and negotiating skills;
- Familiarity with the goals and procedures of international organizations, in particular those of the GEF partners (UNDP, IMO, World Bank);
- Excellent knowledge of spoken and written English;
- Full familiarity with the shipping industry and issues related to the industry in general
- Direct knowledge or experience of working with developing countries.

The role of PC will be filled by one of the current IMO senior Technical Officers and resources needed will be accounted as in-kind contribution by IMO.

B. Technical Advisor (TA), P2/P3 Level, International Hire

Under the supervision of the Project Coordinator (PC), the Technical Adviser (TA) will be responsible for the delivery of a number of technical activities that includes training, capacity building and coordination of the knowledge management and private-public partnership component of the GloMEEP project. He/she shall be responsible for activities aimed at the collection of information, exchange and networking between a wide range of project participants including government officials, scientists, non-governmental organizations and the public at large. He/she will work closely with all elements of the project

management staff, project M&E work items, GIA members and its ITF and will co-operate and encourage the activities of other donors in the area of project communications. While providing the necessary project management services for the project as requested by PC, the TA's main responsibilities will be in the role as overall day to day project manager of the project ensuring that all activities are carried out as planned. He/she will also be responsible for production of relevant M&E reports and ensuring their circulation to parties at the correct time.

The TA will have the following specific duties:

- Assist the PC in delivering technical activities as per the Project Plan
- Generate and maintain a directory of all persons and institutions engaged in work related to the implementation of the project;
- Supervise data exchange and the maintenance of the data communications network between and among project related institutions and individuals;
- Create, edit, and distribute a regular information bulletin (six-monthly newsletter);
- Collect information on shipping energy management and GHG reduction initiatives, related research projects, related financial implications and on barriers and their method of resolution;
- Supervise the development of the EETs database and GloMEEP website;
- Supervise the development and maintenance of information management strategies;
- Consult in the creation of and supervise the creation of awareness and education programmes in each participating country;
- Supervise the technical activities identified under the GloMEEP GIA.
- Assist the PC and recruited consultants in delivering technical activities as per the Project Plan
- Assist in the administration of other information-related communications systems as required by PC.
- Under the supervision of PC, deal with all aspects of project's M&E including report preparations, convening meetings, ensuring on time execution of Final Evaluation and so on.
- Carry out any other tasks as requested by the PC.

Qualifications and Experience:

These include:

- Post-graduate degree in marine science, environmental science, information management, natural resources economics or a directly related field;
- At least four years experience in the dealing with scientific/environmental projects of which at least two years experience in dealing with IMO MEEF and related regulatory developments;
- Experience in use of computer data bases, and general IT systems;
- Exposure to technical cooperation activities dealing with IMO MEFF;;
- Excellent knowledge of spoken and written English;
- Familiarity with maritime transportation issues in general.

C. Terms of Reference: Administrative Assistant (AA), Level – G5, Local Hire

As a member of GloMEEP PCU, the AA will perform a variety of secretarial, coordinating, monitoring and administrative services to ensure the efficient daily running of the PCU and in support of project/programme activities. The AA will work directly with the PC and TA on a daily basis but with a considerable degree of independence, ensuring the smooth functioning and continuity of the project's administrations and communications. He/she will receive directions from the PC and TA on technical matters, where necessary.

Typically, the incumbent will perform the following duties:

- Draft correspondence and documents of an administrative nature in consultation with the PC and TA.
- Coordinate the procurement activities for the PCU and support the financial control and monitoring activities of the PCU.

- Establish and maintain the filing system of technical documents and general internal and external correspondence. Establish and update a proper computerized information system on on-going activities, collaborating partners, activities of other international organizations related to the Project. Access and retrieve information from relevant databases and update as required. Make administrative arrangements with regard to recruitment of additional consultants / experts for the Project
- Assist in the organization of meetings held by PCU (Global Task Force Meetings, working groups, and symposia), i.e. make general administrative preparations, including providing logistical support to the delegates such as sending invitation letters and other advises as necessary and preparation of meeting documents. Provide administrative and secretarial support during the meetings.
- Identify and recruit temporary office staff, if required, and provides briefing and guidance to any temporary staff on general office practices and procedures

Qualifications and Experience:

These include:

- Equivalent to graduation from secondary school or equivalent technical or commercial school and specialized training preferably in administration / management related fields.
- Basic training in secretarial/administrative training, or equivalent work-related experience, including typing and proven skills on standard office software.
- Work with computerized systems and databases.
- Demonstrated managerial and communication skills.
- Considerable and progressively responsible experience in the secretarial/clerical/administrative field.
- Sound computer skills.

SIGNATURE PAGE

Country: GLOBAL

UNDAF Outcome (s)/Indicator (s): *Link to UNDAF Outcome. If no UNDAF leave blank.*

CPAP Outcome (s)/Indicator (s):

CPAP Output (s)/Indicator (s):

Executing Entity/Implementing Partner: UNDP

Implementing entity/Responsible Partner: INTERNATIONAL MARITIME ORGANIZATION (IMO)

Programme Period:	24 Months (2 years)
Atlas Award ID:	00092137
Project ID:	00083865
PIMS #	5201
Start date:	1 February 2015
End Date	31 January 2017
Management Arrangements	TBD
PAC Meeting Date	TBD

Total resources required		13,775,600
Total allocated resources:		13,775,600
• Regular		
• Other:		
o	GEF	$1,900,000
o	IMO	$7,418,000
o	LPCs	$2,947,600
o	GIA	$175,000
o	GSPs	$1,260,000
o	UNDP	$75,000
In-kind contributions (included in above)		$11,181,600

Agreed by (Executing Entity/Implementing Partner): **International Maritime Organization**

NAME	SIGNATURE	Date/Month/Year
STEFAN MICALLEF, DIRECTOR, MARINE ENVIRONMENT DIVISION		

Agreed by (UNDP):

NAME	SIGNATURE	Date/Month/Year
ADRIANA DINU, EXECUTIVE COORDINATOR		