



TRANSFORMING THE GLOBAL MARITIME TRANSPORT INDUSTRY TOWARDS A LOW CARBON FUTURE THROUGH IMPROVED ENERGY EFFICIENCY (GLOMEEP)

An Independent Terminal Evaluation



DECEMBER 1, 2018

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Project Outline

| | | | | |
|--------------------------|--|---|--------------------------------------|-------------------------------------|
| Project Title: | | <i>Transforming the Global Maritime Transport Industry towards a low Carbon Future through Improved Energy Efficiency (GloMEEP)</i> | | |
| GEF Project ID: | 5201 | | <u>at endorsement (Million US\$)</u> | <u>at completion (Million US\$)</u> |
| UNDP Project ID: | 0092137 | GEF financing: | 1.900 | 1.900 |
| Country: | Global | IA/EA own: | 7.493 | 11.875 |
| Region: | Global | Government: | 2.9476 | 3.040 |
| Focal Area: | IW/CC | Other: | 1.435 | 2.238 |
| FA Objectives, (OP/SP): | CCM-1 Demonstration, deployment and transfer of low-carbon innovative technologies CCM-4 Promote energy efficient, low-carbon transport and urban systems IW-2 Catalyze multistate cooperation to rebuild marine fisheries and reduce pollution of coasts and Large Marine Ecosystems (LMEs) while considering climatic variability and change | Total co-financing: | 11.8756 | 17.154 |
| Executing Agency: | IMO | Total Project Cost: | 13.7756 | 19.054 |
| Other Partners involved: | | ProDoc Signature (date project began): | | June 2015 |
| | | (Operational) Closing Date: | Proposed: May 2017 | Actual: Dec 2018 |

The project was designed 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's technical and operational energy efficiency measures, 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.

DRAFT

Acknowledgements

The Evaluator would like first to acknowledge the overall highly professional level of preparation by the Project Coordination Unit, Implementing Agency, Executing Agency and all of the stakeholders that has gone into the planning and implementation of this Evaluation. All of the documentation required to undertake a comprehensive evaluation process was provided in a most timely manner and all queries and requests answered efficiently and quickly. It was a pleasure to interview the representatives from Lead Pilot Countries and to hear their enthusiastic support for the Project and their praise of how well it has been managed by the PCU staff and by IMO.

It is quite obvious that both IMO (as the Executing Agency) and UNDP (as the Implementation Agency) have given significant attention and support to this complex and demanding global project and I thank both of these agencies for making my work so much easier, particularly Mr. Jose Mathieckal at IMO and Mr. Andrew Hudson at UNDP.

However, I would definitely wish to single out and to acknowledge the tremendous efforts of the PCU staff, Astrid Dispert and Minglee Hoe, who were tireless and uncomplaining in their support to the Evaluator and the process and provided a clear demonstration of why they were held in such high regard by the LPCs and by the GIA members.

Thank you and good luck to all!!

David Vousden, Grahamstown, October 2018

Acronyms and Abbreviations

| ACRONYM | EXTENSION |
|---------|---|
| APR | Annual Project Review |
| CCM | Climate Change Mitigation |
| EA | Executing Agency for GEF (IMO in this case) |
| 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 |
| EGC | Exhaust Gas Scrubber |
| EU | European Union |
| GEF | Global Environment Facility |
| GESEE | Group of Experts on Ship Energy Efficiency |
| GHG | Greenhouse Gas |
| GIA | Global Industry Alliance |
| GISIS | Global Integrated Shipping Information System (IMO) |
| GloMEEP | Global Maritime Energy Efficiency Partnership |
| GPTF | Global Project Task Force |
| IA | Implementing Agency for GEF (UNDP in this case) |
| IMO | International Maritime Organization |
| ITCP | Integrated Technical Co-operation Program (IMO) |
| IW | International Waters (GEF focal area) |
| KOICA | (South) Korea International Cooperation Agency |
| LA | Lead Agency |
| LDCs | Least Developed Countries |
| LME | Large Marine Ecosystem |
| LPCs | Lead Pilot Countries |
| LPIR | Legal, Policy and Institutional Reforms |
| M&E | Monitoring and Evaluation |
| MARPOL | International Convention for the Prevention of Pollution by Ships (IMO) |
| MEEF | (IMO) Maritime Energy Efficiency Framework |
| MEPC | (IMO) Marine Environment Protection Committee |
| MFA | Multi Focal Area |
| MSP | Medium-Sized Project |
| MTE | Mid Term Evaluation |
| 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) |
| PC | Project Coordinator (GloMEEP) |
| PCU | Project Coordination Unit (GloMEEP) |
| PDF | Project Preparation and Development Facility |
| PIF | Project Identification Form |
| PIR | Project Implementation Review |
| PPG | Project Preparation Grant |
| ProDoc | Project Document |
| PSC | Port State Control |

| | |
|--------|--|
| 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 |
| TE | Terminal Evaluation |
| TOR | Terms of Reference |
| UNCLOS | United Nations Convention on the Law of the Sea |
| UNDP | United Nations Development Program |
| UNFCCC | United Nations Framework Convention on Climate Change |

Executive Summary

GloMEEP has been a medium-sized project that has been executed over a two year plus period. Its starting date was approximately June 2015 and it was originally scheduled to finish in May 2017. The Project was formally launched at the Future-Ready Shipping Conference in Singapore in 2015 co-hosted with the Maritime and Port Authority of Singapore. The project was extended to December 2018 at no additional cost to GEF in order to take advantage of additional co-funding that had been leveraged as well as to address the fact that the outputs and activities from this Project were very ambitious for a medium-sized project and needed more time for completion.

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

There is no doubt that this Project has achieved most if not all of the above and has had a significant impact within the Lead Pilot Countries, with the Private Sector, and with the Marine Environmental Protection Committee of IMO (MEPC). Although many of the indicators for project delivery are inevitably at the 'Process' level the LPCs and the industry are clearly now moving toward actual 'stress-reduction' activities. All of the LPCs have undertaken some level of Emissions Assessment. Those that have struggled with the data have realised that there is a gap and a challenge here where they were not previously aware. All have produced Strategies for maritime energy efficiency and emission controls both for shipping and for ports as appropriate to their national needs. All of the LPCs have developed their legislative frameworks and are working on getting them enacted into their national legislation. The MEPC of IMO has formally

noted the excellent work being undertaken by GloMEEP and IMO in the context of energy efficiency and reduction of emissions and is fully supportive in wanting to sustain this and to use the associated valuable tools and guidance documents beyond the 10 LPCs.

The Global Industry Alliance is a most valuable achievement from this Project. The GIA was officially inaugurated on 29 June 2017 at a launch ceremony held at IMO Headquarters at the margins of the first meeting of the IMO Intersessional Working Group on Reduction of GHG emissions from ships. In his GIA launch speech, IMO Secretary-General Kitack Lim highlighted the fact that the new alliance would help shipping to make its contribution towards greenhouse gas reduction and the mitigation of climate change, a key target for the United Nations under its Sustainable Development Goals. Among a number of activities which it has adopted, the GIA is aiming to implement the 'just-in-time' demonstration in 2019 which will then hopefully be expanded to make significant reductions in transit speeds and waiting times thereby also reducing emissions.

Despite these clear successes, this Project has been challenged and, in some areas, significantly constrained by the limited amount of time and finances allocated to it and the consequent massive workload imposed on the PCU. This is a classic example of a Project that has been highly ambitious at the design stage in order to address the urgent needs of countries, but which has then been allocated insufficient funds, timing and resources to achieve that ambition. In evaluating this Project, it has been clear that there was a very real risk that the project might not have been able to deliver on the many targets identified in its Results Framework. The overall conclusion of the Evaluator in this respect is that it has managed to achieve what is undoubtedly a high level of success only as a result of strong leadership by IMO coupled with a highly dedicated and determined, professional PCU staff. However, such risks are dangerous and should be avoided in future project design. This is as much to do with the under-allocation of funds and consequently time by GEF as it is to the ambitious design of the Project by IMO and acceptance by UNDP.

Nevertheless, this has certainly been a highly successful Project that has delivered enormous benefits for a limited investment from GEF but with considerable supportive co-funding from both Industry and IMO, without which this Project would probably not have survived. However, this 'success' is now threatened (going forward) by the possible loss of the GIA and its valuable drive and focus as well as a potential lack of opportunity to replicate the best practices and lessons from the interaction with the LPCs across a broader geographical landscape. Without these ongoing activities being maintained and sustained, the achievements of the project run a very real risk of being lost and the project will then have failed on a number of fronts.

In contrast to such an undesirable (and potentially wasteful) scenario, If further funding and support can be identified and agreed to build on what has been noted by all stakeholders to have been a wise and fruitful investment so far, then these substantial achievements can be maintained and expanded to the benefit of all in the context of emission reductions and mitigation of the harmful effects of greenhouse gases and air pollution generally. This is the strongest and most positive message coming out of this exceptional Project.

Lessons Learned and Best Practices

Project Management and Administration

- One of the most prominent and critical lessons that needs to be captured from this particular project is that relating to realistic timescales and resources. As noted a number of times during the evaluation process, The

potential performance, delivery, efficiency and effectiveness of this project was constantly at risk as a result of the decision to make this a Medium-Sized Project of limited duration (24 months) and limited funding support (\$1.9 million from GEF). The project was undoubtedly ambitious in its aims and objectives and in its proposed outcomes but not unreasonably so in the context of the sequential logic of its deliverables. Demonstrating the Emission Assessment approach, followed by the development of related Energy Efficiency Strategies, and then drafting a legislation that would support those strategies makes absolute sense and would not be anywhere near as effective if that continuity were broken into separate projects. Equally, developing an Industry Alliance alongside this process in order to prioritise global issues also made sense and captured the larger needs and requirements relating to energy efficiency in both shipping and ports. Trying to do this A. across 10 countries and B. with formal agreements with major industry players over a 24-month period was extremely risky and hazardous, even more so with limited financial resources which further led to limited human resources to support the Project. All stakeholders interviewed sympathised with the PCU on the basis of their enormous workload. The LPCs, the consultants and the GIA members all noted that this put huge pressure on the two primary individuals that were expected to manage and administer this Project. In the Evaluator's opinion, this should have undoubtedly been a full-sized project with equivalent funding and downgrading it to a medium-sized project (even if there were possibly mitigating circumstances such as limited funding being available) was not the appropriate course of action. It was the clear consensus within all of the stakeholders that the success of this project can be attributed primarily to the professionalism and enormous hard work on the part of the PMU staff. The leveraging of additional co-funding and the negotiation of further supportive partnerships by the PMU and IMO is probably what also helped to save this project from an unsatisfactory ending.

- Implementing and Executing Agencies should be more realistic about the grading of Project staff. P.5 is normal for global and regional International Waters projects of this nature and complexity. In unusual circumstances a lower P.4 or even a higher P.6 may be justifiable. Lower gradings than this can only risk the quality and experience of the staff hired to run these complex and very demanding projects with tight deadlines, numerous diverse activities, the requirement for considerable negotiation and diplomatic engagements, and accountability for financial and administrative decisions.
- As with many projects of this nature it would be valuable if there was a mutual understanding developed early in the project between the PCU and the various organs of the Executing Agency that allowed for smoother processing times, especially in view of the very short nature and high delivery expectations of a project such as GloMEEP.
- In the context of the private sector involvement in projects of this nature, it was agreed during GloMEEP that only individual companies would be considered as members of GIA and not associations or representative bodies. The direct involvement of individual industry representation has created their 'ownership' and understanding of the broader issues. The PCU has also suggested that it might be valuable to invite observers to join the GIA meetings (e.g. scientific experts, academia, etc) from time-to-time and where appropriate. One such valuable observer would be the EU-GMN project.

Capacity Building and Training

- Donors and Implementing Agencies need to be more realistic in terms of capacity and resources to deliver on certain activities, in this case particularly capacity building and training. Trying to fit in over 30 workshops in 24

months was clearly unrealistic and placed enormous demands on the PCU staff and their consultants (not to mention IMO's procurement and contracting personnel). In this context, to some extent IMO but, more especially and again, the PCU staff are to be applauded and commended for their enormous hard work and dedication in delivering these activities successfully, a fact well-noted by the LPCs, and one which has elicited their clear gratitude and acknowledgement relating to the quality and effectiveness of the workshops and training.

- Furthermore, as a response to the limited funds and time constraints, the Project reviewed its training plans and combined a number of workshops so as to deal with more than one topic as well as 'train-the-trainers' sessions. It also revised some of the training workshops to make them single 'global' workshops instead of having 10 national workshops and, for these, it brought in the appropriate international consultants to advise and train all of the countries at once.
- The selection and approval of candidates for training should be more rigorous and stricter in future, with clear criteria for selection and with a follow-up online test or evaluation questionnaire afterwards leading to certification. It is important that the people being trained are appropriate in the context of A. their previous background knowledge and experience, and B. that they will be returning into positions in their country where they will actually make use of this training on a daily basis.
- It is very important to consider focusing training on the specific country needs rather than making it too broad as countries have different priorities and needs in the context of their compliance with Annex VI. For example, some countries are more concerned about port-related emissions as they mainly deal with incoming and outgoing shipping, others such as Flag States need to focus on ship emissions. For some countries, addressing emissions from smaller vessels is more important than dealing with larger bulk carriers, etc.
- Delivering the guidance documents and toolkits through face-to-face workshops, although more time-consuming and demanding, was much more effective than just sending out the guidance documents alone.
- Another positive lesson coming out of the GloMEEP Project is how important it can be to train attendees to deliver the workshops themselves as national/regional consultants (i.e. training them to be trainers). During GloMEEP, this process helped to replicate and spread the skills and capacities developed in the initial workshops.

Technical Issues

- LPCs felt there could have been greater emphasis on the emission studies and the baseline assessment but recognised the difficulties of the time-constraints once again and the need to overcome difficulties of access to data or absence of data. Ideally, the countries should have all been assisted through their Emission Assessments first as a basis for developing their national energy efficiency strategies. Some countries clearly had gaps in their data and, given sufficient time, the Project could have been able to assist them in filling these gaps or identifying the mechanism to do so.

- It would assist with the problems that some countries have experienced in data collection if one central body could be identified/allocated within each country that collects, collates and processes appropriate maritime information.

Recommendations and Proposals for Future Directions

The following Recommendations are targeted at either the Executing Agency, the Implementing Agency, the countries or a combination of these entities.

| No. | 1. RECOMMENDATION | TARGET GROUP |
|------------|--|---------------------|
| 1 | First and foremost among any recommendations must be the obvious practical need for further support to GloMEEP. The Project has created strong ownership by countries and industry as well as a momentum toward implementing Annex VI and the new MEPC Greenhouse Gas Strategy. Many of the following recommendations relate to logical further activities and work required which could be captured and delivered through additional support | IMO & UNDP & GEF |
| 2 | Although legal frameworks for national legislation have been drafted, these still need to be adopted by the countries and this would be a valuable exercise for further support. | IMO & UNDP & GEF |
| 3 | A wealth of valuable tools and guidance materials have been developed and employed successfully by the 10 LPCs. It is important now that these toolkits and guidelines are not only made available to other countries aiming to comply with Annex VI but that they are delivered effectively through appropriate regional workshops to assist those same countries that were not part of the original GloMEEP Project. In short, a GloMEEP replication process needs to now take place beyond the original LPCs | IMO & UNDP & GEF |
| 4 | GIA is just getting started but is showing tremendous buy-in and ownership from industry with a dedicated group of enthusiastic representatives. It would be a waste of the initial investment in time and finances and it would send a very poor signal to the private sector if the plug were to be pulled on this innovative and unique process just as it is showing positive accomplishments and delivering real benefits. The priority activities adopted by GIA and their commitment to fund them is a major step toward implementing Annex VI. Every effort should be made by IMO to ensure that, with the closure of GloMEEP in December, the secretariat function that the project provided to GIA can continue. | IMO & GIA |
| 5 | The countries have requested more activities related to technology transfer that can help them reduced emissions from ships and at the port level. Specific efforts should be made to provide more assistance with identifying appropriate technology, both tried-and-tested as well as innovative development. If further support were to be implemented, it would need to include a mechanisms for capture and transfer of emerging technologies related to maritime energy efficiency. Closer linkages with the Maritime Technical Cooperation Centres would provide a valuable vehicle to bring such activities and support into the regions. | IMO |
| 6 | GloMEEP was original designed to focus on Annex VI - Chapter 4. Energy Efficiency. National legislation, however, needs to address the entire Annex and not just one part. IMO has now set a global limit for sulphur in fuel oil used on board ships to come into effect as of 1 st January 2020. This will now require a significant support process | IMO |

| | | |
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| | similar to many of the GloMEEP activities if the developing countries are going to meet their compliance requirements. | |
| 7 | Further training on monitoring of compliance and enforcement of Annex VI and emissions control as well as the compulsory data collection systems within the LPCs and with a view to replication | IMO & LPCs |
| 8 | The need for more effective monitoring of ship emissions (especially as part of the compulsory IMO data collection system) through better interaction between local municipal agencies responsible for air quality monitoring and national agencies tasked with managing emissions | IMO & LPCs |
| 9 | The relatively new initial GHG Strategy adopted by MEPC in 2018 represents a framework for Member States, setting out the future vision for international shipping, the levels of ambition to reduce GHG emissions and guiding principles; and includes candidate short-, mid- and long-term further measures with possible timelines and their impacts on States. Once again, these are energy efficiency related issues that need to be followed up with support to the developing countries beyond the life of GloMEEP | IMO & MEPC |
| 10 | Greater collaboration between shipping, ports and terminals and nationally responsible government agencies with regard to GHG reductions and the new GHG strategy | IMO & LPCs |
| 11 | In-country assessments of availability of compliant fuels including comparative assessment of scrubbers (EGC systems) vs fuel quality as a measure to improve air quality. This should also cover the need for reception facilities and disposal mechanisms for waste generated by EGC systems | IMO 7 LPCs (with assistance from EU-GMN) |
| 12 | The GloMEEP Project should engage with IW:LEARN and Grid Arendal (who manage their website) to ensure that it has links into GloMEEP and some information on GloMEEP on the IW:LEARN website. They should also discuss the achievements of GloMEEP with a view to developing an appropriate experience note on a relevant subject such as private sector engagement | IMO & IW:LEARN |

PROJECT RATINGS:

| Rating Project Performance | |
|--|---------------------|
| Criteria | Rating Type |
| Monitoring and Evaluation | |
| Overall quality of M&E | Satisfactory |
| M&E design at project start up | Highly Satisfactory |
| M&E Plan Implementation | Satisfactory |
| Implementing Agency/Executing Agency Project Execution | |
| Overall Quality of Project Implementation/Execution | Highly Satisfactory |
| Implementing Agency Execution | Highly Satisfactory |
| Executing Agency Execution | Highly Satisfactory |
| Quality of Project Outcome | |

| | |
|--|--------------------------------|
| Overall Quality of Project Outcomes | Highly Satisfactory |
| Effectiveness | Highly Satisfactory |
| Efficiency | Highly Satisfactory |
| Relevance | Relevant |
| Likelihood of Sustainability | |
| Overall Likelihood of a Sustainable Future | Likely |
| Financial resources | Likely |
| Socio-economic | Likely |
| Institutional framework and governance | Likely |
| Environmental | Likely |
| Overall Impact of the Project | |
| Overall Impact on and through the Process | Significant |
| OVERALL PROJECT RESULTS | 6 – HIGHLY SATISFACTORY |

As has been noted previously with the UNDP IMO GEF 'sister' project on Global Partnership, it is rare indeed to give a Project a **Highly Satisfactory** rating and with such a conclusive set of ratings for each Performance Indicator. Such 'scores' are not given lightly but once again, in this case, most deservedly as is clear from the discussions, findings and conclusions of this Evaluation.

1. INTRODUCTION

1.1 Purpose and Objective of the Evaluation

UNDP Project evaluations aim to assess the efficiency and effectiveness of a project in achieving its intended results. They also assess the relevance and sustainability of outputs as contributions to medium-term and longer-term outcomes, as well as drawing lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming. GEF requires that its projects should be monitored and evaluated for their contribution to global environmental benefits

The Terminal Evaluation (TE) of a project must be carried out during the period 6 months before and 6 months after project operational closure and is to be conducted according to the guidance, rules and procedures established by UNDP and GEF as reflected in the **UNDP Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-financed Projects**¹.

The Terms of Reference for the GEF-UNDP-IMO Project on Global Maritime Energy Efficiency Partnerships (GloMEEP) set out the expectations for this Terminal Evaluation and are provided as **Annex 7.7**.

1.2 Scope and Methodology

This Terminal Evaluation (TE) compared planned outputs of the project to actual outputs and assessed the actual results to determine their contribution to the attainment of the project objectives. The Evaluation also reviewed and assessed the efficiency of project management, including the delivery of outputs and activities in terms of quality, quantity, timeliness and cost efficiency as well as features related to the process involved in achieving those outputs and the impacts of the project. The Evaluation further addressed the underlying causes and issues contributing to targets not adequately achieved. The Evaluator has strived to follow a participatory and consultative approach ensuring engagement with the project team, project partners and key stakeholders in the region covered by the project.

This Terminal Evaluation is an evidence-based assessment which relies heavily on feedback from persons who have been involved in the design, implementation, and supervision of the project, either directly in a management /coordination role, or more indirectly as stakeholders (i.e. government, private sector, academic and scientific institutions, etc.). It is also based on a review of documentary evidence as well as personal observations and investigative interviews and questionnaires.

An Evaluation Matrix template was provided to the Evaluator as part of the ToR and this was adapted and completed by the Evaluator to suit the requirements of this evaluation process (see **Annex 7.4**).

All evidence used in the findings and conclusions of the evaluation was cross-checked and validated across as many sources as was practicable using the following methodologies:

¹ (<http://web.undp.org/evaluation/documents/guidance/gef/undp-gef-te-guide.pdf>)

1. A General Questionnaire for a) the Lead Pilot Countries, b) GIA Members, c) Project Consultants and D. all other stakeholders
2. A more detailed questionnaire for the Implementing Agency, Executing Agency and Funding Agency representatives was used as part of the interview process based on the Evaluation Matrix template in **Annex 7.4**
3. Confidential interviews with selected stakeholders (LPC National Focal Points and Project Coordinators, GIA representatives, GPTF members, consultants, other project partners (see **Annex 7.3** for the List of Subjects Interviewed)
4. Mission to IMO Headquarter London between 8th and 16th September 2018 for consultations and interviews with IMO and PCU staff
5. A detailed review of documentation relating to monitoring and evaluation (e.g PIRs, Quarterly Reports, GPTF minutes, GEF Tracking Tool, etc. – see full list of Documents Reviewed under **Annexes 7.5 and 7.6**)
6. A review of ‘information and guideline’ documents, media and internet sites (e.g. IMO and national websites, various workshop Toolkits and Guidelines as well as other publications, visual media, etc. – see also **Annex 7.5**)

Triangulation of findings for validation purposes was therefore provided through verbal consultations, written questionnaires and investigative reviews of documentation. Furthermore, the project Logical Results Framework was used to support this process and to assess achievement of project objectives and targets through approved indicators. The Evaluator has maintained a detailed and accessible auditing trail of documentation and evidence to support all of the evaluation’s findings.

1.3 Structure of the Evaluation Report

The Evaluation Report is structured so as to cover the project description and its aims and objectives first, then to review the original Project Document and its relevance, the problems it is addressing, the stakeholders that will be involved and the expected results. The Report then considers the design and formulation of the project (the Results Framework, assumptions and risks, etc.) before moving on to a discussion of the actual project Implementation process and then the actual review of the project results and achievements and the ratings and actual assessment. There is a specific section that assesses sustainability of the project and beyond and then the main Report finishes with its Conclusions and Recommendations as well as any Lessons. Appropriate Annexes are attached.

1.4 Limitations of the Evaluation and Constraints

This Evaluation did not include any country missions. This was due to the time constraints of the project, the wide dispersal of the various Lead Pilot Countries and the limited funding. However, this should be avoided in future Evaluations wherever possible as the Evaluator can only get a true feel for how successful a Project of this nature has been by assessing the actual impact in-country and talking to the national stakeholder face-to-face. In fairness, the project did make every effort to make sure that the Evaluator managed to speak with representation from each of the countries and this was greatly appreciated and went a long way toward alleviating this issue. The Evaluator also followed up with a significant number of national stakeholders independently, both by skype and telephone as well as by questionnaire.

2. PROJECT DESCRIPTION AND DEVELOPMENT CONTEXT

Although air pollution from ships does not have the direct cause and effect associated with, for example, an oil spill incident, it causes a cumulative effect that contributes to the overall air quality problems encountered by populations in many areas, affects the natural environment, and has a significant influence on climate change and associated issues such as ocean acidification.

In 1997, a new Annex was added to the International Convention for the Prevention of Pollution from Ships (MARPOL). The regulations for the Prevention of Air Pollution from Ships (Annex VI) seek to minimize airborne emissions from ships and their contribution to local and global air pollution and environmental problems. Annex VI entered into force on 19 May 2005 and a revised Annex VI with significantly tightened emissions limits was adopted in October 2008 which entered into force on 1 July 2010.

In 2011, IMO adopted mandatory technical and operational energy efficiency measures which are expected to significantly reduce the amount of CO₂ emissions from international shipping. These mandatory measures (EEDI – Energy Efficiency Design Index and SEEMP – Ship Energy Efficiency Management Plan) entered into force on 1 January 2013.

IMO has adopted important guidelines aimed at supporting implementation of the mandatory measures to increase energy efficiency and reduce GHG emissions from international shipping, paving the way for the regulations on EEDI and SEEMP to be smoothly implemented by Administrations and industry.

The expected growth of world trade represents a challenge to meeting a future target for emissions required to achieve stabilization in global temperatures and so IMO has begun consideration of further technical and operational measures to enhance the energy efficiency of ships.

It is within this context and background that IMO and UNDP approached GEF to provide funding for a Global Maritime Energy Efficiency Project.

2.1 Project Start and Duration

GloMEEP has been a medium-sized project that has been executed over a two year plus period. Its starting date was approximately June 2015 and it was originally scheduled to finish in May 2017. The Project was formally launched at the Future-Ready Shipping Conference in Singapore in 2015 co-hosted with the Maritime and Port Authority of Singapore. The project was extended to December 2018 at no additional cost to GEF in order to take advantage of additional co-funding that had been leveraged as well as to address the fact that the outputs and activities from this Project were very ambitious for a medium-sized project to say the least and needed more time for completion.

2.2 Problems that the Project Sought to Address

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. The dominant contributor to increasing Greenhouse Gas (GHG) emissions is energy consumption via the combustion of fossil fuels (oil, gas and coal) which represents about 66% of global GHG emissions. 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 world².

Recognizing the potentially significant contribution that the shipping sector would be making to global climate change and ocean acidification under a business-as-usual 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, 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 (the Marine Energy Efficiency Framework). IMO estimated that successful implementation of the energy efficiency framework would reduce shipping GHG emissions by 1 Gt/year CO₂ by 2050, a sizeable contribution to reducing the projected emissions gap in current emission projection models for a 2°C outcome.

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. Because of these capacity issues and constraints in developing countries, it was realised that global scale compliance with the adopted IMO MEEF, and thereby the foreseen significant GHG emissions reduction benefits, was unlikely to be achieved without additional support to address the needs of developing countries.

Based on a causal chain analysis to identify the barriers and their root causes, it was realised that 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 included the following aspects:

- 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.

² 2nd IMO GHG Study 2009

The GEF 'Alternative Scenario' embraced by this project therefore was to promote a high uptake of IMO MEEF in particular the operational element (e.g. the SEEMP) through advancing policy making, institutional reforms, incentivisation, capacity building and South-North technical cooperation. It was felt that this scenario would yield significant benefits in terms of both reductions of shipping CO₂ 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.

2.3 Immediate and Development Objectives of the Project

GloMEEP project has been developed as a 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.

To implement this process, a three-tier approach was followed that included:

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.
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 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.

To this effect, the Project will have the following Components and expected Outcomes

Component 1: Legal, policy and institutional reforms for GHG reductions through improved energy efficiency within maritime transport sector in developing countries (CC and IW)

Outcome 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.

Component 2: Maritime sector energy efficiency capacity-building, awareness raising, knowledge creation and dissemination (CC and IW)

Outcome 2.1: Enhanced awareness and capacity to implement ship energy efficiency measures (operational, design) in the pilot countries.

Component 3: Public-private partnerships to catalyse innovation and R&D and technology transfer to meet the needs of developing countries (CC and IW)

Outcome 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.

Component 4: Monitoring, Learning, adaptive feedback and evaluation

Outcome 4.1: Adaptive project management and coordination for implementation, monitoring and evaluation.

2.4 Baseline indicators Established

Under the baseline and with 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 issue.

The Project Results Framework has established the baseline for each of the project's intended Outcomes along with the indicators that demonstrate that the baseline scenario has been addressed.

2.5 Main Stakeholders

Without precluding the participation of additional partners, the following institutions and organizations were listed in the Project Document as being 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.

A full consultation with the partner countries was conducted for GloMEEP project development and as part of the Project Preparation Grant phase, (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 and they were therefore fully aware of the GloMEEP objectives and had pre-agreed, in general terms, to GloMEEP's aims and plans.

The stakeholder's and their engagement are discussed in more detail below under **Section 4.3 Stakeholder Engagement**.

2.6 Expected Results

According to the project Document, the overarching 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, etc.

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.

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 (Group of Experts on Ship's Energy Efficiency) master list plus positive records of participation of IMO-UNDP-GEF GloMEEP Projects 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

It is expected that 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

3. PROJECT DESIGN AND FORMULATION

3.1 Overall Feedback on Original Project Design

The main concern regarding the Project design actual relates to the fact that it was a massively ambitious set of objectives, activities and associated deliverables. This was far too ambitious to have been accepted as a Medium-Sized Project and it should have been a Full-Sized Project with associated equivalent funding and duration. The criticism here does not relate to the 'ambitious' nature of the project design and expected delivery itself. The Project Document is well-written, if a little lengthy and repetitive in places, but it does capture accurately the needs of such an intervention to support this very complex subject. In short, the outputs and deliverables are appropriate and sequentially logical, and the Project would not have been able to deliver effectively on its overall objective if any of these had been removed. The Evaluation has to level the criticism at the decision by GEF to only allocate sufficient funding for such an enormous task at the Medium-Size intervention level, thus limiting this funding to \$2 million maximum. The activities and deliverables are detailed, complex and time-consuming and the demands placed on IMO and the Project Management Unit have been considerable and essentially very risky in terms of GEF's investment as well as in the context of delivering what was needed to support Annex VI compliance and ratification let alone adding further support for energy efficiency at the Port level.

Otherwise, All of the LPCs felt that the Project Design was good with the exception of the timing (duration) and shortage of funding. The activities and deliverables were considered to be appropriate and none of the LPCs felt that these should have been significantly changed.

3.2 Amendments to Proposed Evaluation Approach

There were no amendments to the original evaluation approach as defined in the Inception Report and as outlined above under 1.2 Scope and Methodology. Originally, it was planned that the Draft Evaluation Report would be presented in person by the Evaluator at the GPTF in China in November but due to time constraints and obvious economies it was decided that this could be a 'virtual' presentation.

3.3 Logic and Design of Results Framework

The following Table is a summary assessment of the original Results Framework to assess whether it was designed effectively around the expected SMART Targets for Indicators. The full review of Indicators and Targets is included as **Annex 7.1**. Actual delivery on these indicators is analysed in **Section 5. Project Results**. The table reviews the targets for various activities under each Component (outcome) as a percentage of their effectiveness as SMART indicators of deliver

TABLE 1: ANALYSIS OF THE PROJECT INDICATOR TARGETS FOR 'SMART' COMPLIANCE

| OBJECTIVES AND OUTCOMES | SPECIFIC | MEASURABLE | ACHIEVABLE | RELEVANT | TIME-BOUND | COMMENT ON 'NON-SMART' TARGETS |
|--|----------|------------|------------|----------|------------|---|
| Overall Objective: In 10 LPCs, legal and policy systems are developed, capacity building has been undertaken and international cooperation between public-private entities is promoted | 100% | 57% | 86% | 100% | 100% | Capacity building and experts have no quantifiably Measurable . GIA <i>'formed and functional'</i> is not quantifiably Measurable . A total of 40 workshops across 10 countries in 24 months is not Achievable |
| Component 1: Legal, policy and institutional reforms for GHG reductions through improved energy efficiency within maritime transport sector in developing countries (CC and IW) | 100% | 66% | 100% | 100% | 100% | General terminology of <i>'developed and documented results disseminated within industry and developed countries'</i> is not Measurable |
| Component 2: Maritime sector energy efficiency capacity-building, awareness raising, knowledge creation and dissemination (CC and IW) | 75% | 75% | 75% | 100% | 100% | Similar to Overall Objective. <i>'Human capacities are developed and cadres with relevant expertise are in place'</i> is not quantifiably Measurable . It is all not Specific relating to capacities or expertise. <i>'A total of 40 workshops/events to be organized (on average 4/LPC) within 24 months'</i> is not Achievable |
| Component 3: Public-private partnerships to catalyse innovation and R&D and technology transfer to meet the needs of developing countries (CC and IW) | 75% | 75% | 100% | 100% | 100% | <i>'Establishment of minimum two bilateral or multi-lateral agreements to cash/in-kind support the GloMEEP GIA agenda'</i> is not Specific . In fact, no-one recalls what this Target means <i>'A formal GIA together with records of cash funding'</i> is not quantifiably Measurable . <i>'Securing industry funding and use of funds'</i> is not Measurable |
| Component 4: Monitoring. Learning, adaptive feedback and evaluation | 80% | 80% | 100% | 100% | 100% | <i>'To document all aspects of the project including lessons learnt'</i> . This is neither Specific or Measurable |

A number of the indicator targets used in the Project Document are not specific enough and/or do not have effectively measurable end-of-project delivery. The whole purpose of the SMART process (Specific, Measurable, Achievable, Relevant, Time-Bound) is to ensure that targets are actually effective for monitoring purposes and for evaluation and project delivery assessment. Also, in this case, the same targets are used for the Overall Objective of the Project as for the Component. The Objective should have broader scale targets than the Components relating to 'number of LPCs that have...' and, where possible/feasible, some measure of potential overall reduction in GHG emissions at country levels.

3.4 Assumption and Risks

A Terminal Evaluation needs to provide an assessment of the project assumptions and risks as set out in the Log Frame/Results Framework, including a review of the stated assumptions and risks, whether they are logical and robust and have helped to determine activities and planned outputs. It also needs to review any new risks that may have arisen during the project lifetime.

Table 2 below compares the stated Assumptions and Risks for the Project Document against what has happened during the Project lifetime and what action has been taken to mitigate these risks.

TABLE 2: A REVIEW OF THE ASSUMPTIONS AND RISKS IDENTIFIED BY THE PROJECT AND THE ACTIONS TAKEN FOR MITIGATION

| RISK OR ASSUMPTION IN PRODOC | REALIZATION AND MITIGATION |
|--|---|
| Changes in policy, decision makers, and/or other events beyond the control of the project. | This is an on-going concern for all such projects and was a logical risk to included. The presence of IMO as a mediator and the representation from countries at the MEPC has helped to mitigate this along with the very comprehensive awareness campaign by the project in all of the LPCs |
| Failure to secure a strong GIA partnership or secure significant GIA Funding | Also, a logical risk to identify and the Project inevitably had to work on the assumption that it WILL be able to establish an effective partnership. In reality, the Project put enormous efforts into securing the Agreements with the Industry and was significantly assisted by IMO both in the details and logistics as well as through the MEPC. |
| Large number of capacity building workshops and lack of capacity to deliver them. | This was indeed the identified as a potential problem in the ProDoc and certainly became one during the Project. The mitigations in the RF are not particularly useful but, in reality, the Project rose to this concern and addressed it through various means including consolidation of workshops. Ultimately though, it had to be resolved through hard work, dedication and unrealistic amounts of travel and organisation and SHOULD have been dealt with more effectively in the Project Design and certainly not through a Medium-Sized Project |
| It is assumed that country buy-in and political support exists. | Always an assumption in regional or global projects of this nature. As above, the presence of IMO as a mediator and the representation from countries at the MEPC has helped to mitigate this along with the very comprehensive awareness campaign by the project in all of the LPCs. There is an element of commitment also by the countries volunteering to be LPCs but a more formal agreement with specific commitments and deliverables would have significantly reduced this risk |
| Preparation of various reports, to be prepared at national levels and by national | It was recognised, correctly, that the guidelines and toolkits would help to mitigate this issue. Proactive delivery and 'roll-out' of these for each country (either individually or as a group) |

| | |
|--|--|
| experts, may not be feasible due to lack of capacity | also went a long way towards mitigating this risk as did the provision of international experts to assist in the training and guidance and to help as necessary with drafting |
| Approval of the National Maritime energy Efficiency Strategies may be delayed | The project worked on the basis that these Strategies would not need approval at the highest political level. This seemed to be an effective approach. |
| 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. | This has, indeed, shown itself to be a very realistic concern and several countries have struggled to identify data to support the emission assessments. However, this was an assumption that needed to be made for the Project to move forward and has now identified clearly this gap for each of the countries and the project has and is assisting them to address this gap. Prior to project activities, many of the countries would not have been aware of the data constraints. |
| Preparation of legislation may be delayed due to non-cooperative stakeholders | The Project sought to mitigate this risk by stating that it would recruit a legislative international expert / consultant to drive the whole process via a central monitoring and advisory role. However, in the event it has become clear that this has become an issue for some LPCs that have high priorities than Annex VI and maritime energy efficiency. It was overly ambitious to assume that this project could deliver even draft legislation for 10 LPCs in two years. |
| Setting up of the global management elements (e.g. PCU, GPTF, GIA-ITF) may be delayed placing a significant risk on such a short project | This was indeed a very really risk which could have been averted at the Project Design stage. One of the mitigations proposed was early recruitment of the PCU staff. somewhat fortuitously, the PCU team which was established early on proved to be highly efficient and drove the process fast so as to ensure these elements were in place as early as possible despite the enormous time constraints |
| Number of deliverables and report are too many for this size of the project. | The proposed mitigations included a reduction in the monitoring and evaluation process which was not a very sound proposal. Removal of a mid-term-review jeopardised the opportunity to review challenges and to 'steer' the Project in its final months |
| NEW RISKS | |
| The possibility of low political commitment beyond the life of the project leading to an unsustainable process going forward | This is always an inevitable risk and throws doubt on any policy of expecting Projects to define an exit strategy for the funding agencies too early. Expecting to build strong and sustainable political commitment over a 24 -month period within 10 countries is optimistic to the extreme. In the light of the inappropriate timescale given to this Project the only reasonable mitigation for this risk is further activities and funding. |
| The Project, particularly through its LPCs, has identified the fact the focusing only on Energy Efficiency in Shipping was somewhat short-sighted as A. much of the concern within the | The Project has identified these two issues fairly early in the project lifetime and has been proactive and adaptive in addressing them. The Project expanded its Toolkits and guidance to embrace the requirements for Ports as well as |

LPCs focuses on air pollution and energy efficiency in ports, and B. Annex VI has other chapters besides EE and the legislation that needs to be enacted nationally has to cover ALL chapters, not just Chapter 4. This presents a real risk in that the overall process which has been initiated by GloMEEP could stall as a result of these additional imperatives which directly affect project deliverables

Shipping which was a significant extra undertaking. The issue of the legislation needing to cover more than just Chapter 4 on Energy Efficiency still needs to be resolved through further support.

Clearly, the original design of the Project Document created more risks than were necessary (specifically in the context of both timescale and available resources). The Project did, in fact, manage to overcome most if not all of these risks but one would have to say this was more by good fortune in acquiring an excellent management team (supported by a strong Executing Agency) than by good project planning. Such unrealistic timescales and limited resources should be avoided in future as they potentially represent a very real waste of investment if the Project cannot deliver successfully.

3.5 Lessons from other Relevant Projects

The GloMEEP project has built a lot of its structure, processes and activities on the successful GEF UNDP IMO GloBallast project which was finalised in 2017. The GloBallast project adopted a three-tier structure for delivery which proved to be a very effective management mechanism and was thus also built into GloMEEP.

GloMEEP has also anchored itself within the International Maritime Organisation, with UNDP selecting that agency as its executing Agency for the purposes of procurement, contracting, legal advice and awareness raising. This proved to be very effective earlier during the GloBALLAST project as IMO has direct linkages into the Shipping and Ports industries and the national government agencies and private bodies that deal with maritime affairs. The MEPC meetings provide an excellent opportunity to showcase GEF projects such as GloBallast and this was certainly also seen to be the case with GloMEEP, with country representation on the MEPC formally recognising the role and effectiveness of the GloMEEP activities.

3.6 Stakeholder Participation

Stakeholder consultation meetings were conducted prior to submission of the Project to GEF for CEO Endorsement and these were apparently successful in ensuring the buy-in by national stakeholders early in the project development process. During the implementation of the project, the ProDoc specified that guidance would 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. This also appears to have been followed as project procedure. The Project Document noted that the stakeholders will benefit throughout the project from studies, workshops, trainings, reviews and legal and institutional analysis and this has certainly been the case. They would also be granted access to the GloMEEP dedicated webpages and documents that will be launched under the project, and they have.

At the global level, all the LPCs and other key stakeholders would be invited to sit on the Global Project Task Force (GPTF) as foreseen under project monitoring. IMO acting as the host for the PCU, would 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. The evaluation can further confirm that this happened.

One approach used in the Project Design and its subsequent implementation which should be avoided in future is the way that the Lead Pilot Countries were chosen. In essence, countries were asked if they would like to be LPCs at the MEPC meeting and without any specific criteria or need for commitment from those countries who responded positively. As a result, at least two countries were problematic throughout the project lifecycle, one specifically been noteworthy for its lack of engagement. A more effective approach would have been to agree up-front on set of criteria (even through the MEPC) and have formal Agreements with each LPC which required them to complete certain activities and deliverables by a specified time or they would then be replaced by another country that was delivering at the required speed. The GloBallast Project model which had Lead Partner Countries and Partner Countries was a good model for this whereby if an LPC was struggling to perform and deliver as required it could be 'downgraded' in terms of delivery requirements to a Partner Country, and an appropriate Partner Country that was delivering effectively could then be upgraded to an LPC.

3.7 Replication Approach

The project was designed to develop specific guidelines and toolkits and then to replicate the delivery of these through national level workshops. The Project also captured lessons from each of these workshops and training activities and replicated these also across other LPCs.

The GloMEEP intention has always been to develop processes that could be subsequently used by not only national stakeholders within the LPCs but also by wider developing countries that are not members of GloMEEP. The work done on the toolkits and the results of other activities have been shared beyond the LPCs particularly through the GMN-MTCCs and through various conferences including the Ready-Shipping Conferences co-hosted by the Maritime and Ports Authority of Singapore.

The training workshops 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. Furthermore, the training packages developed under GloMEEP have been shared and made available to and through the maritime training institute(s) within each LPC.

The project has also showcased its results as part of its dissemination efforts using website, newsletter and other publications. Thus, other countries and regions can become familiar and use the experience. The project has further promoted 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. This has provided a significant opportunity for presenting the GloMEEP results to a wider international audience.

3.8 UNDP and IMO Comparative Advantage

There is no direct discussion in the Project Document regarding the UNDP comparative advantage in being the Implementing Agency for this project. However, UNDP has many years of experience working in the International Waters arena and is best placed to provide support to a development-related project of this nature which will need to work closely with many stakeholders and particularly the private sector. UNDP has an established partnership already with IMO through the successful GloBallast Project. This relationship between the two UN agencies has worked well and could therefore be expected to continue to do so throughout the GloMEEP project. UNDP has the advantage of having country offices in all of the countries/regions being addressed by GloMEEP which can be called on to assist with any challenges or concerns at the national level.

IMO has already demonstrated its comparative advantage in projects of this nature through its rigorous administrative support processes (procurement, contracting, legal advice, awareness and outreach, etc.). It is also one of the few UN agencies that has direct linkages and liaison with the private sector and is able to talk directly with the maritime industry. This has proved to be enormously advantageous in the negotiation of agreements with industry such as the Global Industry Alliance which is a key component of GloMEEP. The annual MEPC meetings at IMO headquarters provide an excellent backdrop for showcasing GloMEEP delivery and successes and for raising issues and concerns with and by the country representation. The MEPC also provides a very valuable route for awareness-raising and outreach to the countries and the observers.

3.9 Linkages Between Project and Other Interventions within the Sector

The deliveries, material and training given by the project and the activities supported by the GIA directly feed into the regulatory process. The Marine Environmental Protection Committee of IMO is fully aware of the work and the achievements of GloMEEP and has supported it through the adoption of the initial Strategy on Greenhouse Gas emission from international shipping with a view to phasing out such emissions as soon as possible in this current century. In relation to the MEPC and MARPOL generally, the GloMEEP project has been very successful at developing supportive guidelines for shipping and for ports that help to address both monitoring of emissions and reduction of emissions and these have been combined into 'toolkits' as appropriate. The GloMEEP website provides access to downloadable Toolkits on a variety of issues related to ship and port emissions as well as studies alternative fuels, abatement technologies to reduce carbon emission, optimization of energy consumption, etc³. All of the countries have made use of these toolkits in undertaking their rapid assessments and national strategy development, as well as in assisting them to draft their national legislations. MEPC has found these toolkits and guides so valuable that China (as an MEPC member) has proposed that these guides should now be provided to all countries that are party to MARPOL and Annex VI.

3.10 Management Arrangements

The overall attitude and opinion of all stakeholders on this Project has been very positive toward the management process and delivery. Throughout the Evaluation process the stakeholders have had nothing other than praise for the PCU and its staff which are generally considered to be very professional. Several LPCs referred to a GloMEEP 'family' that had been created by the PCU and IMO.

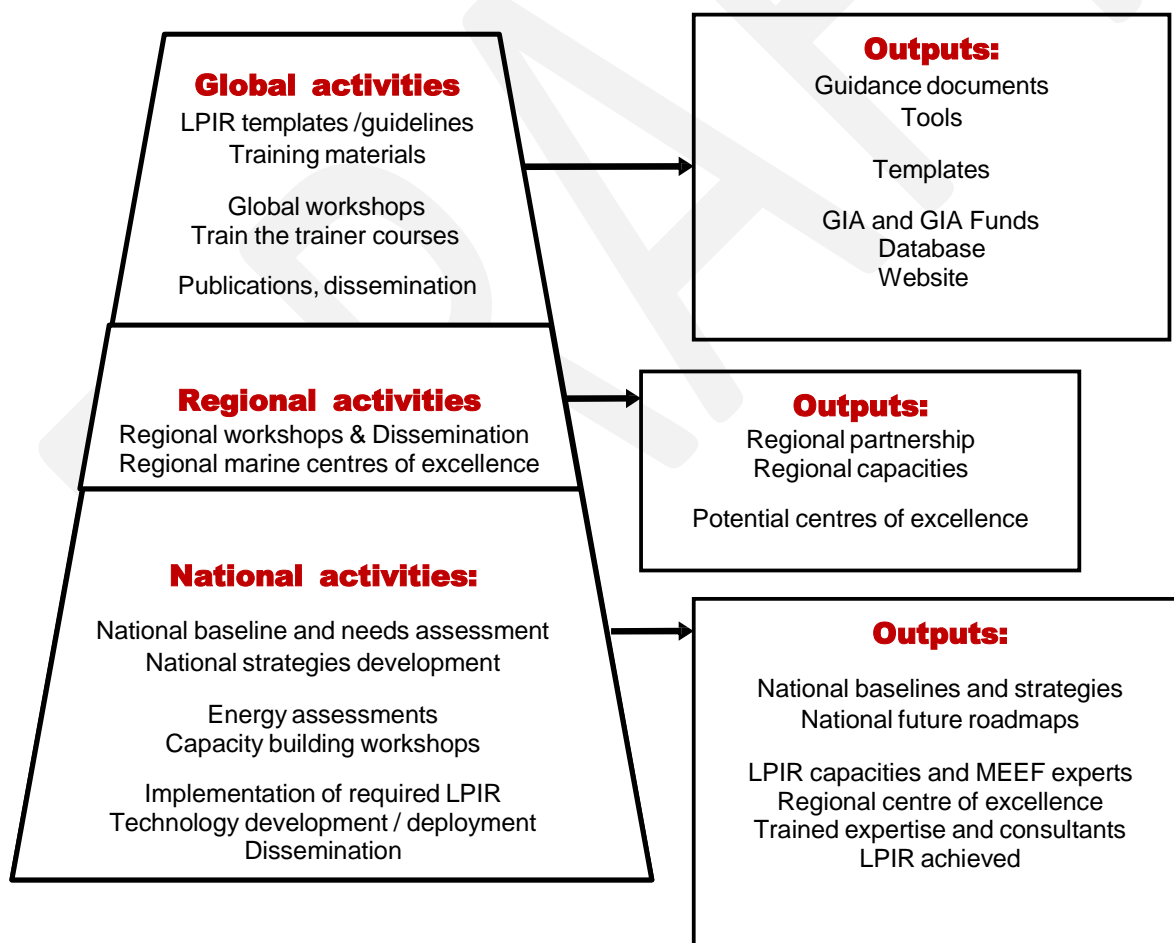
³ <https://glomeep.imo.org/resources/publications/>

The management strategy for GloMEEP was implemented through a three-tier approach similar to the approach of the very successful GloBallast Partnerships project.

This three-tier approach includes:

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.
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.

FIGURE 1: SCHEMATIC OF THREE-TIER PROJECT ACTIVITIES AND EXECUTION APPROACH



4. PROJECT IMPLEMENTATION

4.1 Adaptive Management

The Project required the countries to undertake an emission assessment following which they would develop a National Maritime Energy Efficiency Strategy. However, due to time constraints and funding for travel into or within countries to provide this sort of support, the two were combined into one exercise so that the consultants merged their input and dealt with both sequentially while in-country. In some cases, the Strategy was developed before an Emission Assessment had been undertaken, but this proved to be problematic as the Strategy would then often need to be revised. At least one LPC noted that they had started drafting their Strategy before the 'How To' guides had been received and they did not have the in-country workshop on how to use the guides until after their draft Strategy was completed so they then had to amend the Strategy. To put this in context however, this country was already well-advanced in developing its compliance legislation for Annex VI prior to the Project starting and needed a Strategy in place to do this. Having such a country as an LPC was very valuable for the Project however as they could share their experiences and lessons from this process with the Project and with other LPCs. One of the overriding problems that stalled the Emission Assessments initially and obliged a number of the LPCs to move ahead with their Strategies was the inaccessibility to the data necessary to make such an assessment. Some LPCs cited the lack of legislation empowering any one government agency or their representative from having access to Ports and their resources or data bases which prevented the studies from moving ahead. The project was constantly having to adapt to these scenarios and amendments primarily due to the time and funding constraints. However, several LPCs did praise the Project for assisting them and helping them to find the appropriate data and identify how to capture it and use it successfully. Many of them did not even realise they had any data available. Most LPCs felt that the development of new Data Collection Systems was a priority.

Furthermore, as a response to limited funds and time constraints, the Project reviewed its training plans and combined a number of workshops so as to deal with more than one topic as well as train-the-trainers sessions. It also revised some of the training workshops to make them single 'global' workshops instead of having 10 national workshops and, for these, it brought in the appropriate international consultants to advise and train all of the countries at once. This is the reason why the Project delivered approximately 33 workshops rather than the 40 identified in the Results Framework (which number was absurdly ambitious in any case!)

In 2018, during its 72nd session at IMO, the Marine Environmental Protection Committee adopted a new initial Greenhouse Gas Strategy⁴. This recognised the fact that the Agreement reached in Paris within the United Nations Framework Convention on Climate Change Conference in 2015 had not effectively integrated shipping and maritime impacts within its decisions and targets. The initial strategy represents a framework for Member States, setting out the future vision for international shipping, the levels of ambition to reduce GHG emissions and guiding principles; and includes candidate short-, mid- and long-term further measures with possible timelines and their impacts on States. The strategy also identifies barriers and supportive measures including capacity building, technical cooperation and research and development.

Under the identified "levels of ambition", the Initial Strategy envisages for the first time a reduction in total GHG emissions from international shipping which, it says, should peak as soon as possible and to reduce the total annual

⁴https://unfccc.int/sites/default/files/resource/250_IMO%20submission_Talanoa%20Dialogue_April%202018.pdf

GHG emissions by at least 50% by 2050 compared to 2008, while, at the same time, pursuing efforts towards phasing them out entirely. The strategy includes a specific reference to “a pathway of CO₂ emissions reduction consistent with the Paris Agreement temperature goals”. The Strategy further aims to peak GHG emissions from international shipping as soon as possible and to reduce the total annual GHG emissions by at least 50% by 2050 compared to 2008 whilst pursuing efforts towards phasing them out as called for in the Vision as a point on a pathway of CO₂ emissions reduction consistent with the Paris Agreement temperature goals. The Initial Strategy also provides a clear Road-Map for its own adoption as a formal Revised IMO GHG Strategy by 2023.

On 1st March 2018, the requirement for ships to collect data on their fuel oil consumption entered into force as an amendment to Annex VI of MARPOL at the request of the MEPC. Further information on this can be found at the relevant IMO webpage⁵. These ship fuel oil consumption data reporting requirements are the latest mandatory requirements aimed at enhancing the energy efficiency of international shipping. The data collection will begin on 1st January 2019 with data reported to the International Maritime Organization at the end of each calendar year. Under the new Regulation 22A On Collection and Reporting of Ship Fuel Oil Consumption Data, ships of 5,000 gross tonnage and above are required to collect consumption data for each type of fuel oil they use, as well as other, additional, specified data including proxies for transport work. This is part of their SEEMP (Ship Energy Efficiency Management Plan). These ships account for approximately 85% of CO₂ emissions from international shipping. The aggregated data will be reported to the Flag State after the end of each calendar year and the Flag State, having determined that the data has been reported in accordance with the requirements, will issue a Statement of Compliance to the ship. Flag States will be required to subsequently transfer this data to an IMO Ship Fuel Oil Consumption Database. IMO will be required to produce an annual report to the MEPC, summarizing the data collected. MEPC has circulated a number of guidelines to assist flag states. Essentially, the Data Collection System was added to MARPOL Annex VI because IMO Member States felt a proper fuel consumption/emission baseline was required first, before adopting additional (mandatory) emission reduction measures for the existing shipping fleet. Because of this major amendment and the need to for capacity building to ensure proper implementation, the GloMEEP Project decided to develop a new workshop package, which was not originally foreseen in the Project Document. The workshop is currently under development and will roll-it out for the first time back-to-back with the Project’s final GPTF in China

In 2005, IMO member states adopted the regulations under Annex VI Chapter 3 (Air Pollution) which aims to reduce the sulphur content in ship’s fuel from the broad current global level of 3.5% maximum sulphur content to 0.5% by 2020. This has created one very important issue for GloMEEP which has been raised by several LPCs and has required proactive adaptive management by the PCU. The GloMEEP project was originally designed to focus on Chapter 4 of Annex VI relating to energy efficiency regulations rather than the entire Annex. Yet the legislation that the countries have to draft and adopt as part of their post-accession agreement needs to address all of Annex VI and the legal departments in their governments find this very confusing. Legally, the countries cannot implement Chapter 4 in isolation from the rest of Annex VI. In any case, many of the countries wanted to make the link between energy efficiency and air pollution/air quality and not isolate the two.

In order to compensate for this oversight in the Project Document and to address this issue, GloMEEP started to do more work on Chapter 3 (Air Pollution) within the workshops, while emphasising the importance of implementing all chapters. The workshops made it clear that there were obvious synergies in that, if you improve the energy efficiency of ship, you can also reduce fuel consumption which not only reduces GHG but also associated air pollutants.

⁵ <http://www.imo.org/en/ourwork/environment/pollutionprevention/airpollution/pages/data-collection-system.aspx>

Furthermore, in the context of ports, while the Project Document focused a lot on GHG / energy efficiency in ports, they are mostly concerned about air pollutants and their health impacts and this is the primary driver for them to change. Also, in a lot of port cities funding and investments are tied to improving air quality (because of the local impact) rather than GHG (global impact). Consequently, GloMEEP made sure that the two guides that were developed for ports focused strongly on both air pollutants and GHG.

Another area of adaptive management undertaken by the Project was in the context of the Port Emissions Toolkit and Guidelines. This has been amended and updated since its very first rendition and has broadened in its implementation from just energy efficiency to include air pollution aspects at the request of the LPCs. All the guides were revised where appropriate on the basis of lessons learned. A number of LPCs are now specifically addressing port emissions as a result and focusing on low cargo handling emissions through the installation of LED lights in their buildings; provision of solar lighting in the ports; shore-based power supplies, implementation of Port Congestion Charges (e.g. in the Philippines, through a Terminal Appointment Booking System) to decongest the ports and the major roads in Metro Manila and in-turn reduced emissions generated by trucks stuck in the traffic;

The above provides clear evidence of the ability of the PCU and IMO to adaptively manage this Project. Indeed, without doing so and in view of the emerging issues and challenges that arose, it is unlikely that this project would have had such a successful conclusions

4.2 Partnership Arrangements

The major partnership arrangements for GloMEEP were with its Lead Pilot Countries. GloMEEP supported ten Lead Pilot Countries through:

- Legal, policy and institutional reforms
- Awareness raising and capacity-building activities
- Establishment of public-private partnerships to support low carbon shipping

The Lead Pilot Countries (LPCs) of the GloMEEP project are Argentina, China, Georgia, India, Jamaica, Malaysia, Morocco, Panama, Philippines and South Africa. Within each of the Lead Pilot Countries for the GloMEEP project there is a National Focal Point (at the senior management/political level) and a National Coordinator (for day-to-day management and technical interaction). However, the actual level of the persons filling these positions in each of the LPCs can differ considerably from country to country which can also impact on national delivery and engagement. Also, the project came to realize that these positions may frequently change during the lifetime of the Project as incumbents came and went within the national administrative structure. In this context it was important to always keep both the NFPs and the National Coordinators closely informed and involved in the Project activities so as to have some continuity and 'memory' of the Project and its outputs. One other hurdle that arose from this process was that the entry point for the Project to the LPCs was mainly through some form of maritime administration bodies which generally deal only with shipping. This frequently meant that, even for port-related workshops, the LPCs tended to nominate shipping people and not persons from the port authorities or the terminals.

All of the ten LPCs were involved with the GloMEEP Project from its inception. Some, particularly China, were also engaged with IMO over the planning and design of the GloMEEP project. As China had already developed its national legislation for Annex VI and was well advanced in compliance, it became one of the focal LPCs hosting and delivering

training workshops (see **Annex 7.2 – List of Workshops Delivered by the GloMEEP Project During Project Lifetime**) and specifically hosted the train-the trainers workshop which was a single ‘global’ activity (i.e. for all of the LPCs to attend). The final workshop for GloMEEP focusing on data collection systems for fuel consumption will also be held in China along with the final Global project Task Force Meeting in November 2018.

As with all such projects that has partnerships with countries to deliver certain activities, some countries tend to be more proactive and efficient and other less so. Unfortunately, for the PCU this often means investing significantly greater time and effort on the less engaged countries for a smaller return in terms of their input and achievement. In the case of GloMEEP, two particular Lead Pilot Countries were problematic. One presented bureaucratic hurdles and closed doors at the senior management level which prevented the PCU from properly engaging with the appropriate scientific and technical experts in-country until well into the project lifetime. Once the project had ‘broken through’ the high-level bureaucracy, the in-country expertise was found to be of a very high quality and extremely supportive in the context of implementing workshops and providing in-country consultants and experts to support project activities. The other LPC barely engaged at all, at any level. The Evaluator was unable to communicate with this latter country during the evaluation process to discuss the problems and concerns. This raised an overall issue within the project that is relevant to other, future projects of this nature. At what point, when it has become apparent that a ‘pilot’ or ‘demonstration’ country is merely taxing the resources and using up excessive valuable time on the part of the PCU does the Project decide that it can no longer invest the time and money in that country and that the resources should go to a more deserving country?

This issue has been noted before within the GloBallast Project and it seems clear that there needs to be a set of fairly rigorous and stringent criteria for formal selection of such partner countries in future projects of this nature. This should include the requirement for certain clear deliverables by a specific deadline after which, if the country has not or cannot deliver, it should be asked to step aside and take a lesser role as a normal ‘partner’ and allow another country to move into the Lead Pilot/Partnership role. This could be made clear through an initial formal Agreement between the LPCs and the PCU or Executing Agency. The GloFouling project (**Building Partnerships to Assist Developing Countries to Minimize the Impacts from Aquatic Biofouling**) currently under submission to GEF for final approval follows a process whereby it has Lead Partner Countries as well as Partnering Countries. The LPCs are ‘fast-tracked’ in terms of support from the project for delivery but also have to commit to develop and implement certain strategies. Guidelines and action plans. In order to be an LPC, each country had to provide a letter of endorsement and commitment to the project, and to commit co-financing support. It is expected that LPCs will play a catalytic role in their regions. The LPCs will pioneer legal, policy and institutional developments at the national level, the lessons learned and experiences gained will be shared with other Partnering Countries (PC) in the same priority regions. The LPCs will coordinate and host specific training and regional harmonization activities and invite the other countries in the region to participate in these activities, thus extending the benefits to all the other countries in the region.

The designation of LPCs and PCs is not required to be static. Over the course of the project it is possible that some LPCs could be moved to the partner track due to less than satisfactory progress and be replaced by some PCs that may be elevated into the fast track based on their demonstrated eagerness to play a key role and the progress achieved in implementing certain activities such as Guidelines. In the case of the GloFouling project, Specific criteria, procedures and responsibilities with respect to revising the partnering status will be developed by the PCU during the initial months of project inception, subject to Executive Committee (IMO/UNDP) approval, and then included in Memorandums of Understanding with the lead agencies of each LPC and also the RCOs.

Only one of the LPCs was a Small Island Developing State (Jamaica) and this LPC had some specific challenges which are also general issues that are common to SIDS. Due to their small size and consequent limited resources, one of the constraints experienced by the SIDS across the world when dealing with international treaties is the limited ability to absorb the demands of such treaties within their existing administrative structures. Realign or expanding their legislative framework to ensure compliance with such treaties is equally challenging for these smaller, developing nations. Jamaica noted that this Project had helped them significantly in overcoming some of these issues. The Project had broken through the commonly existing 'silo' approach of government departments working in isolation with their overlapping and often conflicting mandates and had brought them together around the table through the Project's National Task Force which then acted as an excellent inter-agency body combining government bodies dealing with transport, environment, energy and policy along with the private sector. This was a significant positive factor in helping them to fast-track their draft legislation for Annex VI and fostering multi-agency support for that legislation as well as in the identification of resources to support the process (e.g. for monitoring and enforcement). Prior to establishment of the NTF, there was generally low awareness throughout the government departments even of MARPOL, let alone Annex VI. The establishment of these task forces in the LPCs has sparked considerable interest from other government sectors as well as academia and NGOs. The capacity building, training and awareness given by the Project further strengthened this support. Individuals sent away for training came back and were able to train others themselves.

Another factor that was specific to Jamaica and its needs from the project is the fact that it has a very small shipping registry but has a large transshipment port (one of the largest in the Caribbean). Therefore, the issue of Port Emissions (rather than Annex VI itself) was of more urgency to them than a lot of the other LPCs. Jamaica particularly valued the workshop they had on identifying emissions from cargo handling equipment (e.g. gantry, cranes, fork-lift, trucks, etc.) and how these affect the health of the port staff as well as the general environment, and apparently this workshop was oversubscribed. In fact, the port emissions are probably more of a concern throughout the smaller Caribbean countries and several other LPCs from other parts of the world also felt that controlling emissions from ports was a very important counterpart active that complemented Annex VI and that should have more strengthening. The shipping lines in the region already have a forum through which they meet and exchange such as the Regional Maritime Cooperation Centres (in Panama and Trinidad). They (Jamaica) are still struggling to finalise their Emissions Report mainly due to a lack of available data but have maintained their focus on this as a necessary baseline for monitoring. However, despite the lack of the assessment they expect their draft legislation to go before Parliament within the next 12 months thanks to the support from the Project and the creation of the National Task Force. This seems to be a similar scenario for most of the LPCs that GloMEEP has assisted with their legislation. In many cases the legislation has been drafted and even signed off by the Director-General or Permanent Secretary of the relevant Ministry but now has to wait its turn to be reviewed and hopefully adopted by Parliament.

Nevertheless, it is clear from the Evaluation process that the greater majority of LPCs did engage very successfully with the project and were very active in delivering on national activities. There was also a fair amount of interaction between the LPCs, especially at the MEPC meetings and through the Global Task Force. One or two countries have requested that this interaction could be enhanced further in areas of mutual interest. For example, Malaysia has a small national fleet and are therefore interested in developing national strategies that deal with small vessels. China also has an important small-vessel sector and both LPCs could valuable share experience and develop processes in parallel. All of the LPCs that were interviewed stated that they would definitely keep their National Task Forces active to expedite the Strategy. All of the LPCs felt that the important next step now would be replication beyond the LPCs and sustainability of the support from IMO and the GloMEEP project or similar.

The status of the LPCs in relation to Annex VI and the various deliverables as assigned by the Project Document is shown in Table 3 below.

TABLE 3: CURRENT STATUS OF ANNEX VI COMPLIANCE IN THE GLOMEEP LEAD PILOT COUNTRIES

| LPC | Ratification /Accession | National Task Forces | Emissions Assessment | Emissions Reduction Strategy | Draft Legislation | Legislation Enacted |
|--------------|-------------------------|----------------------|----------------------|------------------------------|-------------------|---------------------|
| Argentina | No | Yes | Yes | Yes | Yes | No |
| China | Yes | Yes | Yes | Yes | Yes | Yes |
| Georgia | No | Yes | Yes | Yes | Yes | No |
| India | Yes | Yes | Yes | Yes | Yes | Yes |
| Jamaica | Yes | Yes | Close | Yes | Yes | No |
| Malaysia | Yes | Yes | Yes | Yes | Yes | No |
| Morocco | Yes | Yes | Yes | Yes | Yes | No |
| Panama | Yes | Yes | Yes | Yes | Yes | Yes |
| Philippines | Yes | Yes | Yes | Yes | Yes | No |
| South Africa | Yes | Yes | Yes | Yes | Yes | No |

In reviewing Table 3, it is noted that both Argentina and Georgia have still not acceded to Annex VI. The reasons for this seem to be political in nature with both countries having other immediate priorities to address. Jamaica has been struggling to complete its Emissions Assessment, mainly due to a lack of available data and the need to therefore undertake a more detailed baseline survey than other countries. The PCU has reviewed Jamaica's draft assessment and provided feedback to improve the document which is now very close to finalisation. Nevertheless, the achievements highlighted by this table are impressive considering these were delivered within ten countries over a two-year period.

GloMEEP developed a strategic partnership with the **International Association of Ports and Harbours (IAPH)**⁶ which represents its member's interests to IMO. Its membership consists of those organisations which are responsible for running ports and harbours around the world. Most of these are regional or municipal in nature but also include National Port Authorities (e.g. South Africa). This representation covers such issues as the transport of dangerous goods and various other rules for shipping. In this context, IAPH are interested in the control of emissions in the context of the health hazards as well as the climate change and energy efficiency issues. IAPH agreed to work on methods to calculate emissions when a ship is in port and developing standards for determining these emissions which had previously been incomparable due to different methodologies used. IAPH therefore assisted GloMEEP by developing the Toolkit on Port Emissions. They contracted an appropriate consulting company with a good reputation to undertake this work for IAPH and IMO. This was first published in 2005. Later, when the GloMEEP project came under implementation, the Toolkit was further refined. IAPH consider that this strategic partnership between themselves, IMO and GloMEEP has produced something of considerable long-term value to both ports and the shipping industry and of enormous benefit to supporting Annex VI of MARPOL, even though ports were not directly addressed by Annex VI. One of their on-going functions will be to continue to role this out across more ports and more members of the shipping industry. They feel that it is important now that this process be replicated beyond the LPCs and into other countries globally, but this will necessitate further supportive funding as IPAH has limited resources for this process. A visit to the IPAH website reveals a very strong linkage and partnership with GloMEEP and its objectives and activities.

⁶ <http://www.iaphworldports.org/>

The **Institute of Marine Engineering (IMarEST)**⁷ is another Strategic Partner that has worked closely with the GloMEEP project. IMarEST has a Special Interest Group that aims to understand shipping's role in greenhouse gas emissions and air pollution including black carbon. Specific areas of interest are estimating current and future emissions, measures to control emissions, their effectiveness and options for implementation. IMarEST has produced a number of formal guidance documents for GloMEEP including the Ship Emissions Toolkits on Rapid Assessment of Ship Emissions in the National Context and on Development of National Ship Emissions Reduction Strategy). It has a particular interest in Greenhouse Gas and Energy Efficiency.

The **Maritime and Port Authority of Singapore**⁸ worked with IMO, UNDP and GEF as a Strategic Partner to host the Future-Ready Shipping Conference in Singapore in 2015 where GloMEEP was first launched. This two-day inaugural Future-Ready Shipping 2015 conference was the first of its kind. Co-organized by the Maritime and Port Authority of Singapore (MPA) and IMO, the event provided a dedicated forum for maritime leaders and professionals to review the latest technologies available for improved energy efficiency of ships and, more importantly, to discuss how to facilitate successful technology transfers between countries and increase the take-up of maritime technologies worldwide. The conference aimed to support the implementation of Regulation 23 of MARPOL Annex VI on the promotion of technical co-operation and transfer of technology relating to the improvement of energy efficiency of ships, which requires administrations that are Parties to MARPOL Annex VI to co-operate and collaborate actively with other Parties, subject to its national laws, regulations and policies, to promote the development and transfer of technology and exchange of information to States, which request technical assistance, particularly developing States. The IMO Secretary-General visited the Maritime and Port Authority of Singapore in 2016 noted that *'It is important that Member States work together on regional matters and stand ready to support IMO's work. Singapore is a valued Member State in this respect. MPA is a strategic partner in the Global Maritime Energy Efficiency Partnerships (GloMEEP) project, which supports the uptake and implementation of energy-efficiency measures for shipping. As part of this partnership, MPA and IMO co-organised the inaugural Future-Ready Shipping conference in 2015'*.

This was followed with a second Future-Ready Shipping Conference in 2017 on Maritime Technology Transfer and Capacity-Building. The Conference looked at future collaborations that can drive discussions towards identifying opportunities that can have an impact on the shipping industry as it moves towards decarbonization. The event also included sessions covering the latest trends in maritime and port energy efficient technologies; the regulatory framework; and market access and potential solutions to meeting countries' needs in capacity-building and technology transfer. During the conference, it was announced that the Global Industry Alliance (GIA), a group of maritime stakeholders supporting transitioning shipping and its related industries towards a low carbon future, has welcomed two new members: Bureau Veritas and the Port of Rotterdam. Following the Conference, the GloMEEP project took the opportunity to hold a workshop on the "Development of maritime energy efficiency and emissions strategies and their implementation".

IMO is also hosting the Global Maritime Technology Cooperation Centre Network Project (formally titled 'Capacity Building for Climate Mitigation in the Maritime Shipping Industry' funded by the European Union⁹. This initiative unites Maritime Technology Cooperation Centres (MTCCs) in targeted regions into a global network. Together, the EU and IMO are promoting technologies and operations to improve energy efficiency in the maritime sector and help navigate

⁷ <https://www.imarest.org/>

⁸ <https://www.mpa.gov.sg/web/portal/home>

⁹ <https://gmni.imo.org/>

shipping into a low-carbon future. the MTCCs focus on technical co-operation, capacity building and technology transfer. The project has evolved 5 MTCCs, one each in the Pacific, Asia, Africa, Caribbean and Latin America regions. The GMN project is now three years into its 5-year lifetime. The main focus of the MTCCs is the transfer of technology related to energy efficient shipping. Each MTCC has two pilot projects which test and implement new technology such as shore-to-ship power supply that can allow the vessel to shut down its engines and generator system, ship trim optimisation to reduce fuel consumption, or the fitting of existing technologies that can increase energy efficiency which are currently not being utilised.

Supported by IMO and EU, the MTCCs act as regional focal points for a wide range of activities to:

- improve compliance with existing and future international energy-efficiency regulations
- help participating countries develop national energy-efficiency policies and measures for their maritime sectors
- promote uptake of low-carbon technologies and operations in maritime transport
- establish voluntary pilot data-collection and reporting systems to feed back into the global regulatory process

Several areas of interaction have evolved between GloMEEP and the GMN project. GMN has made use of the GloMEEP guidance material in their MTCCs while the MTCCs have helped to disseminate this information and have piggy-backed a lot on the work undertaken by the GloMEEP project. They also share their contacts and the GloMEEP Project has been inviting MTCC representatives to GloMEEP workshops when they are delivered in the MTCC regions. As an example, GloMEEP delivered a port emissions training at the Ningbo port earlier this year to which MTCC Asia staff were invited to join. The GMN Global Stakeholder Committee also brings together technical experts to share ideas and provide long-term strategic guidance to the Project and has assisted GloMEEP in identifying suitable skilled consultants for GloMEEP activities. The MTCCs and the GMN Project would wish to see this important momentum and interaction continue. The MTCCs can provide regional hubs for replication of the GloMEEP LPC activities and are also perfectly situated to deliver GloMEEP related workshops and training. All MTCCs are tasked now with data collection as per Resolution MEPC.278(70) amending MARPOL Annex VI to require data collection on fuel oil consumption by ships. Furthermore, the MTCCs might well make good regional nodes for the roll-out of GHG Strategy compliance. There is currently a paper developed by China for consideration by the MEPC for the establishment of a Trust Fund to maintain the MTCCs after the EU GMN project has finished, probably in 2020. There may be a good case for inviting the GMN or some representation from the MTCCs to sit on the GIA, even as observers.

From the above description it is clear that the project has been very successful in pursuing its partnership arrangements, both within the original expectations of the Project Document and through the identification and engagement with new and innovative partnerships.

4.3 Stakeholder Engagement

The overall feedback from the LPCs and the other stakeholders was that this Project had been comprehensive and far-reaching in making sure that all concerned stakeholders (ports, shipping, surveyors, government departments, etc) were appropriately engaged in activities and in raising awareness and training. This role of the Project in bringing together diverse sectors to understand and undertake Emission Assessments and development of the Strategy had been highlighted through this Evaluation as a most valuable contribution,

It is often the case in projects and issues of this nature that part of the challenge in moving things ahead at the national level centres on a lack of interaction and awareness between various Ministries and their activities. This becomes even more of a challenge when dealing with an issue like energy efficiency in the maritime sector as this further requires outreach and interaction between government agencies and the private sector. During the evaluation process it became clear that the GloMEEP project has made significant in-roads to address this constraint and to raise awareness and interaction nationally and across all sectors.

The Global Industry Alliance (GIA) to Support Low Carbon Shipping is an alliance of maritime industry leaders, working together with the GEF-UNDP-IMO GloMEEP Project, providing technical expertise on tackling the challenges of decarbonizing the shipping sector¹⁰.

The GIA was officially inaugurated on 29 June 2017 at a launch ceremony held at IMO Headquarters at the margins of the first meeting of the IMO Intersessional Working Group on Reduction of GHG emissions from ships. In his GIA launch speech, IMO Secretary-General Kitack Lim said the new alliance would help shipping to make its contribution towards greenhouse gas reduction and the mitigation of climate change, a key target for the United Nations under its Sustainable Development Goals¹¹. Current agreements between GloMEEP and the GIA Members are for two years and expire in June 2019. According to the PCU, there is always good attendance of the membership at the GIA meetings.

The sixteen current members of the GIA include:

- ABB Engineering (Shanghai) Ltd.;
- Bureau Veritas;
- DNV GL SE;
- Grimaldi Group;
- Lloyd's Register EMEA;
- MarineTraffic;
- MSC Mediterranean Shipping Company S.A.;
- Port of Rotterdam;
- Ricardo UK Ltd;
- Royal Caribbean Cruises Ltd.;
- Shell International Trading and Shipping Company Limited;
- Silverstream Technologies;
- Stena AB;
- Total Marine Fuels Pte Ltd;
- Wärtsilä Corporation; and
- Winterthur Gas & Diesel Ltd.

A variety of commercially viable emission reduction solutions exist, with savings being far greater than the upfront capital cost. However, several barriers impede their uptake and implementation by the industry, resulting in an energy efficiency gap. The GIA is a partnership to address this by catalysing innovations in ship energy efficiency.

¹⁰ file:///C:/Users/Davidvousden/Downloads/180626_GIA_Flyer-FINAL.pdf

¹¹ <https://glomeep.imo.org/global-industry-alliance/global-industry-alliance-gia/>

The GIA Fund, established through an annual membership contribution by the GIA industry partners, provides the necessary financial resources for the implementation of selected projects, which fall within the scope of the chosen priority areas. Currently, each member contributes \$20,000 per annum to this fund, which with a current membership of 16 bodies, amounts to \$320,000 per annum toward GIA activities. This is managed as a fund through IMO, although it is the membership itself that decides what that funding should be spent on which also helps to encourage strong support from the members in deciding on allocation of their funds. One of the successes of the GIA has been to address the 'low hanging fruits' first such as the e-Learning, developing the Standards for Energy Efficiency, a Low Carbon Fuel Guides etc. This has helped to build trust and close collaboration within the Alliance so that they could then move on to more long-term issues such as the 'just-in-time' study and recommendations currently underway. The members also noted that they have learned a lot about the UN system and the purpose of GEF funding from their involvement in the GloMEEP project and the Alliance.

The GIA currently focuses on five priority areas of collaboration:

1. Energy Efficiency technologies and operational best practices;
2. Low- and Zero-Carbon Fuels
3. Ports
4. Digitalization
5. Human Element

The aim of the GIA is to address barriers to low carbon shipping by i) Promoting R & D efforts and initiating pilot projects, ii) Showcasing advances in technology development and positive initiatives by the maritime sector, iii) Initiating industry fora to encourage a global industry dialogue; and iv) Implementing capacity building and information exchange activities.

The GIA is recognised by the MEPC and is the subject of updates to this Committee as required (e.g. MEPC72,12,3 2 February 2018 Technical Cooperation Activities for the Protection of the Marine Environment. Update on the work of the Global Industry Alliance to Support Low Carbon Shipping. A Note by the Secretariat).

The steering and advisory body of the GIA consisting of representatives of GIA member companies. Since its official launch in 2017, the GIA have met three times. The GIA has launched a series of activities already which are discussed further (below) under **5. Project Results – Component 3**.

The evolution of an active GIA required some considerable negotiations as IMO has to sign Agreements with each of the current 16 members. The GIA members did, however, note that it was probably easier to accept some of the terms in these documents as they were bilateral agreements with a United Nations organisation (IMO). Some companies noted that they would not have been able to accept some of the content or clauses if they had been making such commercial contracts with another commercial company. In developing the GIA through these agreements, it was felt that it was important not to create a cartel plus changes to any one agreement needed to be mirrored across all agreements for the sake of fairness and transparency. This was potentially complicated when dealing, for example, with some companies such as Shell which is a publicly-owned company and others like Stena which is privately-owned and this required commendable patience and compromise by industry and by IMO. Other teething problems for GIA were related to contracting and getting activities moving. The e-Learning took almost 18 months to tender and contract, partly because of IMO's administrative practices (one member of GIA cited an apparent shortage of human resources within IMO) and insufficient involvement of GIA in monitoring the contracting process.

The original design for the GIA was to have one meeting per year but, once the Alliance was up and functioning, the members actually pushed for more meetings. Despite the fact that GIA only started in mid-2017, it has already had three GIA meetings as well as one Conference on 'Future Ready Shipping'. There is an expectation of in-kind time to be given by each of the GIA members with two meetings a year being the norm at present plus reviewing and having input to papers and documents in between. Inevitably, some members are more engaged than others and dedicate more time to GIA business. There was a concern among some GIA members that not enough of the membership were as proactive as they should be and it was then left to GloMEEP and its PCU to drive the process forward. Even though the number of GIA meetings has doubled to twice a year, some members felt that a regular monthly update on progress would be useful and help to drive and monitor the activities of the GIA.

Many of the current members of the GIA joined by word-of-mouth from other members and the membership noted that an enormous amount of discussion and sharing of opinions has taken place within the industry and behind the scenes in relation to GIA and the various industry's in-house views on the value of the Alliance. Now, the GIA has become so popular within the industry that many companies and bodies are asking to join now as it may require a more formal process for membership. Rather than attempting to bring in as many partners as possible into the GIA, it was considered to be more important to spread the membership across diverse interests and shipping categories (e.g. bulk carrier companies, container companies, tankers, etc.). The GIA also includes technology partners which adds a further valuable contribution to the 'mix'. However, in the opinion of both the PCU and current GIA members, it would be valuable to expand the membership slightly to include more representation from the Ports, a sector which is currently under-represented. Nevertheless, the general consensus in the membership was to keep the Alliance small and functional so it could focus on deliveries and that this has been a successful strategy so far.

Also, significantly, it was agreed that only individual companies would be considered as members of GIA and not associations or representative bodies. Past experience has shown that such groupings can tend to impede close engagement and dialogue with the actual industry as the 'associations' tend to try and represent all of their members and thus the actual membership is NOT individually or efficiently represented in the Alliance. This is a valuable 'best lesson' to take away from GloMEEP. GIA members noted that, in the past, IMO had not always been proactive in reaching out directly to the industry so as to understand industry needs. They have tended to engage more with industry group representation bodies such as the International Chamber of Shipping which created a 'distance' between IMO and specific industry needs to some extent. They felt that the GIA provides an excellent model that overcomes this 'distancing'. Once the industry had reached out to IMO, the GIA felt that IMO then had made a real effort through GIA and GloMEEP to reach out and understand the industry including actual visits to some of the GIA members, even at the level of the IMO Secretary General.

Initially, the GIA was something of an 'eye-opener' for its members as it highlighted the need for greater understanding between the freight and shipping industry and the port and terminal administration and management. It also identified some of the absence of operation knowledge within IMO itself (which some GIA members felt had very little awareness of how a 'port-call' is executed and the concerns and challenges associated with it).

The MTCC has already created technical alliances at the regional level. A number of LPCs considered that setting up national or regional GIAs might also be appropriate. In this context it is notable that a number of the National Task Forces were, in effect, Public-Private Partnerships at the national level as a result of their membership. National and even regional issues related to the maritime industry may often be focused on specific sectors and concerns (e.g. the

Caribbean and its cruise-ship industry). The PCU has also suggested that It might be valuable to invite observers to join the GIA meetings (e.g. scientific experts, academia, etc) where appropriate

The major concern expressed by all of the GIA members interviewed is what will happen when the GloMEEP closes in December 2018? At the very least, the Alliance will continue until June 2019 based on its existing agreements, but the GloMEEP Project has effectively provided a Secretariat and administrative anchor for the GIA to date and they are concerned that this will now disappear and that this could threaten the long-term continuation and survival of this very successful industry Alliance in support of MARPOL Annex VI. Some of the more active GIA members felt that the entire GIA process and sustainability would be 'doomed to failure' in the absence of GloMEEP acting as a Secretariat and providing leadership. The process also needs the impartiality' of IMO and the PCU to ensure that no one member 'hi-jacks' the process in their favour. Some other members were not even aware that GloMEEP was scheduled to close in December 2018 and were truly shocked and worried by this revelation, seeing this as a real risk with GIA having just started to 'prove' its value. There was some mention of possibly using GIA funding to help to support the PCU at least until June when Agreements between GIA and IMO would need to be renewed. This would need to come out of existing contributions however, rather than new funding from GIA, and all members would need to be in agreement.

In discussions with senior IMO administration, the Evaluator was assured most positively that IMO would not allow the Alliance to collapse for lack of a Secretarial and administrative function within IMO. And the Evaluator was further assured that contingency plans were already under consideration to avoid such an event.

Nearly all of the stakeholders felt that the successful engagement between GloMEEP, IMO and the stakeholders was a result of the commitment and dedication of the project staff. Many of stakeholders gave statements praising the role of the GloMEEP PCU within IMO, variously describing it as 'incredibly dynamic, open and transparent, having strong commitment among the membership and with excellent communications and professionalism'. Industry stakeholders in particular described the PCU staff as being 'highly focused, keen to understand many of the complex issues and always pushing for results and timely delivery' and considered them to very proactive and to stand out within IMO as being very interactive with the industry needs. GIA specifically stated that they would wish to keep the PCU team intact and supporting the GIA for the foreseeable future if at all possible, especially in view of the efforts this team had made to understand some of the very complex issues being dealt with by the GIA members. This was strong statement repeated a number of times.

4.4 Feedback from M&E Activities used for Adaptive Management

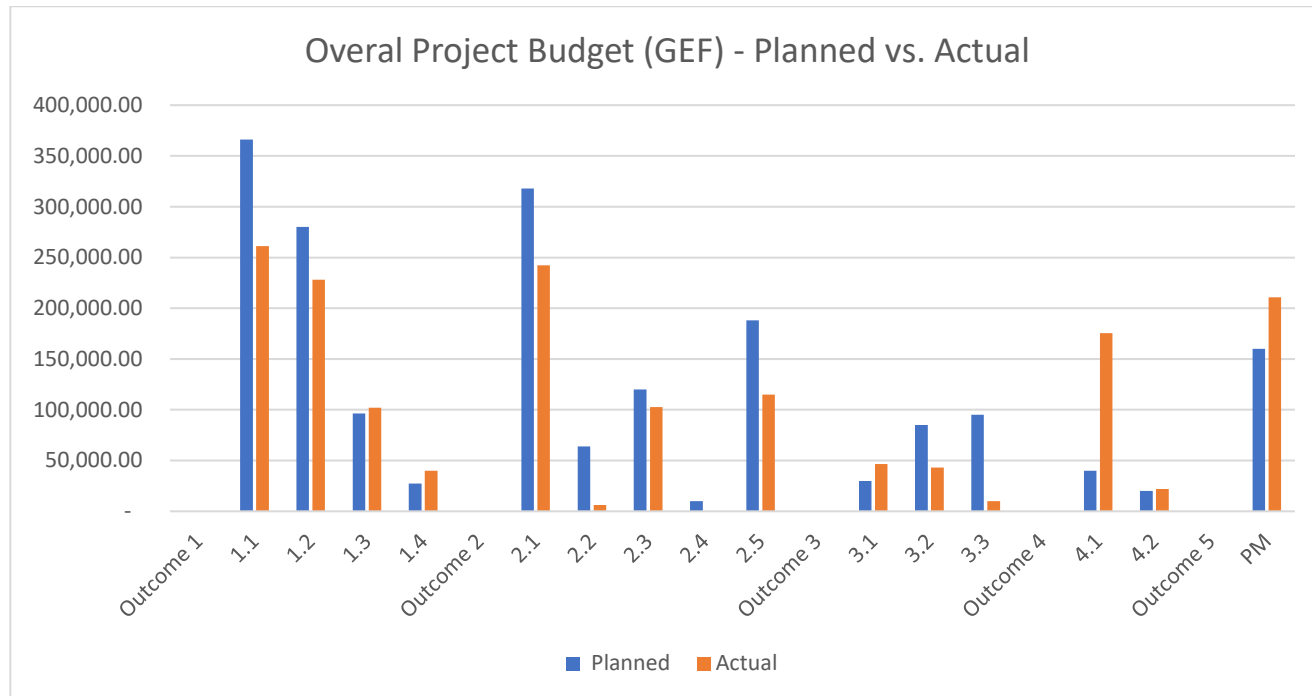
The PMU and IMO have clearly been very proactive in using the feedback from the monitoring and evaluation activities as a means of adjusting and adaptively managing the Project and its activities. This has already been captured and covered in detail in Section 4.1: Adaptive Management.

4.5 Project Finance

GEF FUNDING

The project has provided the evaluator with detailed information and updates on project expenditure which can be summarised and discussed as follows:

FIGURE 2: COMPARISON OF PLANNED PROJECT EXPENDITURE VERSUS ACTUAL PROJECT EXPENDITURE



As of the time of the Evaluation, the actual expenditure of the GEF funding was at \$1,605,559 as opposed to the planned expenditure at end-of-project of \$1,900,000. In looking at the graph of the actual versus the planned expenditure (**Figure 2** above) it seems that the actual expenditures for both Outcome 1 and 2 were somewhat less than planned while Outcome 4 seems to be more than initially planned. The reasons for this have been explained by the PCU as follows:

The project saved money in Outcomes 1 and 2 for the following reasons:

- A single, global roll-out of the Ship Emissions Toolkit (instead of doing 10 national workshops)
- The project had budgeted to assist with the development of legislation in all 10 countries but only assisted 7 (as 3 already had legislation existing)
- Several of the capacity-building workshops were undertaken back-to-back to save significantly on travel costs (sometimes up to 4 in one trip)
- Co-financing was received for both Outcome 1 and 2 which used before expending project funds.

Outcome 4 is higher than expected as both GPTFs have been or will be held abroad and the Project is sponsoring the representatives travel and contributing towards the cost of the meeting. It also includes the proportion of technical advisory services (i.e. PCU costs) which have gone towards the running of the GIA Industry Task Force, which has not otherwise been captured under Project Management.

The Project appears to have a little less than \$300,000 left for the final 3 months of the Project.

CO-FINANCING

The Main Co-Financing for the GloMEEP came from the following sources:

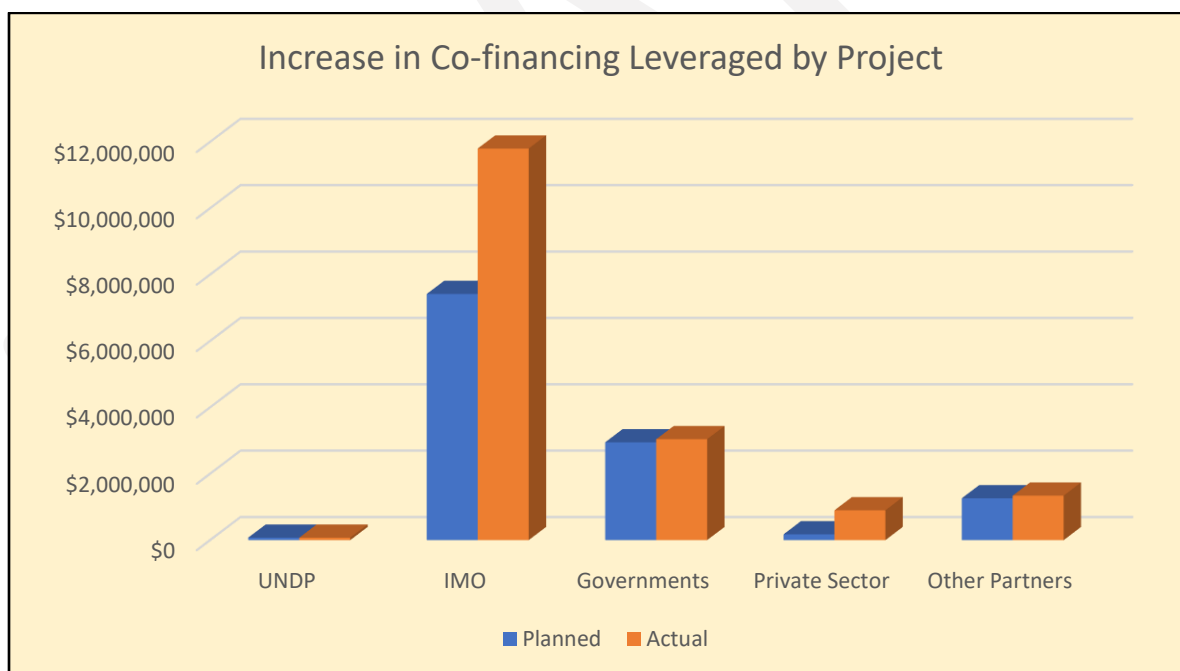
TABLE 4: COMPARISON OF ALL PLANNED VERSUS ACTUAL CO-FUNDING CONTRIBUTIONS BY SOURCE

| Source | UNDP | | IMO | | Governments | | Private Sector | | Other Partners | | TOTAL | |
|---------|----------|----------|-------------|--------------|-------------|-------------|----------------|-----------|----------------|-------------|--------------|--------------|
| | Planned | Actual | Planned | Actual | Planned | Actual | Planned | Actual | Planned | Actual | Planned | Actual |
| In-Kind | \$75,000 | \$75,000 | \$6,794,000 | \$11,318,000 | \$2,947,600 | \$2,706,880 | \$105,000 | \$257,900 | \$1,260,000 | \$1,305,100 | \$11,181,600 | \$15,662,880 |
| Cash | | | \$624,000 | \$482,300 | | \$334,000 | \$70,000 | \$640,000 | | \$35,000 | \$694,000 | \$1,491,300 |
| Grants | | | | | | | | | | | \$0 | \$0 |
| Loans | | | | | | | | | | | \$0 | \$0 |
| Other | | | | | | | | | | | \$0 | \$0 |
| TOTALS | \$75,000 | \$75,000 | \$7,418,000 | \$11,800,300 | \$2,947,600 | \$3,040,880 | \$175,000 | \$897,900 | \$1,260,000 | \$1,340,100 | \$11,875,600 | \$17,154,180 |

A review of **Table 4** indicates that the overall actual co-financing leveraged by the Project during its short life-time is significantly higher than was planned and approved in the Project Document, by approximately 45% (\$17, 154,180 Actual versus \$11,875,600 Planned).

The following bar chart in **Figure 3** shows the increases in co-financing by funding body

FIGURE 3: DIFFERENCE BETWEEN PLANNED AND ACTUAL PROJECT CO-FINANCING



By far the largest increase in co-funding by actual amount was that of IMO which contributed almost \$4.5 million more than had been identified in the Project Document. This represented a significant increase in the in-kind contribution by IMO which highlights the support given throughout the Project related to procurement, contracting, legal services, etc.

A number of the LPCs provided co-funding as well. As one example, in India, the Indian Ship-Owners supported a number of activities include the training exercises. The actual co-funding from the LPCs was realised as planned and ,in fact represented slightly more by 3%.

One very noticeable and impressive area of increase in co-funding is the additional cash co-funding from the Private Sector, being the voluntary contributions of \$20,000 per GIA member over 2 years, which amounts to an additional \$640,000. The overall co-funding from the Private Sector has increased dramatically from the Planned figure of \$175,000 to the Actual figure of \$897,900, This represents an increase of some 300 + %!

The GIA has given careful and formal consideration as to how its funds should be allocated to the single GIA activities. In this regard GIA has noted that, in accordance with the IMO Financial Regulations, Financial Rules and IMO's procedures for the procurement of goods and services, following the closing deadline of any invitation for tender that is published, the IMO Secretariat undertakes a value-for-money evaluation and ranks bids accordingly. GIA has therefore agreed that, at this stage, the GIA Secretariat should share the ranking with all GIA members for a recommendation to be made for the award of contract (is the best bid within the GIA budget?) to IMO Procurement. GIA has noted that through this procedure and by not getting involved in the evaluation process, any potential conflict of interest could be avoided. Otherwise, GIA members could also be potential bidders to undertake this work and, knowing the maximum budget in advance, would be in position adjust their bids accordingly.

'Other Partners' contributions listed in **Table 4** above included both in-kind and cash contributions from IAPH, IMarEST and MPA Singapore.

In addition, yet further co-financing was leveraged by the Project including:

EBRD: \$35,000: Capacity Building workshops (Outcome 2)

Government of Norway: \$105,000. Capacity Building workshops (Outcome 2)

Government of Finland: \$57,000. Capacity Building workshops (Outcome 2)

Government of Canada: \$150,00. Used towards bringing participants to Project Inception Meeting and FRS Conference 2015 (Outcome 3)

Government of South Korea – KOICA: \$22,000. Used towards bringing participants to Project Inception Meeting (Outcome 4)

In summary, the project has undoubtedly made the best possible use of the limited financial resources available to it. Furthermore, it has managed to leverage a considerable amount of additional funding during its lifetime to support the very limited funding it had available originally.

4.6 Monitoring and Evaluation: Design at Entry and at Implementation

The Project had the usual fairly robust M&E Framework and Plan with an associated budget. The budget allocation for the M&E work plan was a little on the 'thin' side, totalling \$80,000. The Evaluation has reviewed all of the PIRs, Quarterly Reports, Task Force reports etc. for the lifetime of the Project. It is apparent that the PCU has been quite systematic in delivering these reports and minutes.

Some of the issues that arose during the relatively short but inevitably frenzied lifetime of the project (in terms of delivery) might have been resolved if the Project had undertaken a Mid-Term Review.

The Project Document notes that:

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.

Two points are noted here. A. Medium Sized Projects are not exempt from Mid Term Reviews although the Project Document was formally adopted by both UNDP and GEF so, in this case, it was justifiable for the project to bypass this process, although unwise, and B. The Project should instead have undertaken a detailed internal review for 'steering' purposes and to improve implementation. This did not happen. Mitigating circumstances do prevail to a limited extent in that the project was both under-funded and the PCU staff were over-worked and had significant time constraints. Nevertheless, there is a lesson to be captured here for future projects and such a review at mid-term, even if only internal, could have been very valuable in addressing some of the issues that arise in this Evaluation.

GEF Tracking Tool:

A GEF Tracking Tool was submitted at CEO Endorsement and a final one for the Terminal Evaluation in 2018. The Tracking Tool used was for Climate Change Mitigation projects rather than International Waters projects and this CC Tracking Tool does not have room allocated for explanatory notes alongside ratings.

| OBJECTIVE | INDICATOR | RATING at CEO ENDORSEMENT | FINAL RATING |
|--|--|---------------------------|--------------|
| General | Is the project consistent with the priorities identified in National Communications, Technology Needs Assessment, or other Enabling Activities under the UNFCCC? | Yes | Yes |
| | Co-Financing | \$11.80 M | \$16.979 M |
| Objective 1: Transfer of Innovative Technologies | Innovation and technology centre and network | Yes | Yes |
| | Applied R&D support | Yes | Yes |
| | South-South technology cooperation | Yes | Yes |
| | North-South technology cooperation | Yes | Yes |
| | Information dissemination | Yes | Yes |
| | Institutional and technical capacity building | Yes | Yes |

| | | | |
|--|--|--------------------------------------|-------------------|
| Objective 2: Energy Efficiency | Policy and regulatory framework | 0 | 5 |
| | Establishment of financial facilities (e.g., credit lines, risk guarantees, revolving funds) | 0 | 0 |
| | Capacity Building | 0 | 5 |
| Objective 4: Transport and Urban Systems | Other mass transit (e.g., light rail, heavy rail, water or other mass transit; excluding regular bus or minibus) | Yes | Yes |
| | Logistics management | Yes | Yes |
| | Transport efficiency (e.g., vehicle, fuel, network efficiency) | Yes | Yes |
| | Policy and regulatory framework | 5? | 5 |
| | Establishment of financial facilities (e.g., credit lines, risk guarantees, revolving funds) | 0 | 0 |
| | Capacity Building | 5? | 5 |
| | Lifetime direct GHG emissions avoided | 52.8 Million Tonnes CO ₂ | 38 Million Tonnes |
| | Lifetime indirect GHG emissions avoided (bottom-up) | 422.4 Million Tonnes CO ₂ | |

Ratings for **Policy and Regulatory Framework**:

- 0: not an objective/component
- 1: no policy/regulation/strategy in place
- 2: policy/regulation/strategy discussed and proposed
- 3: policy/regulation/strategy proposed but not adopted
- 4: policy/regulation/strategy adopted but not enforced
- 5: policy/regulation/strategy enforced

Ratings for **Capacity Building**:

- 0: not an objective/component
- 1: no capacity built
- 2: information disseminated/awareness raised
- 3: training delivered
- 4: institutional/human capacity strengthened
- 5: institutional/human capacity utilized and sustained

One of the Evaluator's concerns when comparing the ratings given at CEO Endorsement and then at Terminal Evaluation in 2018 is the values provided under Objective 4: Transport and Urban Systems. Both **Policy and Regulatory Frameworks** and **Capacity Building** have been rated as **5** at the beginning of the Project. This is presumably an error on the part of the Project in completing these Tracking Tools and was not picked up by GEF either, as a rating of **5** at CEO

Endorsement for these two aspects would effectively have made the Project redundant. In any case this Climate Change Tracking Tool is of limited value for a project of this nature although being able to track progress in Legal and Policy development as well as Capacity Building would have been of some value.

The Evaluator was unclear as to how to interpret the figures relating to tonnes of CO₂ avoided through emission reduction. The Tracking Tool for the Terminal Evaluation includes the note alongside the first figure *'Please note: the GEF intervention is estimated to realize 38 million tonnes/year reduction of CO₂ by 2020 and larger numbers for the longer term of 2030 and 2050'*. So presumably this is expected to be a cumulative figure over and above the 38 million tonnes for each passing year following 2020?

OVERALL QUALITY OF MONITORING AND EVALUATION:

MONITORING & EVALUATION DESIGN AT PROJECT START-UP:

MONITORING AND EVALUATION PLAN AT IMPLEMENTATION:

SATISFACTORY

HIGHLY SATISFACTORY

SATISFACTORY

4.7 UNDP and Implementing Partner Implementation/Execution, Coordination and Operational Issues

In taking on the role of Executing Agency for this Project the International Maritime Organisation has demonstrated its commitment to support Annex VI and the new Greenhouse Gas Strategy as adopted by MEPC. The latter Strategy is often referred to as the 'Paris Agreement for Shipping' in that it sets clear targets for reduction and elimination of emissions from ships and maritime activities. Annex VI is exceedingly technical in nature and, probably more than any other aspect of MARPOL, requires highly specialised technical back-stopping from the Organisation. Furthermore, GloMEEP has expanded its remit in the Project Document to not only address adoption and implementation of Annex VI, but also to address the issues of Energy Efficiency in the context of Ports and, indeed, Port Emissions. This has been an important consideration as there is increasing pressure to reduce emissions and their impacts on communities by cities and, consequently, from ports.

IMO has long recognised the fact that many developing countries cannot yet give full and complete effect to IMO's instruments. For this reason and, as mandated by the Convention that created IMO, the Organization has established an Integrated Technical Cooperation Programme (ITCP), with the sole purpose of assisting countries in building up their human and institutional capacities for uniform and effective compliance with the Organization's regulatory framework¹². By fostering capacity-building in the maritime sector, the ITCP is crucial for assisting developing countries to implement IMO instruments for safer and more secure shipping, enhanced environmental protection and facilitation of international maritime traffic. The importance of the ITCP increases further with amendments to existing and the development of new instruments by IMO, in which the particular needs of, and impact on, Small Island Developing States (SIDS) and Least Developed Countries (LDCs) are taken into account. The activities and delivery from the ITCP form part of the annual discussions of the MEPC by which the Committee and member countries are both updated and are lobbied for their opinions and feedback on technical cooperation issues. At the latest meeting of the MEPC, the Committee formally noted the appreciation expressed by many delegations on the various technical cooperation activities implemented by the Secretariat under the ITCP and stressed their importance for improving implementation of IMO environment-related conventions. More specifically, the MEPC also formally noted in the minutes the following points in its latest 2018 meeting relating to GloMEEP and Maritime Energy Efficiency Partnership:

¹² <http://www.imo.org/en/OurWork/TechnicalCooperation/ITCP/Pages/Default.aspx>

12.5 The Committee expressed its appreciation for the GEF-UNDP-IMO Global Maritime Energy Efficiency Partnerships (GloMEEP) and the IMO-European Union Global Maritime Technology Cooperation Centre Network (GMN) Projects and noted the important roles of these initiatives in supporting the implementation of MARPOL Annex VI.

12.6 Noting that the GloMEEP and GMN projects are currently scheduled to be completed in December 2018 and December 2019 respectively, the Committee requested the Secretariat to explore how these initiatives could be further supported beyond these time frames.

12.7 The Committee also took note of the interest from several Member States to establish additional MTCCs in new regions. In this regard, the Committee requested the Secretariat to continue its efforts to mobilize financial resources, including from multilateral donors such as the Global Environment Facility (GEF) and the Green Climate Fund (GCF). The Committee also requested the Secretariat to consider establishing a dedicated multi-donor voluntary trust fund to support GloMEEP and GMN initiatives.

12.8 The Committee noted the updated information provided in MEPC 72/12/3 (Secretariat) on the work of the Global Industry Alliance to Support Low Carbon Shipping (GIA), established within the framework of the GloMEEP Project.

12.9 The Committee noted with appreciation the innovative work undertaken by the GIA, in particular, its potential role in supporting the goals of the Initial IMO Strategy on reduction of GHG emissions from ships and suggested that initiatives such as the GIA should be sustained into the future.

12.10 With regard to the action requested in paragraph 21 of document MEPC 72/12/3, the Committee noted the essential contributions that properly trained seafarers could make in ensuring energy-efficient operation of ships. Also, in view of the significant amendments introduced in MARPOL Annex VI in recent years, including the regulations on energy efficiency for ships, the Committee noted the benefits of expanding the standard of competence on environmental aspects contained in the Seafarers' Training, Certification and Watchkeeping Code. The Committee therefore invited interested Member States to submit a proposal for a new output to a future session of the Committee in accordance with the Committees' method of work.

The Committee also included in its Report Annexures the resolution (MEPC.304(72)) adopting an Initial Strategy on Reduction of GHG Emissions from Ships. Following this adoption, the MEPC set up a Working Group on the Reduction of GHG Emissions. The reports from the Working Group meetings back to MEPC frequently refer to the GloMEEP project and the Working Group has requested IMO (through the MEPC) in its reports to assess the provision of financial and technological resources and capacity-building to implement this Strategy though its ITCP and other initiatives including ITCP.

As with all UN agencies acting as Executing Agencies, there is a burden of bureaucracy and due process within IMO that the Project and its PCU had to follow. Inevitably this can be frustrating for a PCU which is clearly both proactive and very keen to deliver and can often result in bottlenecks with contracting and procurement, but nevertheless many of these processes are essential for transparency and auditing purposes. However, being hosted by IMO as the Executing Agency has many benefits that almost certainly outweigh any of the bureaucratic constraints (as was also true with the previous GloBallast project). There are many valuable linkages within the IMO administrative and technical structure which are housed in the same building and which are accessible to the PCU, including procurement processes, legal advice and travel assistance. Also, executing a fast-moving and adaptive project such as GloMEEP does place an additional burden on the Executing Agency which generally works at its own pace with less constraints in terms of

‘project lifetimes’, whereas the PCU is pressured by the time constraints set by UNDP and GEF, particularly with this Medium Sized Project. The PCU specifically noted the excellent support they had received from IMO’s legal department, amongst others. This was apparently of enormous value when developing and negotiating the various GIA individual agreements with private sector companies.

Challenges arose throughout the Project in the context of IMO’s consultancy rules as well as its staff grading procedures. IMO has a very low ceiling of payment for consultants (maximum of \$500 per day) which makes it exceedingly difficult to attract high calibre expertise with the necessary long-term experience. This made finding suitable consultants for training and advising quite difficult and challenging. This is discussed further under Section 5.6 on Capacity Building and Training below. Another change that occurred during the Project lifetime which created an additional challenge was a new policy by IMO that they could not hire consultants that had existing national administration positions, even if the government itself gave formal permission.

The grading procedure for staff levels related to Project Management also appear to be too low and no clear explanation was given for this. The Project Manager’s post was graded at a P2 level and the Project Assistant at G6. This low level of grading is unprecedented in other GEF projects and does little to encourage dedicated enthusiasm and loyalty when clearly all other GEF IW projects are providing significantly higher levels of reimbursement to their Project staff.

Project Managers on such projects require a suite of specific skill-sets which include advanced administrative and management skills (including financing and budgeting), team leadership skills, diplomatic awareness and capability, geopolitical knowledge of the system they are working in, and a strong technical background in order to relate to their consultants and the technical experts in the countries. International level Project Managers are also commonly required to be fluent in two or more languages. Such skills and experience are very difficult to find within one person which is why, traditionally, the selection of the Project Manager for these ambitious and demanding projects is one of the most important steps and decisions taken by the Implementing and Executing Agency. There are many incidences where either the appropriate person could not be attracted due to the poor grading of the post or that grading dictated that a less skilled individual would be hired thus risking the delivery and success of the project. GloMEEP has been a particularly challenging project in view of the time constraints, the limited funds and the global nature of the project. The Project Manager’s position certainly deserved a higher grading than P2. Similarly, in a project of this nature where the PM is required to travel a lot and where the number of staff allocated to the project is limited, the next person in line in terms of management should also be appropriately graded in view of the responsibilities that would fall on that persons shoulders in the absence of the Project Manager.

A review of all of International Waters Programme staff levels across a multitude of Implementing and Executing Agencies reveals an occasional, rare D1 post for a particularly tricky and politically sensitive project. No other Project Manager posts fall below P.4 (except for IMO-executed projects which consistently under-grade this post) and 80% of them are set at P.5 level.

In conclusion, Human Resource officers in the UN system are generally guided by generic job-type descriptions published long ago by the International Civil Service Commission. However, these did not include or address project staff jobs, which are very much multidimensional and far more demanding than internal staff positions, particularly in view of their overall deadlines for delivery and the inevitably ambitious nature of their objectives. In this context, they

deserve their own job type and grading. It seems that a better understanding by Human Resource departments of the responsibilities, demands, difficulties and impact of these jobs is essential.

Perhaps the notable upshot of this situation has been that, despite this constraint, the staff that were recruited managed to deliver successfully on the aims and objectives of the project and clearly impressed all of the stakeholders with their dedication, drive and determination to make this delivery happen.

The PCU noted the valuable support given by various IMO sections and departments, particularly the legislative division. The media division of IMO were also very helpful in such areas as drafting formal interviews and statements related to the project. However, when it came to a communications strategy the Project felt it had to move faster with its development than IMO could support, and this was also true to some extent in creating the GloMEEP website. This is a further reflection of the ambitious nature of this project in the context of the volume of delivery expected within too short a timeframe.

| | |
|---|----------------------------|
| OVERALL QUALITY OF PROJECT IMPLEMENTATION/EXECUTION: | HIGHLY SATISFACTORY |
| IMPLEMENTING AGENCY EXECUTION: | HIGHLY SATISFACTORY |
| EXECUTING AGENCY EXECUTION: | HIGHLY SATISFACTORY |

5. PROJECT RESULTS

5.1 Overall Review of Delivery from Results Framework

In reviewing the Overall Objective itself it is fair to say that the Project has definitely been successful in Building Capacity in developing countries (the Lead Pilot Countries) in relation to their requirements for implementing technical and operational measures toward more energy efficient shipping (i.e. the assessments, strategies and ultimately the supporting legislation) and this will certainly make a significant contribution toward catalysing the overall reduction in Greenhouse Gas Emissions in the long-term, particularly if this can be further replicated across other countries and regions. In reviewing the targets set for the Overall Objective it is noted that they duplicate the targets set in the corresponding Components. This is not a useful practice and the targets for the overall objective should be broader in nature than those for the Components or Outcomes.

The Project has supported all of the 10 LPCs in developing their Emissions Assessments. Despite problems with data access and capture, each LPC now has the capacity and technical ability to continue to strengthen and update these assessments. Ship Emissions Toolkits have been developed and rolled out for each of the LPCs. Furthermore, realising the need for Port Emission Guidelines and Toolkits (which were not originally part of this Project), the PCU and IMO have proactively included these as an additional 'adaptive management' requirement which goes significantly beyond the Project's mandate as per the original Project Document (as well as the allocated resources). Based on this technical support and capacity building, each LPC has been assisted in developing its Maritime Energy Efficiency Strategy and, following this, the drafting of a legislative framework and roadmap to support such a strategy. All workshop packages are with LPCs for wider dissemination and have been shared regionally through the IMO GMN project and its Global Maritime Technology Cooperation Centres Network. The various toolkits and guides have been reported to all IMO Member States through the Marine Environment Protection Committee (MEPC) as and when they became available. This represents a prodigious and impressive amount of work on the part of the PCU and IMO. This is all the more remarkable in view of the unrealistic timescale and resources provided for these activities.

The overall delivery on capacity building has been substantial across all of the LPCs in the in area of shipping energy efficiency regulations and operational and technical measures. The in-country workshops have been perceived by the countries and the other consultant experts involved as being of a high quality and content. Furthermore, the 'train-the-trainer' activities have also been described as very valuable and helping to provide sustainability within countries and regions. A number of the workshop participants have gone on to deliver courses as consultants in their own right. A number of maritime institutions have been further capacitated within the LPCs which further strengthens the ability for replication and sustainability of activities. The level of awareness-raising and outreach by the GloMEEP project has also been remarkable as has the knowledge transfer and outreach. The PCU is to be applauded for adaptively managing a very difficult and demanding process which they inherited from the project document in the context of training and the number of workshops which they were expected to deliver in a 24-month period. The project will leave behind it a legacy of training and awareness materials which will be of undoubted value globally.

The Project has created a very credible and effective Global Industry Alliance. Again, this is remarkable within the very limited timescale and realising that each member of the GIA negotiated its formal Agreement bilaterally with IMO. 16 members are now currently in the Alliance, with many more notable private sector names wishing to join. The existing 16 have already committed supportive funding to the Alliance and its activities as are discussed below.

As per the Results Framework requirement for this component, the Project has indeed created lean and potentially sustainable management structures within the LPCs including active National Task Forces and identified responsible individuals within the Lead Agencies. Each PLC should now be well able to engage in national M&E activities for Maritime Energy Efficiency and steer the maritime GHG emissions agenda beyond GloMEEP and to sustain relevant efforts.

OVERALL QUALITY OF PROJECT OUTCOMES: HIGHLY SATISFACTORY

5.2 Relevance

Annex VI is both new and complex and therefore there are constant refinements and changes being made which then require further amendments to the national legislation which is one of the reasons why the countries are still struggling to finalise the drafting and adoption of this legislation. Climate Change has become a major issue for many governments now with dedicated Climate Change Units or even Departments being established throughout the countries of the world, and particularly in the developing countries and SIDS. Political will to address climate change issues is strong and growing.

Some stakeholders in the GloMEEP Project noted that it would have been much more appropriate and sensible, when dealing with treaties of this nature if the national legislation itself was required to be in place before the countries were able to accede to MARPOL VI.

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. As a significant contribution to mitigating global climate change and ocean acidification, it also support the commitment of countries participating in the project to meet relevant obligations under the UNFCCC. 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.

GloMEEP was 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. In the context of GEF, 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 Results Framework.

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 has been defined in such a way so that each party could play its role; be it at national or global levels or both. This is further reflected in the three-tier management arrangement described earlier in this evaluation report.

The GloMEEP Project directly addresses several of the SDGs including SDG 7 on Clean Energy, SDG 9 on Industry, Innovation and Infrastructure, SDG 13 on Climate Action and SDG 14 which aims to conserve and sustainably use the oceans, seas and marine resources for sustainable development.

In considering whether the Project is still relevant and appropriate in view of the passage of time, one would have to conclude that its aims and objectives are probably even more relevant now than when it was conceptualised several years ago.

RATING: RELEVANT

5.3 Effectiveness

COMPONENT ONE: LEGAL, POLICY AND INSTITUTIONAL REFORMS FOR GHG REDUCTIONS THROUGH IMPROVED ENERGY EFFICIENCY WITHIN MARITIME TRANSPORT SECTOR IN DEVELOPING COUNTRIES

This Component of the Project has been very effective in assisting the countries to develop and implement their Emission Assessments and their National Maritime Energy Efficiency Strategies. These (particularly the latter) are mostly of a very high quality, although one or two countries have struggled to complete their baseline emissions assessment, mainly due to an absence of data or difficulties with accessing the data. All 10 LPCs have identified their Lead Agencies and have fully functional National Task Forces. The project has provided comprehensive tool kits, not only on ship's emissions but also on port emissions and these have been widely distributed and used by the LPCs as well as being recommended by the MEPC for further distribution and use by all countries in achieving their compliance to Annex VI. Various stakeholders noted that one of the concrete successes of the project then was the delivery of lots of hands-on tools and materials which will have continued direct value and use to the LPCs as well as for other countries.

At the start of the project, only 6 of the 10 LPCs had ratified Annex VI. Since then two more have been assisted into acceding (Philippines and South Africa). Argentina and Georgia are still moving toward accession which has been delayed in these two countries as a result of other pressing political priorities and possibly the continuing need for greater awareness and outreach at the policy level. Also, at the beginning of the Project, three countries had already formally adopted the required legislation. Since then, the other seven have been directly assisted by the Project in undertaking legal assessments and drafting their legislation. It will inevitably take time for the draft legislation to be adopted by those seven as the process for taking this through various forms of national Parliamentary approval takes considerable time and this was a very short project. Some of the draft legislation already needs updating before going for formal government approval as a result of amendments and expansions in Annex VI. Furthermore, once the Project has assisted with drafting the legislation it is then beyond the control or support of the Project as far as taking it to the LPC's respective parliaments/cabinets. However, it would be both helpful and a useful monitor of GEF's investment to track progress on these legislations and their adoption.

In summary, Component One delivery has been exceptional given the time constraints and all of the countries have been mobilised, motivated and supported in addressing their maritime energy efficiency commitments

Rating by Component Delivery: Highly Satisfactory

COMPONENT 2: MARITIME SECTOR ENERGY EFFICIENCY CAPACITY-BUILDING, AWARENESS RAISING, KNOWLEDGE CREATION AND DISSEMINATION

Component Two focused on vitally important capacity building and training. As well as awareness raising and knowledge dissemination. Capacity building workshops have taken place at least twice in all of the Lead Pilot Countries. More than 800 participants have been trained across all of the LPC as well as some additional countries. **Annex 7.2** lists the training workshops given along with their details and locations. The project also identified Maritime Training Centres in each country so as to focus on training-the-trainers at these centres. As part of the Project's on-going adaptive management procedures, training workshops related to ports, port emissions assessment and port energy efficiency were added to the programme. These were not originally envisaged in the Project Document. Several of the participants that attended the capacity building training have gone on to deliver workshops as IMO consultants. This cascading of knowledge has been reflected in the increase of maritime energy efficiency experts in IMO's roster of consultants. Further details on the substantial amount of training and capacity building by the Project are covered in **Section 5.6: Capacity Building and Training**.

Rating by Component Delivery: Highly Satisfactory

COMPONENT THREE: PUBLIC-PRIVATE PARTNERSHIPS TO CATALYSE INNOVATION AND R&D AND TECHNOLOGY TRANSFER TO MEET THE NEEDS OF DEVELOPING COUNTRIES

The Global industry Alliance was successfully launched in June 2017 and currently there are 16 industry companies that represent a variety of industry sectors (e.g. bulk cargo, oil and gas, cruise-lines, ports and terminals, energy efficiency related technology). This Alliance is committed to addressing the barriers to the adoption of energy efficient technologies and mechanisms. The presence of the Alliance has raised the awareness and public profile in the media in relation to energy efficiency in shipping and in ports, which has further raised the profile of the Project, GEF and the Implementing and Executing agencies (UNDP and IMO). There is a list of companies now that wish to join the Alliance, but the existing members wish to be cautious about not allowing the Alliance to become too big and cumbersome. However, most of the Alliance members agree that they do need more membership from ports and terminals. The current membership would prefer to focus on the delivery of their identified priority activities now, which are:

A. The development of a protocol for validation of performance of energy efficiency technologies (EETs)

This provides a good example of how the GloMEEP project, through the GIA, has been proactively addressing a significant problem for the industry. Current performance assessments and validations (such as propeller efficiency) do not present a level playing field. Because there are different mechanism and protocols for assessing and calculating the efficiency of new technologies, ship owners are extremely cautious about investing in such technology and there has generally been an air of mistrust in this respect. The GIA has made the MEPC aware of this problem and has further agreed on the need for a standard protocol on how to report the results from assessment of new technologies that could increase energy efficiency. GIA agreed that, when developing the E-Learning course, data analytics should be included to e.g. measure the effectiveness of the online training, track how many users have undertaken the course and the geographical distribution of users. GIA agreed that, to progress this subject matter, a 'White Paper' will be developed to support implementation and wider uptake of ISO 19030, which in turn will support increasing the transparency for buyers/ sellers of a

wide range of EETs. This White Paper will be presented in a manner which is easy to understand, will be objective, and will clearly describe the challenges and complexities of the issue. The GIA Secretariat will develop the general structure and a first rough draft of the paper which will then be circulated to all GIA members for further input.

B. Training on the energy efficient operation of ships

In relation to this training, GIA is developing an e-Learning tool for seafarers on energy efficiency and fuel reduction. Following the GIA conference call held on 17 October 2017 and the decision by the GIA TF to expand the E-Learning Course to also target shore-based personnel (as seafarers have limitations as to how much they can contribute to the efficient operation of ships), the GIA Secretariat has drafted a tender document which has been disseminated for bidding.

C. Development of a study on 'just-in-time' arrival and services

This activity addresses the fact that the logistical handling and management of ships in and out of ports has been far from efficient in the past and certainly does not follow an 'Air Traffic Control' style of rigorous management. Ships are only finally allocated a loading or unloading slot when they are within radio communications distance with the port which, using standard VHF, is approximately 30 nm and, even then, the ship is required to confirm everything through its agent. Frequently, a ship will travel at full speed to reach a port in time for the pre-arranged estimated time of docking only to find that there is no slot and it has to sit in the anchorage, often for several days, using power and increasing emissions and air pollution. 'Just-in-Time' would see the ports and the ships communicating over a greater distance so that there is better control over arrivals and departures and the ship can adjust its speed to suit thus improving energy efficiency and costs in fuel while reducing emissions from ships waiting to dock. This was originally proposed by members of the IHMA¹³ (International Harbour Master's Association) which has observer status at IMO, and which includes some eight major ports and five major shipping lines globally. The 'Just-in-time' project is currently being piloted by the Port of Rotterdam along with several GIA shipping members via an international task force in order to test the process for barriers and constraints and to explore possible solutions. Funding from the GIA membership through their contributions has been allocated to support this process and to hire a consultancy. It is intended for the study to be completed in 2018 and for the 'Just-in-time' process to demonstrate real execution by at least one terminal and two shipping lines by 2019. This important study and its further activities to address energy efficiency is yet another reason for bringing more port and terminal representation onto the GIA.

D. Development of a guide to alternative fuels

GIA has proposed the development of a document describing alternative fuel options, their potential for shipping and barriers to uptake with a timeline to 2050. This includes review and update of existing information to cover the shipping point of view and to use the experience of LNG, and other alternative fuels tested in the market, to identify barriers and assess their suitability to become a major contributor to the GHG challenge faced by shipping. The document will subsequently be forwarded to the ISWG-GHG/MEPC to inform on-going policy debates on the development of a global GHG reduction strategy.

¹³ <http://www.harbourmaster.org/>

E. Implementation of an ideas generation workshops

GIA is proposing two one-day ideas generating workshops covering e.g. the following proposed areas:

1. Disruptive and Enabling Technology Development: To analyse technologies already disrupting the marine industry and technologies under development that could enable Low carbon shipping transition
2. Trade Drivers and Enablers for Technology Transition: To consider present and future trade trends and how they influence tech implementation
3. Energy Borderlines: To discuss ship-shore interaction

The Component requires for the establishment of two international events that have GloMEEP aims and objectives as their core focus. The GloMEEP Project, in cooperation with the Maritime and Port Authority of Singapore, co-organised the Future Ready Shipping Conferences in 2015 and 2017. Representatives from all of the Project's LPCs attended the latter conference which also -backed on to a one-day GloMEEP workshop to exchange experiences and lessons learned from developing a national strategy to address GHG emissions from shipping.

Other strategic partnerships have been established with the International Association of Ports and Harbours and IMarEST, and these are discussed in more detail in **Section 4.2: Partnership Arrangements**. These Partnerships are on-going at the time of the Evaluation.

Rating by Component Delivery: Highly Satisfactory

COMPONENT 4: MONITORING, LEARNING, ADAPTIVE FEEDBACK AND EVALUATION

Component Four of the project follows the overall project management structure and the monitoring of progress as well as learning and evaluation for adaptive feedback. Some of this M&E process and its effectiveness is discussed in that relevant **Section 3.10: Management Arrangements** as well as **Section 4.6: UNDP and Implementing Partner Implementation, Execution and Coordination**. All of the LPCs established their National Task Forces early in the Project lifetime as well as identifying their National Focal Points and Project Coordinators, nearly all of which are considered to be active in the Project. Monitoring and evaluation of Project deliverables has followed the requirements of the Project Document with the exception of an internal Mid-term Review by the PCU and IMO. Project staff and LPC representation were present at the 8th GEF International Waters Conference in Sri Lanka in 2016, with an exhibit booth, where they also delivered a PowerPoint presentation and formed part of a review panel. The Evaluation notes that the internal mid-term review as defined in the Project Document (ProDoc Section 5: Monitoring Framework and Evaluation – Mid-term of Project Cycle. P110) was over-looked. This was unfortunate as this could have been very useful as a point when the project could stop, catch its breath, and review what had been achieved and what needed to be addressed in the light of lessons learned already. Such mid-term reviews, even if not independent, can be very valuable as a means of re-directing and steering project efforts. Also, it was noted that there has been no reference or link to GloMEEP on the IW:LEARN website, which is a slight flaw in achieving this target and which should be captured as a lesson for future International Waters Projects.

On a more positive note, the GloMEEP website¹⁴ is a mine of information of direct value to anyone interested not only in the Project's objectives but in maritime energy efficiency and emissions control generally. It includes pages that cover the general aims of the Project and its Stakeholders, updates on 'What's New', Strategic Partners and Other Related Projects, The GIA, and a very useful and comprehensive section Resources. This latter Section has pages that provide a calculator for CO₂ emissions, a valuable Information Portal on Energy Efficiency Technologies, a 'user-input' computer-based modelling system for energy efficiency, and links to all of the various GloMEEP Toolkits and associated publications

Rating by Component Delivery: Satisfactory

OVERALL EFFECTIVENESS: HIGHLY SATISFACTORY

5.4 Efficiency

There is no doubt that this Project has been highly 'efficient' in the Evaluation context which considers the extent to which the results have been delivered with the least costly resources possible. Indeed, the Project had little choice in view of the limited resources provided. The Project has done a superlative job in leveraging additional funding and bringing in partners to assist in lightening a very heavy workload. This is already covered in sufficient detail in the discussion under **Section 4.4 - Project Finance** (above).

In the context of overall management and running of the Project, this has undoubtedly been very efficient, with stakeholders frequently noting the excellent support given by the PCU and IMO not only with awareness issues and guidelines but with actual 'on-the-ground' practical support activities. Nearly all of the stakeholders commented on the 'excellent' working relationship that had been established between the LPCs, IMO and the MEPC through the Project.

OVERALL EFFICIENCY: HIGHLY SATISFACTORY

5.5 Country Ownership

All of the LPCs interviewed during this evaluation confirmed that the project is aligned with their national priorities for maritime energy efficiency and the reduction of air pollution from shipping and ports. They were all highly appreciative of the capacity building provided to each country as well as the raising of awareness by the Project via the National Task Forces.

Table 3 (Current Status of Annex VI Compliance In The GloMEEP Lead Pilot Countries) In **Section 4.2 – Partnership Arrangements** (above) demonstrates the progress made by the countries which is a reflection of their commitment to the project and its objectives. All ten PLCs have undertaken the emissions assessment (Jamaica is just completing theirs) and their national maritime energy efficiency strategies/policies. The seven countries which did not have legislation in place for compliance with Annex VI of MARPOL have completed their draft legislative framework during the Project, which are now ready for submission for national enactment. All twenty-seven reports were made available to the Evaluator.

¹⁴ <https://glomeep.imo.org/>

It is also important to note that country ownership has been significantly expanded and enhanced through capacity building and awareness at the national level which has then strengthened of national representation into IMO and particularly the MEPC. The LPCs are now much more active and informed and can engage much more effectively in the MEPC and this is reflected by the adoption of the MEPC of the GHG Emissions Strategy as well as the frequent references by country representatives at the MEPC to the work of the GloMEEP project.

All of the LPCs made specific comment during the evaluation interview as to how valuable this entire process has been and how they would wish to maintain the effort.

5.6 Capacity Building and Training

As has been mentioned a number of times in various sections of this Evaluation, the Project has delivered a remarkable level of high-quality training and capacity building throughout the LPCs and beyond. The workshops, their aims and the dates and locations of delivery are provided in **Annex 7.2**. As well as these various training and capacity building activities in-country or regionally, the Project supported two LPCs to attend the biennial GEF International Waters Conference in Sri Lanka in 2016 which provided further opportunities for networking and for show-casing the projects achievements.

The various Toolkits to support training and capacity building and to assist the countries in compliance (e.g. various Ship Emissions Toolkits and Port Emissions Toolkits) are all available on the website¹⁵. These are high quality documents and their calibre and value has been noted in the MEPC meetings at IMO. These documents were all peer-reviewed after drafting and for finalisation to ensure quality and accuracy before their circulation and delivery as the training workshops.

In undertaking training and capacity building it became apparent that some countries only required training on ship certification (e.g. Panama) whereas as in others (such as South Africa) it was really important to focus on Port State Control measures. China has a greater focus on ship-building and therefore needs more support in terms of energy efficiency on ships and improving the technology, whereas both China and the Philippines need to train their multitude of seafarers. As a result, it has become clear that it is very important to focus the training on the specific country needs rather than making it too broad as countries have different priorities and needs in the context of their compliance with Annex VI.

Both the PCU and the consultants delivering the training felt that there had been too many workshops written into the Project Document in relation to the timescale for delivery. This was considered to have placed enormous demands on PCU staff, both in the context of their attendance at the workshops and in the 'screening' process for proposed participants. The PCU were particularly diligent in checking the CVs of potential participants to ensure that they were suitable. The screening process was often onerous and the wrong candidates for training were frequently nominated by countries which then had to be rejected and new candidate participants requested. In view of the fact that this was a relatively short-duration Medium-Sized Project, fewer workshops with clearer criteria for screening possible participants would have allowed for more thorough and focused training and capacity building. On the other hand, it was noted that the workshops built into the Project were appropriate and correct in their aim and intention, but there was insufficient time or funding allocated to the Project to deliver these. Consultants noted that these workshops was

¹⁵ <https://glomeep.imo.org/resources/publications/>

most valuable at a face-to-face level and that the participants were more engaged by this on-the-ground process. This approach was much more effective than just sending out the guidance documents alone.

In order to address this constraint, the Project reviewed the training needs and developed a training work programme that A. managed to combine more than one topic in each training session and B. where feasible, undertook some training workshops at a 'global' level (i.e. bringing all 10 countries together in one workshop). This has been noted above as an example of good adaptive management by a Project. Despite this, the Project still had to deliver nearly 40 workshops throughout its limited lifetime which put enormous pressure on both PCU staff and on consultants, as well as on IMO in terms of procurement and contracting which often needed to be fast-tracked. Through a process of 'adaptive management' the project was able to take some of these national-level workshops and combine them into single 'global' level workshops.

One other challenge noted by the PCU was the difficulty in finding good trainers, particularly in the countries themselves. Because Annex VI is so complex, it has been challenging to find any consultants fully equipped to deliver training, let alone national consultants in the PLCs. The project was able to train 'trainers' that could provide further on-going support at a regional and even a global level. Language interpretation was also a challenge, particularly in view of the complexity of the Annex. The project established a Group of Experts on Ship Energy Efficiency to help with some of these issues. This was originally envisaged as a roster /database, but then it was decided that it would be more sustainable to ask these experts to sign up to the IMO's E-Roster of consultants and that way they could deliver training for wider activities of the organization and not just the Project.

Equally challenging was ensuring that the countries selected and supported the appropriate trainees. On a number of occasions, the Project had to intervene after carefully reviewing the CVs of the proposed trainees and point out that they did not have sufficient technical background or that they were unlikely to make use of the training in the posts and sectors/departments that they sat in. This then became a time-consuming process for the PCU to make sure that the investment in the training was cost-effective. It was felt that the selection and approval of candidates for training should be more rigorous and stricter in future, with clear criteria for selection and with a follow-up online test or evaluation questionnaire afterwards leading to certification.

The limitations set on consultancy fees by IMO also created further challenges. IMO rules set a ceiling for consultancy payment, which has remained at US\$500 per day for many years. Few international consultants of the necessary calibre and expertise to deliver training related to Annex VI would consult at such a low level of reimbursement.

Following each single workshop, participants were asked to complete a simple questionnaire (anonymously) that addressed issues related to organisation and management of the workshop, the value and success of the activity and the expertise and delivery of any consultants involved. The questionnaire provided rating for a number of such categories and identified gaps, improvements and possible extra topics that should have been covered. The results of these questionnaires were used throughout the project to improve the delivery from subsequent workshops.

For the model course workshop, the PCU arranged to train "trainers" from several maritime training centres/institutions (not just one). The host country was asked to invite representatives from any national maritime training academy and, in several cases, workshop participants were from different academies across the country. The Project has also delivered regional workshops where only national workshops were specified initially, as there was additional financing provided by other co-funders. This provided greater opportunity to train a greater number of

people from other places. This happened, for example, in India (with the TTT/Model course workshop) where participants from Bangladesh, Maldives, and Sri Lanka were also invited to attend.

Overall, this has been a highly successful Component/Outcome and, despite many significant constraints and challenges, the Project has managed to deliver high-quality training and capacity building beyond the already-demanding requirements of the Project Document

5.7 Mainstreaming and Cross-Cutting

This Project was not intended to deal with issues related to human rights, minorities, disabilities, vulnerable groups or specifically gender equality/empowerment of women as such. In its actual implementation, however, the project did use a very respectable balance of female staff and consultants. The 2018 Project Implementation Review addresses this issue as follows:

Shipping has historically been a male-dominated industry and that tradition runs long and deep. However, IMO is making concerted efforts to help the industry move on from that tradition and to help women achieve a representation within the maritime industry and particularly in leadership roles. The GloMEEP Project Coordination Unit is 100% staffed by women. Almost 50% of the GloMEEP LPCs representatives (National Focal Points and National Project Coordinators) are represented by women. The GloMEEP PCU has consistently encouraged female lecturers in the delivery of national and global workshops – to provide an example, 10 out of 14 consultants who facilitated the delivery of a series of workshops to address emissions in ports were women. The participation of women in GloMEEP organized workshops is also encouraged. Approximately 20% of all participants trained so far under the GloMEEP Project have been female.

The Project did not have a focus on natural disasters directly other than those that might be associated indirectly with climate change. This latter issue (climate change) is definitely cross-cutting throughout the project and is effectively a main focus of the Project. No social or environmental risks were identified as arising from the Project.

It is noteworthy that the GloMEEP project was the first IW GEF project to jointly make use of both International Waters funding as well as funding from Climate Change Mitigation through the GEF. Thus cross-cutting between these two portfolios.

5.8 Sustainability

There is a concern for this Project in terms of sustainability. Much has been achieved by the GloMEEP project and much is left still to be continued including further work at the LPC level, replication of successful activities and deliverables beyond the initial Project countries, continued support to the GIA and its very focused and valuable activities, etc. The timescale allocated for this Project was never going to allow 'closure' on any of these issues but, in fairness, even a full Project of several years could have no realistic 'exit strategy' for reduction of emissions in the context of national/regional level activities, on-going training, and the development and employment of new and more effective technologies for energy efficiency and emission reduction. In this context, the excellent work carried out by GloMEEP and the legacy it leaves is undoubtedly in need of further support, ideally through a further phase of funding, to continue with the long-term objectives of the evolving global energy efficiency partnership started by GloMEEP.

A second phase would also need to focus on improving data, both capture and access, in order to accelerate the uptake of energy efficiency measures appropriate to each country. There also needs to be more focus on compliance and enforcement which represents a real challenge for the developing countries.

Training and capacity building needs to be seen as an open-ended and on-going process. This is essential as A. technologies change and methodologies/understanding improves and B. to counter the natural egression of individuals through changes in employment or promotion.

However, with the provision of such further support and funding it is this Evaluator's considered opinion that the successes of GloMEEP can be conserved and developed further. This view is based on the clear country enthusiasm and ownership, an enthusiasm which is supported at the level of the MEPC, as well as the growing and very real support from Industry. With appropriate support and funding, this Project will have left a very sustainable product in its wake.

On the basis of this discussion the evaluation arrived at the following conclusions:

Financial Resource Sustainability

At the PLC level there is reason to believe that the efforts so far have created enough ownership that, at least in most of the LPCs, the activities and momentum created so far will be sustainable. However, there is a need to build on this investment and long-term sustainability of efforts to address maritime emissions will depend on further funding and support. The GIA has been a very successful development and is, in effect, now self-funding. The Project has leveraged significant additional co-funding and partnerships and it is reasonable to expect that this will also continue to be of value and support in the context of financial sustainability.

Likely

Socioeconomic Sustainability

The social and economic value of this Project is clearly recognised by the LPCs who each have a strong focus on the importance of reducing emissions to address the global problem with climate change but also recognise the linkages with human health and quality of life on ships and in the vicinity of ports and associated townships. There is every reason to believe that these issues will remain at the forefront of the countries' concerns.

Likely

Institutional Framework Sustainability

At the country level, the value of the task forces as inter-agency and inter-ministerial forums has been noted on many occasions and it is expected that these will continue to serve their purpose nationally to pursue emissions reduction and other Annex VI priorities. The GIA institutional framework is dependent on IMO in the context of maintaining a Secretariat for this body. IMO has placed much emphasis on the importance of this and given assurances that the support to the GIA will continue.

Likely

Environmental Sustainability:

There are no apparent threats to the environment from this Project. On the contrary, all of the activities promise to have positive feedbacks in the context of improvements to the environment, reduction in emissions, cleaner and more efficient energy usage, reduced air pollution and consequent mitigation of climate change impacts.

Likely

5.9 Catalytic Role

The Project has catalysed the bringing together of the relevant government departments, ministries and other stakeholders at the national level, including the private sector. It has also catalysed stronger involvement at the policy level in IMO issues and improved the potential for engagement by national members at IMO meetings including the MEPC.

The Project has also catalysed the development of Public-Private Partnerships in the LPCs. The National Task Forces in a number of the countries brought together government departments and ministries with public sector representation from shipping, ports and technology. Several countries highlighted this as a very valuable contribution which has broken down the 'silo' management approach and catalysed stronger cooperation and awareness across the sectors.

LPCs also noted that the Data Collection Systems for Emission Assessments had not been developed even in those countries like China which were well-advanced in their compliance to Annex VI. The project has provided this valuable service which is the foundation of a long-term, effective monitoring for compliance process.

One other very important catalytic role that the Project has delivered is in the area of 'train-the-trainers'. Many of the participants who have received training in earlier GloMEEP workshops have gone on to support the delivery of subsequent related activities and training.

Possibly one of the main catalytic role that this project has achieved is the bringing together diverse sector of industry to identify their priority issues related to maritime energy efficiency and to fund activities that aim to demonstrate mitigation techniques. These are expected to bring about substantial changes in industry practice to support such mitigation. One example will be the 'just-in-time' practices that the ports and shipping industry hope to start demonstrating and 'proving' in the coming months.

5.10 Impact

There is no doubt that this Project has had a significant impact within the LPCs, with the industry and with the MEPC. Although many of the indicators for project delivery are inevitably at the 'Process' level the LPCs and the industry are clearly now moving toward actual 'stress-reduction' activities. All of the LPCs have undertaken some sort of Emissions Assessment. Those that have struggled with the data have realised that there is a gap and a challenge here where they were not previously aware. All have produced Strategies for maritime energy efficiency and emission controls both for shipping and for ports as appropriate to their national needs. All of the LPCs have developed their legislative frameworks and are working on getting them enacted into their national legislation.

Among other activities it has adopted, the GIA is aiming to implement the 'just-in-time' demonstration in 2019 which will then hopefully be expanded to make significant reductions in transit speeds and waiting times thereby also reducing emissions.

The MEPC has formally noted the excellent work being undertaken by GloMEEP and IMO in the context of energy efficiency and reduction of emissions and is fully supportive in wanting to sustain this and to use the valuable tools and guidance documents beyond the 10 LPCs.

All of the various partners and stakeholders have made note of the positive impact from this relatively small project (in terms of finance and timescale) and are highly supportive of its further continuation.

OVERALL IMPACT: SIGNIFICANT

6. EVALUATION CONCLUSIONS, RECOMMENDATIONS & LESSONS LEARNED

6.1 Overall Conclusions from the Evaluation

This Project has been challenged and, in some areas, severely constrained by the limited amount of time and finances allocated to it and the consequent massive workload imposed on the PCU. This is a classic example of a Project that has been highly ambitious at the design stage in order to address the urgent needs of countries, but which has then been allocated insufficient funds, timing and resources to achieve that ambition. In evaluating this Project, it has been clear that there was a very real risk that the project might not have been able to deliver on the many targets identified in its Results Framework. The overall conclusion of the Evaluator in this respect is that it has managed to achieve what is undoubtedly a high level of success only as a result of strong leadership by IMO coupled with a highly dedicated and determined, professional PCU staff. However, such risks are dangerous and should be avoided in future project design. This is as much to do with the under-allocation of funds and consequently time by GEF as it is to the ambitious design of the Project by IMO and acceptance by UNDP.

Nevertheless, this has certainly been a highly successful Project that has delivered enormous benefits for a limited investment from GEF but with considerable supportive co-funding from both Industry and IMO, without which this Project would probably not have survived. However, this 'success' is now threatened (going forward) by the possible loss of the GIA and its valuable drive and focus as well as a potential lack of opportunity to replicate the best practices and lessons from the interaction with the LPCs across a broader geographical landscape. Without these ongoing activities being maintained and sustained, the achievements of the project run a very real risk of being lost and the project will then have failed on a number of fronts.

In contrast to such an undesirable (and potentially wasteful) scenario, if further funding and support can be identified and agreed to build on what has been noted by all stakeholders to have been a wise and fruitful investment so far, then these substantial achievements can be maintained and expanded to the benefit of all in the context of emission reductions and mitigation of the harmful effects of greenhouse gases and air pollution generally. This is the strongest and most positive message coming out of this exceptional Project.

6.2 Lessons Learned and Best Practices

Project Management and Administration

- One of the most prominent and critical lessons that needs to be captured from this particular project is that relating to realistic timescales and resources. As noted a number of times during the evaluation process, The potential performance, delivery, efficiency and effectiveness of this project was constantly at risk as a result of the decision to make this a Medium-Sized Project of limited duration (24 months) and limited funding support (\$1.9 million from GEF). The project was undoubtedly ambitious in its aims and objectives and in its proposed outcomes but not unreasonably so in the context of the sequential logic of its deliverables. Demonstrating the Emission Assessment approach, followed by the development of related Energy Efficiency Strategies, and then drafting a legislation that would support those strategies makes absolute sense and would not be anywhere near as effective if that continuity were broken into separate projects. Equally, developing an Industry Alliance alongside this process in order to prioritise global issues also made sense and captured the larger needs and

requirements relating to energy efficiency in both shipping and ports. Trying to do this A. across 10 countries and B. with formal agreements with major industry players over a 24-month period was extremely risky and hazardous, even more so with limited financial resources which further led to limited human resources to support the Project. All stakeholders interviewed sympathised with the PCU on the basis of their enormous workload. The LPCs, the consultants and the GIA members all noted that this put huge pressure on the two primary individuals that were expected to manage and administer this Project. In the Evaluator's opinion, this should have undoubtedly been a full-sized project with equivalent funding and downgrading it to a medium-sized project (even if there were possibly mitigating circumstances such as limited funding being available) was not the appropriate course of action. It was the clear consensus within all pf the stakeholders that the success of this project can be attributed primarily to the professionalism and enormous hard work on the part of the PMU staff. The leveraging of additional co-funding and the negotiation of further supportive partnerships by the PMU and IMO is probably what also helped to save this project from an unsatisfactory ending.

- Implementing and Executing Agencies should be more realistic about the grading of Project staff. P.5 is normal for projects of this nature and complexity. In unusual circumstances a lower P.4 or even a higher P.6 may be justifiable. Lower gradings than this can only risk the quality and experience of the staff hired to run these complex and very demanding projects with tight deadlines, numerous diverse activities, the requirement for considerable negotiation and diplomatic engagements, and accountability for financial and administrative decisions.
- As with many projects of this nature it would be valuable if there was a mutual understanding developed early in the project between the PCU and the various organs of the Executing Agency that allowed for smoother processing times, especially in view of the very short nature and high delivery expectations of a project such as GloMEEP.
- In the context of the private sector involvement in projects of this nature, it was agreed during GloMEEP that only individual companies would be considered as members of GIA and not associations or representative bodies. The direct involvement of individual industry representation has created their 'ownership' and understanding of the broader issues. The PCU has also suggested that It might be valuable to invite observers to join the GIA meetings (e.g. scientific experts, academia, etc) from time-to-time and where appropriate. One such valuable observer would be the EU-GMN project.

Capacity Building and Training

- Donors and Implementing Agencies need to be more realistic in terms of capacity and resources to deliver on certain activities, in this case particularly capacity building and training. Trying to fit in over 30 workshops in 24 months was clearly unrealistic and placed enormous demands on the PCU staff and their consultants (not to mention IMO's procurement and contracting personnel). In this context, to some extent IMO but, more especially and again, the PCU staff are to be applauded and commended for their enormous hard work and dedication in delivering these activities successfully, a fact well-noted by the LPCs, and one which has elicited their clear gratitude and acknowledgement relating to the quality and effectiveness of the workshops and training.

- Furthermore, as a response to the limited funds and time constraints, the Project reviewed its training plans and combined a number of workshops so as to deal with more than one topic as well as train-the-trainers sessions. It also revised some of the training workshops to make them single 'global' workshops instead of having 10 national workshops and, for these, it brought in the appropriate international consultants to advise and train all of the countries at once.
- The selection and approval of candidates for training should be more rigorous and stricter in future, with clear criteria for selection and with a follow-up online test or evaluation questionnaire afterwards leading to certification. It is important that the people being trained are appropriate in the context of A. their previous background knowledge and experience, and B. that they will be returning into positions in their country where they will actually make use of this training on a daily basis.
- It is very important to consider focusing training on the specific country needs rather than making it too broad as countries have different priorities and needs in the context of their compliance with Annex VI. For example, some countries are more concerned about port-related emissions as they mainly deal with incoming and outgoing shipping, others such as Flag States need to focus on ship emissions. For some countries, addressing emissions from smaller vessels is more important than dealing with larger bulk carriers, etc.
- Delivering the guidance documents and toolkits through face-to-face workshops, although more time-consuming and demanding, was much more effective than just sending out the guidance documents alone.
- Another positive lesson coming out of the GloMEEP Project is how important it can be to train attendees to deliver the workshops themselves as national/regional consultants (i.e. training them to be trainers). During GloMEEP, this process helped to replicate and spread the skills and capacities developed in the initial workshops.

Technical Issues

- LPCs felt there could have been greater emphasis on the emission studies and the baseline assessment but recognised the difficulties of the time-constraints once again and the need to overcome difficulties of access to data or absence of data. Ideally, the countries should have all been assisted through their Emission Assessments first as a basis for developing their national energy efficiency strategies. Some countries clearly had gaps in their data and, given sufficient time, the Project could have been able to assist them in filling these gaps or identifying the mechanism to do so.
- It would assist with the problems that some countries have experienced in data collection if one central body could be identified/allocated within each country that collects, collates and processes appropriate maritime information.

6.3 Recommendations and Proposal for Future Directions

The following Recommendations are targeted at either the Executing Agency, the Implementing Agency, the countries or a combination of these entities

| No. | 3. RECOMMENDATION | TARGET GROUP |
|-----|--|------------------|
| 1 | First and foremost, among any recommendations, must be the obvious practical need for a further phase of GloMEEP. The Project has created strong ownership by countries and industry as well as a momentum toward implementing Annex VI and the new MEPC Greenhouse Gas Strategy. Many of the following recommendations relate to logical further activities and work required which could be captured and delivered through such a second phase | IMO & UNDP & GEF |
| 2 | Although Legal frameworks for national legislation have been drafted, These still need to be adopted by the countries and this would be a valuable exercise for further support. | IMO & UNDP & GEF |
| 3 | A wealth of valuable tools and guidance materials have been developed and employed successfully by the 10 LPCs. It is important now that these toolkits and guidelines are not only made available to other countries aiming to comply with Annex VI but that they are delivered effectively through appropriate regional workshops to assist those same countries that were not part of the original GloMEEP Project. In short, a GloMEEP replication process needs to now take place beyond the original LPCs | IMO & UNDP & GEF |
| 4 | GIA is just getting started but is showing tremendous buy-in and ownership from industry with a dedicated group of enthusiastic representatives. It would be a waste of the initial investment in time and finances and it would send a very poor signal to the private sector if the plug were to be pulled on this innovative and unique process just as it is showing positive accomplishments and delivering real benefits. The priority activities adopted by GIA and their commitment to fund them is a major step toward implementing Annex VI. Every effort should be made by IMO to ensure that, with the closure of GloMEEP in December, the secretariat function that the project provided to GIA can continue. | IMO & GIA |
| 5 | The countries have requested more activities related to technology transfer that can help them reduced emissions from ships and at the port level. Specific efforts should be made to provide more assistance with identifying appropriate technology, both tried-and-tested as well as innovative development. If a further phase were to be implemented, it would need to include a mechanisms for capture and transfer of emerging technologies related to maritime energy efficiency. Closer linkages with the Maritime Technical Cooperation Centres would provide a valuable vehicle to bring such activities and support into the regions. | IMO |
| 6 | GloMEEP original designed to focus on Annex VI - Chapter 4. Energy Efficiency. National legislation, however, needs to address the entire Annex and not just one part. IMO has now set a global limit for sulphur in fuel oil used on board ships to come into effect as of 1 st January 2020. This will now require a significant support process similar to many of the GloMEEP activities if the developing counties are going to meet their compliance requirements. | IMO |
| 7 | Further training on monitoring of compliance and enforcement of Annex VI and emissions control as well as the compulsory data collection systems within the LPCs and with a view to replication | IMO & LPCs |
| 8 | The need for more effective monitoring of ship emissions (especial as part of the compulsory IMO data collection system) through better interaction | IMO & LPCs |

| | | |
|----|---|--|
| | between local municipal agencies responsible for air quality monitoring and national agencies tasked with manage emissions | |
| 9 | The relatively new initial GHG Strategy adopted by MEPC in 2018 represents a framework for Member States, setting out the future vision for international shipping, the levels of ambition to reduce GHG emissions and guiding principles; and includes candidate short-, mid- and long-term further measures with possible timelines and their impacts on States. Once again, these are energy efficiency related issues that need to be followed up with support to the developing countries beyond the life of GloMEEP | IMO & MEPC |
| 10 | Great collaboration between shipping, ports and terminal and nationally responsible government agencies with regard to GHG reductions and the new GHG strategy | IMO & LPCs |
| 11 | In country assessments of availability of compliant fuels including comparative assessment of scrubbers (EGC systems) vs fuel quality as a measure to improve air quality. This should also cover the need for reception facilities and disposal mechanisms for waste generated by EGC systems | IMO 7 LPCs (with assistance from EU-GMN) |
| 12 | The GloMEEP Project should engage with IW:LEARN and Grid Arundel (who manage their website) to ensure that it has links into GloMEEP and some information on GloMEEP on the IW:LEARN website. They should also discuss the achievements of GloMEEP with a view to developing an appropriate experience note on a relevant subject such as private sector engagement | |

7. ANNEXES

DRAFT

ANNEX 7.1: REVIEW OF THE PROJECT RESULTS FRAMEWORK INDICATORS

N.B. This also includes a review of whether the original indicators and Targets were ‘**SMART**’ (Specific, Measurable, Achievable, Realistic and Timely).

| EXPECTED OUTCOMES | INDICATOR | TARGETS END OF PROJECT | SPECIFIC | MEASURABLE | ACHIEVABLE | RELEVANT | TIME-BOUND | COMMENTS | RATING OF DELIVERY |
|--|---|--|----------|------------|------------|----------|------------|--|--------------------|
| Overall Project Objective: | | | | | | | | | |
| 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 | | | | | | | | | |
| 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. | The LPCs maritime status including their relevant baselines and targets, with regard to maritime energy efficiency and GHG emissions are defined and documented. | Y | Y | Y | Y | Y | Comments captured in relevant sections below | HS |
| | Level of human capacity of the Lead Pilot Countries in dealing with shipping energy efficiency regulations and efficiency measures. | In all LPCs, sustainable policies/strategies, legal frameworks and roadmaps are in place for moving to a more energy efficient shipping. | | | | | | | HS |
| | Level of engagement of private-public partnership in dealing with shipping energy efficiency activities. | Human capacities are developed and cadres of relevant experts are in place for undertaking national or regional tasks in this area. | | | | | | | HS |
| | Level of dissemination and knowledge sharing efforts and activities. | One existing maritime institution in each LPC is capacitated in area of providing training on IMO MEEF and ship energy efficiency measure. | | | | | | | HS |
| | | A total of 40 workshops / events to be organized (on average 4/LPC). | | | | | | This figure of 40 workshops was not a reasonable and achievable target in the first place in view of the timescale of the project, staffing limitations and the amount of travel to 10 LPCs. However, the project effectively achieved it by combining one 10-country workshop requirement into a single global workshop | HS |

| EXPECTED OUTCOMES | INDICATOR | TARGETS END OF PROJECT | SPECIFIC | MEASURABLE | ACHIEVABLE | RELEVANT | TIME-BOUND | COMMENTS | RATING OF DELIVERY |
|-------------------|-----------|---|----------|------------|------------|----------|------------|--|--------------------|
| | | The global partnership in the form of GIA is formed and functioning | | | | | | | HS |
| | | with industry cash contribution to GIA Fund in place. | | | | | | Comments captured in relevant sections below | HS |

Component 1:

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, policies 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 status of all LPCs with regard to maritime energy efficiency and GHG emissions are documented. | | | | | | 9 out of 10 Rapid Emission Assessments have been completed All Ship and Port Emissions Assessment Guidelines Toolkits have been completed and distributed | HS |
| | | In all LPCs, shipping energy efficiency policies / strategies, legal frameworks and roadmaps are in place. | | | | | | All LPCs have finalized National Maritime Energy Efficiency Strategies All LPCs have drafted their legislative frameworks and roadmaps to drive the necessary legal process through government for EE and Annex VI compliance | HS |
| | | The developed and documented results are disseminated within wider maritime industry in particular within developing countries. | | | | | | All workshop packages are with LPCs for wider dissemination and have been shared regionally through the Imo GMN project and its Global Maritime Technology Cooperation Centres Network. The various toolkits and guides have been reported to all IMO Member States through the Marine Environment Protection Committee (MEPC) as and when they became available. | HS |

Component 2:

| EXPECTED OUTCOMES | INDICATOR | TARGETS END OF PROJECT | SPECIFIC | MEASURABLE | ACHIEVABLE | RELEVANT | TIME-BOUND | COMMENTS | RATING OF DELIVERY |
|--|--|---|----------|------------|------------|----------|------------|--|--------------------|
| 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. | 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 two Capacity Building Workshops in each TPC. Over 32 workshops successfully completed Over 800 participants trained | HS |
| | | At least one existing maritime institution in each LPC is capacitated to provide training on IMO MEEF and ship energy efficiency | | | | | | Train-the-Trainers course = Implementation of IMO Model Course 4.05 on Energy Efficient Ship Operation; and Port State Control and Enforcement of MARPOL Annex VI representatives from several maritime training institutes joined the training so more than one per LPC Workshop participants gone on to deliver courses as consultants | HS |
| | | A total of 40 workshops/events to be organized (on average 4/LPC). | | | | | | The Project combined 10 national workshops into 1 global workshops and thus managed the training with only 33 workshops – adaptive management | HS |
| | | The developed GloMEEP training materials are disseminated to all LPCs. | | | | | | Yes, all the training material have been disseminated | HS |
| Component 3 | | | | | | | | | |
| Public-private partnerships to catalyse innovation and R&D and technology transfer to meet the needs of developing countries (CC and IW) | | | | | | | | | |

| EXPECTED OUTCOMES | INDICATOR | TARGETS END OF PROJECT | SPECIFIC | MEASURABLE | ACHIEVABLE | RELEVANT | TIME-BOUND | COMMENTS | RATING OF DELIVERY |
|---|--|--|----------|------------|------------|----------|------------|--|--------------------|
| 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. | Specific objectives and targets include: | | | | | | | |
| | | A formal GloMEEP GIA together with records of cash funding and relevant activities. | | | | | | A fully functioning and effective GIA made up of 16-member companies is in place and meeting more frequently than originally planned Significant interest from maritime media outlets and publications on this initiative has raised the public profile of the Project. There is strong interest by other potential members | HS |
| | | Securing industry funding (GIA Fund) within GloMEEP framework and use of fund for GloMEEP purposes (to be agreed by industrial partners themselves). | | | | | | All members have committed \$20,000 per annum (\$360,000 total p.a.) to support the GIA and its activities | HS |
| | | Establishment of minimum two bilateral or multi-lateral agreements to cash/in-kind support the GloMEEP GIA agenda. | | | | | | In cooperation with Singapore MPA, a strategic partner, the GloMEEP Project was launched in 2015 at the co-organized Future Ready Shipping Conference. This Conference was repeated in 2017 in Singapore. Representatives from all GloMEEP LPCs attended the Conference, as well as a one day GloMEEP workshop to exchange experiences and lessons learnt from developing a national strategy to address GHG emissions from shipping | HS |
| | | Establishment of a minimum two international events with GloMEEP agenda at its core. | | | | | | | HS |

Component 4

Monitoring, learning, adaptive feedback and evaluation

| EXPECTED OUTCOMES | INDICATOR | TARGETS END OF PROJECT | SPECIFIC | MEASURABLE | ACHIEVABLE | RELEVANT | TIME-BOUND | COMMENTS | RATING OF DELIVERY |
|---|---|--|----------|------------|------------|----------|------------|---|--------------------|
| 4.1 Adaptive project management and coordination for implementation, monitoring and evaluation. | Realization of project teams at global and national levels. 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 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. | | | | | | The PCU, GPTF and GIA-ITF all established in record time | HS |
| | | To set up the “national management elements” for GloMEEP including NLA, NFP, NPC and NTF. | | | | | | All of these elements and structures also in place from early stages of Project | HS |
| | | To deliver GloMEEP work plan according to schedule and on budget. | | | | | | Work-Plan delivered on time and to schedule and budgeting within constraint of 24-month lifetime and taking proactive adaptive management decisions | HS |
| | | To deliver the M&E reports and project deliverables in time and within budget. | | | | | | The Project has provided clear evidence of this with all M&E reports completed with clarity and nearly all project deliverables in time and on budget | HS |
| | | To document all aspects of the project including lessons learnt. | | | | | | One-day GloMEEP workshop to exchange experiences and lessons learned from developing a national strategy to address GHG emissions from shipping A lot of the lessons learned have been implemented into the Project’s products | S |

| EXPECTED OUTCOMES | INDICATOR | TARGETS END OF PROJECT | SPECIFIC | MEASURABLE | ACHIEVABLE | RELEVANT | TIME-BOUND | COMMENTS | RATING OF DELIVERY |
|----------------------|-----------|---------------------------|----------|------------|------------|----------|------------|---|--------------------------|
| | | | | | | | | <p>Present at IWC8 with an exhibit booth, delivered a PPT, and were part of panel and brought LPCs representatives.</p> <p>No reference or link to GloMEEP on the IW:LEARN website however, which is a slight flaw in achieving this target</p> | |

ANNEX 7.2: LIST OF WORKSHOPS DELIVERED BY THE GLOMEEP PROJECT DURING PROJECT LIFETIME

| | MARPOL Annex VI | Model Course 4.05 | Port State Control and Enforcement | Train-the-Trainer | Ports | MARPOL Annex VI, Reg. 22A |
|---------------------|---|---|---|--|---|--|
| Title | MARPOL Annex VI and Technology Transfer | Implementation of IMO Model Course 4.05 on Energy Efficient Operation of Ships | Port State Control and Enforcement of MARPOL Annex VI | Train the Trainer Course on Energy Efficient Ship Operation | Prevention and control of shipping and port air emissions | IMO data collection system for fuel oil consumption |
| Brief Description | The objective of the workshop is to facilitate to build capacity for the effective and efficient implementation and enforcement of MARPOL Annex VI. The workshop provides detailed information with regard to the regulations of MARPOL Annex VI and the responsibilities of Parties under the Convention. Participants will receive practical information on the adoption, implementation, and enforcement of Annex VI, in particular Chapter 4 on regulations for ship energy efficiency, as well as address further capacity building and technology transfer needs/activities | The objective of the workshop is to capacitate national maritime training institutions to be able to deliver training to seafarers based on IMO Model Course 4.05 on "Energy Efficient Operation of Ships", thereby building capacity for the effective implementation of maritime energy efficiency measures including EEDI and SEEMP. | The objective of the workshop is to provide training on effective enforcement of MARPOL Annex VI and Port State Control. The workshop will provide an overview of MARPOL Annex VI, including the most recent amendments and the responsibilities of Parties under the Convention, as well as consider the PSC guidelines for MARPOL Annex VI. | The TTT course comprises of six modules, covering aspects related to ship energy efficiency regulations, ship management and operation, energy management, port related measures, energy management plans and systems and teaching and pedagogic aspects. The main objective of the course is to train trainers to support the delivery of future capacity-building activities in the field of maritime energy efficiency. | This workshop aims to train participants in identifying and calculating the emissions from various source categories within the port area and capacitate ports to undertake port emissions assessments and develop port emissions inventories. Furthermore, the workshop aims to assist ports to develop emission reduction strategies tailored to addressing different source categories within the port area. | This workshop aims to assist participants in the implementation of the mandatory IMO data collection system for fuel oil consumption (reg. 22A of MARPOL Annex VI) including: regulatory requirements and timeline related to monitoring, reporting and verification procedures; guidance on how to develop a ship fuel oil consumption data collection plan; existing methods for collecting data on fuel oil consumption, distance travelled and hours underway; importance of collecting high quality data; choosing the optimal reporting solution; and verification of reported data. |
| No. of days | 3 | 2 | 3 | 5 | 3 | 1 |
| Suggested audiences | <ul style="list-style-type: none"> Maritime administrations of Ministries Transport/Environment Ports Universities Maritime Training Centres Professional associations with interest in energy efficiency and the reduction of GHGs. | <ul style="list-style-type: none"> Maritime Training Centres/Institutions Experts engaged in training of seafarers | <ul style="list-style-type: none"> Port State Control Officers Ship managers Port personnel Those involved in dealing with environmental regulatory compliance of ships | <ul style="list-style-type: none"> Maritime administrations Training providers and teaching staff Those who wish to deliver future capacity-building activities in the field of maritime energy efficiency | <ul style="list-style-type: none"> Port administrations Port representatives, ideally, but not limited to, those with environmental compliance and monitoring responsibilities Those who are familiar with port operations Terminal operators | <ul style="list-style-type: none"> Maritime administration staff (flag and port States) Classification society (ROs) staff Ship owners/ ship managers dealing with environmental regulatory compliance Relevant levels of shipping personnel (e.g. chief engineers) |
| Languages | English, French and Spanish | English, French | English | English | English | English |
| Delivered in | Argentina Morocco China South Africa Georgia Jamaica Malaysia Panama | Argentina Philippines China South Africa China South Africa Georgia Malaysia India (combined with TTT) Jamaica/Panama (joint workshop) | Argentina (regional) China (regional) Malaysia South Africa (regional) | China (Global) India (combined with Model Course) | Argentina Philippines China South Africa Georgia Panama India Morocco Jamaica Malaysia | Will be delivered back-to-back with final GPTF |

ANNEX 7.3: LIST OF SUBJECTS INTERVIEWED VERBALLY OR BY QUESTIONNAIRE

| Name | Organization | Role in GloMEEP Project |
|-------------------------------|--|--|
| Jose Matheickal | IMO | GloMEEP PCU |
| Astrid Dispert | IMO | GloMEEP PCU |
| Minglee Hoe | IMO | GloMEEP PCU |
| Edmund Hughes | IMO | IMO |
| Zabi Bazari | EnEmSol | Consultant |
| Fer van de Laar | IAPH | Strategic Partner |
| A. B. Dutta | Directorate General of Shipping | LPC - India |
| Claes Berglund | Stena | GIA |
| Metse Ralephenya | Department of Transport | LPC - South Africa |
| Bert Smith | Maritime Authority of Jamaica | LPC - Jamaica |
| Yasmin Mohd Hasni | Marine Department Malaysia | LPC - Malaysia |
| Yinglei Zhao | China Maritime Safety Administration | LPC - China |
| Leigh Mazany | | Consultant |
| Alexandra Ebbinghaus | Shell | GIA |
| Stefan Micallef | IMO | IMO |
| Jean P. Pia | MARINA | LPC - Philippines |
| Ben van Scherpenzeel | Port of Rotterdam | GIA |
| Rina Berrocal | Panama Maritime Authority | LPC - Panama |
| Torsten Mundt | DNV GL | Consultant |
| Prof. Zhang Shuang | Dalian Maritime University | Consultant |
| Isabelle Rojon | UCL Maritime Advisory Services (UMAS) | Consultant |
| Paul Johansen | Starcrest Consulting Group | Consultant |
| Katherine Palmer | Lloyd's Register | GIA |
| Marko Vainikka | Wärtsilä | GIA |
| Capt. Jorge Alberto Kneeteman | Argentine Coast Guard | NFP |
| Valeria Rodriguez Burlada | Argentine Coast Guard | Our direct contact on a daily basis – so best to put her in :CC. |
| Ivane Abashidze | Georgia – Maritime Transport Agency | NPC |
| Edmund Hughes | Head, Air Pollution and Energy Efficiency – MARPOL Annex VI. IMO | Edmund Hughes |
| Fer van der Laar | International Association of Ports and Harbours | Fer van der Laar |
| Lynn Jackson | Independent | Consultant |
| | | |

ANNEX 7.4: EVALUATION QUESTION MATRIX

| EVALUATION CRITERIA QUESTIONS | INDICATORS | SOURCES | METHODOLOGY |
|---|---|---|--|
| Relevance: How does the project relate to the main objectives of the GEF focal area, and to the environment and development priorities at the local, regional and national levels? | | | |
| Was/is the Project relevant to the issue being addressed within the shipping sector | How does the Project complement existing Conventions, agreements or protocols and concerns? | IMO documents and reports and word-of-mouth interviews | Analysis of reports and feedback from IMO and UNDP |
| Specifically, is the Project directly relevant to the need for GHG reductions within the shipping industry | What has been the Project involvement and linkages climate change bodies and industry itself | Project Reports, | Analysis of reports and feedback from IMO Interviews with IMO staff |
| Did the Project's objective align with the priorities of the national governments and other regional or international management bodies, treaties and protocols? | What has been the level of coherence between Project objectives and national policy priorities as well as those of regional/international bodies and their treaties and protocols? | Any appropriate national policy statements. Linkages to regional bodies and their inputs to the project | UNDP/IMO and Regional Coordination Bodies / Focal Points to provide as appropriate/available |
| Has the Project been relevant to GEF, either specifically to the International Waters Portfolio or to other GEF focal areas (e.g. biodiversity) | What has been the level of coherence between project objective and GEF strategic priorities (including alignment of relevant focal area indicators)? | GEF strategic priority documents for period when project was approved Current GEF strategic priority documents | Desk Review of GEF documentation available on website Interviews with GEF representation |
| Has the Projects' deliveries and its long-term expectations been supportive to the Sustainable Development Goals or the previous Millennium Development Goals? | What have been the linkages between project objective and elements of the SDGs/MDGs? | SDG documentation and website MDG past information | Desk-Top Review Interviews with UNDP |
| Has the Project addressed the needs of target beneficiaries in all relevant sectors and were the relevant stakeholders involved in design and implementation? | Identity of target beneficiaries? Proof of Stakeholder/Beneficiary formal engagement arrangements in Project? | Stakeholder Participation Reports from Project Design and Implementation Formal Partnership arrangements | Reports from GloMEEP PCU Desk-Top website review |
| How is the project relevant to other donor-supported activities? | Does the GEF funding support activities and objectives not addressed by other donors? How have GEF funds help to fill gaps, or provide additional stimuli, on areas which are not covered by other donors? | Documents and feedback from other donors Project reports and documentation | Desk-top document analysis Interviews with other donors as appropriate |

| | | | |
|--|--|---|--|
| | Has there been coordination and complementarity with other donors? | | |
| Effectiveness: To what extent have the expected outcomes and objectives of the project been achieved? | | | |
| Has the project been effective in achieving its expected Outcomes and Objectives? | <p>Has the project been effective in the following areas?</p> <p><u>Overall Objective:</u> Building capacity in developing countries for implementing the the technical and operational measures for energy efficient shipping and to catalyze overall reductions in GHG emissions from global shipping</p> <ol style="list-style-type: none"> 1. Legal, policy and institutional reforms achieved for GHG reductions through improved energy efficiency within maritime transport sector in developing countries (CC and IW) <ol style="list-style-type: none"> 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 2. Maritime sector energy efficiency capacity-building, awareness raising, knowledge creation and dissemination (CC and IW) all enhanced <ol style="list-style-type: none"> 2.1 Enhanced awareness and capacity to implement ship energy efficiency measures (operational, design) in the pilot countries 3. Public-private partnerships evolved to catalyse innovation and R&D and | <p>Project Documents</p> <p>Project Team feedback</p> <p>Relevant stakeholder and beneficiary groups feedback</p> <p>Data from PIRs and Quarterly Reports</p> | <p>Desk-top Analysis</p> <p>Interviews with project Team and relevant stakeholders and beneficiaries</p> |

| | | | |
|--|---|--|---|
| | <p>technology transfer to meet the needs of developing countries (CC and IW)</p> <p>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.</p> | | |
| How has the Project dealt with the predicted risks (as defined in the Project Document) and any unexpected risks that have arisen? | <p>How well have risks, assumptions and impact drivers been managed?</p> <p>What was the quality of any risk mitigation strategies that were developed?</p> <p>Are there clear strategies related to risk-mitigation for the long-term sustainability of the project?</p> | <p>Original Project Document</p> <p>Other Project Documents and Reports from project implementation</p> <p>Interviews with project team and stakeholders</p> | <p>Document analysis</p> <p>Interviews</p> |
| What lessons can be drawn from the design and implementation of this Project in relation to its EFFECTIVENESS that could be usefully captured or avoided in future projects? | <p>What lessons have been learned from the Project regarding achievement of outcomes?</p> <p>What changes would have been beneficial in the Project Design that would have improved the ability of the project to achieve its results?</p> | <p>Data collected through evaluation for lessons learned</p> | <p>Data analysis</p> <p>Feedback from interviews</p> |
| Efficiency: Was the project implemented efficiently, in-line with international and national norms and standards? | | | |
| Was Project support and management provided efficiently? | <p>Was any process of adaptive management and/or results-based management used?</p> <p>Were any changes to the Logical Framework and work-plans fed into an adaptive management process or result as part of one?</p> <p>Were progress reports produced accurately and timely and did they respond to the project's requirements including being part of an adaptive management process?</p> | <p>Project Documents and evaluations during implementation (including the Quarterly Reports)</p> <p>UNDP</p> <p>IMO</p> <p>Stakeholders</p> | <p>Desk-top review of documentation</p> <p>Appropriate interviews</p> |

| | | | |
|--|---|--|---|
| | Was the overall project implementation both cost-effective and timely as originally proposed (planned versus actual)? | | |
| Specifically, was funding managed efficiently (procurement, disbursement, co-financing) throughout the project lifetime? | <p>Were the accounting and financial systems that were put in place adequate for effective project management and able to support the production of timely financial information?</p> <p>Did the leveraging and realisation of funding, particularly co-financing, happen as planned?</p> <p>Were financial resources utilised efficiently or could this have been improved?</p> <p>Was procurement carried out in an efficient manner?</p> | <p>Project Documents (especially financial reports)</p> <p>Feedback from responsible finance person in PCU</p> <p>Feedback from IMO and UNDP</p> <p>Any feedback from stakeholders</p> | <p>Desk-top review of documentation</p> <p>Interviews</p> |
| How efficient have the Partnership arrangements been? | <p>Were partnership arrangements identified in the original design?</p> <p>Were these Partnership arrangements realised through the project?</p> <p>Did the Project catalyse new Partnerships?</p> <p>Are these Partnership arrangements sustainable beyond the project lifetime?</p> <p>How effective were the cooperation and collaboration arrangements?</p> | <p>Project documents and reports</p> <p>Formal reports from partnership arrangement (e.g. GIA)</p> <p>Feedback from partners/stakeholders</p> | <p>Desk-top review</p> <p>Interviews</p> |
| Was there efficient use of national, regional and/or global capacity? | <p>Was there an appropriate balance between the use of national, regional and international expertise where relevant?</p> <p>Did the project take into account existing national capacities in the Project Design?</p> <p>Was there an effective collaboration between institutions responsible for implementing the Project?</p> | <p>Project Document</p> <p>Project Reports</p> <p>Partners, especially the Regional Coordinators</p> | <p>Desk-Top Review website</p> <p>Interviews</p> |
| What lessons can be drawn from the design and implementation of this Project in relation to its EFFICIENCY that could be usefully captured or avoided in future projects | How could the project have carried out implementation more efficiently (in terms of management structures, and procedures, partnership arrangements, on-the-ground delivery of activities, etc.)? | Data from evaluation as whole and as used for lessons learned | <p>Data analysis</p> <p>Interviews</p> |

| Sustainability: To what extent are there financial, institutional, social-economic, and/or environmental risks to sustaining long-term project results? | | | |
|--|--|---|---|
| Sustainability in Project Design | <p>Were sustainability issues integrated into the design and implementation of the project?</p> <p>How were these addressed during Project Implementation</p> | <p>Project Documents</p> <p>Reports during Implementation</p> | <p>Document analysis</p> <p>Analysis of reports (PIRs, Quarterly)</p> |
| Financial Sustainability | <p>To what extent are project results likely to be dependent on continued financial support?</p> <p>What is the likelihood that any required financial resources will be available to sustain the project results once the GEF assistance ends?</p> | <p>Project Documents</p> <p>Evaluation interviews and general analysis</p> <p>Feedback from IMO and UNDP</p> <p>Feedback from Regional Coordination Partners</p> <p>Feedback from other beneficiaries</p> | <p>Desk-top analysis</p> <p>Interviews</p> |
| Institutional and Governance Sustainability | <p>Do relevant stakeholders have (or are likely to achieve) an adequate level of “ownership” of results, to have the interest in ensuring that project benefits are maintained?</p> <p>Do relevant stakeholders have the necessary technical capacity to ensure that project benefits are maintained?</p> <p>Were laws, policies and frameworks addressed through the project (national, regional, global level) that will address sustainability of key initiatives and objectives?</p> <p>Is there an adequate level of political commitment to continue and build on the Project?</p> <p>Are there any policies or practices in place that could create perverse incentives that could negatively affect the long-term benefits from the Project?</p> | <p>Project Documents</p> <p>Evaluation interviews and general analysis</p> <p>Feedback from IMO and UNDP</p> <p>Feedback from Regional Coordination Partners</p> <p>Feedback from other beneficiaries</p> | <p>Desk-top analysis</p> <p>Interviews</p> |
| Socio-economic Sustainability | <p>Did the Project contribute to key building blocks for socio-economic sustainability?</p> | <p>Project documents and evaluations</p> <p>UNDP reports and assessments</p> | <p>Desk-top review</p> <p>Interviews</p> |

| | | | |
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| | <p>To what extent are the project results dependent on socio-political factors?</p> <p>Are there adequate market incentives to ensure sustained environmental and economic benefits?</p> | <p>IMO reports and assessments</p> <p>Other socio-economic studies at the regional or global level</p> | |
| Environmental Sustainability | <p>Are there any environmental risks that can undermine the future flow of project impacts and Global Environmental Benefits?</p> <p>Did the Project create any such risks?</p> <p>Are there long-term environmental threats that are related to the objectives and which have not been effectively addressed by the Project or which have emerged since Project Design?</p> | <p>Project documents and evaluations</p> <p>Threats assessments</p> <p>UNDP reports and assessments</p> <p>IMO reports and assessments</p> | <p>Desk-top review</p> <p>Interviews</p> |
| Impact: Are there indications that the project has contributed to, or enabled progress toward, reduced environmental stress and/or improved ecological status? | | | |
| Has there been a logical flow of inputs and activities to outputs, and from outputs to outcomes, and then to the actual impacts of the Project? | Where inputs, outputs and outcomes of project directly targeted towards reducing environmental stress and/or improved ecological status? | Evidence from UNDP/GEF evaluations | <p>PIRS</p> <p>Quarterly reports</p> <p>Interviews with UNDP and IMO</p> <p>Review of LogFrame Indicators and Target delivery</p> |
| Overall, did the project achieve its anticipated/planned impacts? Why or why not? | Has the project achieved its overall objective in terms of Indicators of stress reduction and improved environmental and socio-economic status related to the overall aims of GHG emissions from shipping? | <p>Annual work-plans</p> <p>Logical Framework Indicators and Targets</p> <p>GEF Global benefits as identified in the Project Document</p> | <p>PIRS</p> <p>Quarterly reports</p> <p>Interviews with UNDP and IMO</p> <p>Review of LogFrame Indicators and Target delivery</p> |
| Has the Project had a catalytic role in A. creating public good, B. being replicable, C. identifying possibilities for scaling-up. | <p>Is there evidence of general public good as a result of the Project's activities?</p> <p>Were project activities and results replicated or scaled-up at the national, regional and/or global level?</p> <p>What was the project's direct contribution to this replication or scaling-up process?</p> | <p>UNDP reports and general project reports</p> <p>Beneficiaries</p> <p>Other donor programming documents</p> | <p>Document analysis</p> <p>Interviews</p> |

| Mainstreaming and Cross-Cutting: has the project addressed cross-cutting issues such as gender, sustainable livelihoods, minority groups, the poverty-environment nexus; climate change issues and adaptation; environmental and social safeguards from any negative impacts of the project? (where relevant and appropriate) | | | |
|--|--|--|---|
| Has the project addressed concerns related to GEEW (Gender Equality and Empowerment of Women) where relevant? | <p>Did the Project Document require the project to address GEEW during Implementation?</p> <p>Is there evidence to support any positive and sustainable GEEW actions having taken place during implementation?</p> | <p>Project Document</p> <p>Presence of a Gender analysis</p> <p>Project reporting</p> | <p>Project Document</p> <p>PIRS</p> |
| Has the project had any impact on sustainable livelihoods or minority groups (positive or negative)? | <p>Did the Project Document aim to address livelihood issues during Implementation?</p> <p>Is there evidence to support any positive and sustainable activities that have had a positive impact on (or created and threat to) sustainable livelihoods?</p> | <p>Project Document</p> <p>Project reporting</p> | <p>Project Document</p> <p>PIRS</p> <p>interviews</p> |
| Did the Project address safeguards against environmental and/or social impacts from its activities where relevant? | <p>Was a 'Safeguards' assessment undertaken as part of the Project Design?</p> <p>Have any threats or impacts to environmental or social welfare been identified during the Project and, if so, how were they addressed?</p> | <p>Project Document</p> <p>UNDP documentation (Safeguards Assessment)</p> <p>Project reporting</p> | <p>Project Document</p> <p>Feedback from UNDP</p> <p>PIRS</p> |

ANNEX 7.5: LIST OF PRIMARY PUBLICATIONS AND STUDIES FROM GLOMEEP

These can be downloaded from the GloMEEP website at:

<https://glomeep.imo.org/resources/publications/>

- ❖ SHIP EMISSIONS TOOLKIT GUIDE NO.1: RAPID ASSESSMENT OF SHIP EMISSIONS IN THE NATIONAL CONTEXT
- ❖ SHIP EMISSIONS TOOLKIT GUIDE NO.2: INCORPORATION OF MARPOL ANNEX VI INTO NATIONAL LAW (Coming soon)
- ❖ SHIP EMISSIONS TOOLKIT GUIDE NO.3: DEVELOPMENT OF A NATIONAL SHIP EMISSIONS REDUCTION STRATEGY
- ❖ PORT EMISSIONS TOOLKIT GUIDE NO.1: ASSESSMENT OF PORT EMISSIONS
- ❖ PORT EMISSIONS TOOLKIT GUIDE NO.2: DEVELOPMENT OF PORT EMISSIONS REDUCTION STRATEGIES
- ❖ INVESTIGATION OF APPROPRIATE CONTROL MEASURES (ABATEMENT TECHNOLOGIES) TO REDUCE BLACK CARBON EMISSIONS FROM INTERNATIONAL SHIPPING
- ❖ STUDY OF EMISSION CONTROL AND ENERGY EFFICIENCY MEASURES FOR SHIPS IN THE PORT AREA
- ❖ STUDIES ON THE FEASIBILITY AND USE OF LNG AS A FUEL FOR SHIPPING
- ❖ STUDY ON THE OPTIMIZATION OF ENERGY CONSUMPTION AS PART OF IMPLEMENTATION OF A SHIP ENERGY EFFICIENCY MANAGEMENT PLAN (SEEMP)
- ❖ METHANOL AS MARINE FUEL: ENVIRONMENTAL BENEFITS, TECHNOLOGY READINESS, AND ECONOMIC FEASIBILITY
- ❖ THIRD IMO GREENHOUSE GAS STUDY 2014

ANNEX 7.6: LIST OF FURTHER DOCUMENTS REVIEWED

Project Information and Implementation Documents/Submissions:

- ❖ PIMS 5201 GloMEEP Project Document Final for Submission
- ❖ GloMEEP Request for CEO Endorsement
- ❖ PIMS 5201 GEF Shipping EE Revised PIF October 2013
- ❖ GEF Secretariat Review
- ❖ Project Budget Summaries

Project Implementation Reviews:

- ❖ 2017 GEF PIR PIMS 5201
- ❖ 2018 GEF PIR PIMS 5201

Project Quarterly Reports:

- ❖ 2016 Quarterly Reports. Q 1- Q4
- ❖ 2017 Quarterly Reports. Q 1- Q4
- ❖ 2018 Quarterly Reports. Q 1- Q4

Global Project Task Force Meetings:

- ❖ Minutes of the 1st GPTF and Project Inception Meetings – September 2015
- ❖ Minutes of the Interim Meeting of the Global Project Task Force – October 2016

GIA Task Force Meetings:

- ❖ Minutes of the 1st GIA Task Force (GIA TF) Meeting – June 2017
- ❖ Minutes of the 2nd GIA Task Force (GIA TF) Meeting – December 2017

Project National Reports from the LPCs:

- ❖ Emission Assessments:
Argentina, China, Georgia, India, Malaysia, Morocco, Panama, Philippines, South Africa
- ❖ Emissions Reduction Strategies:
Argentina, China, Georgia, India, Jamaica, Malaysia, Morocco, Panama, Philippines, South Africa
- ❖ Draft Legislation:
Argentina, China, Georgia, India, Jamaica, Malaysia, Morocco, Panama, Philippines, South Africa

Miscellaneous Reports and Documents:

- ❖ GEF IW Tracking Tool
- ❖ GEF CC Tracking Tool
- ❖ Summary Report from the Workshop on the “Development of maritime energy efficiency and emissions strategies and their implementation” Singapore, 27 September 2017

- ❖ KOICA - IMO Co-operation Agreement for implementation of a technical co-operation project on Building Capacities in East Asian countries to address Greenhouse Gas Emissions (GHG) from Ships.
- ❖ Glo MEEP Poster for IWC 8
- ❖ Global Industry Alliance to Support Low Carbon Shipping – Briefing Flyer
- ❖ Other Miscellaneous Awareness Materials
- ❖ GloMEEP Website and Links

ANNEX 7.7: TERMS OF REFERENCE FOR TERMINAL EVALUATION

INTRODUCTION

In accordance with UNDP and GEF M&E policies and procedures, all full and medium-sized UNDP support GEF financed projects are required to undergo a terminal evaluation upon completion of implementation. These terms of reference (TOR) sets out the expectations for a Terminal Evaluation (TE) of the *Global Maritime Energy Efficiency Partnerships (GloMEEP) Project: PIMS 5201 (Official Project Title: Transforming the Global Maritime Transport Industry towards a low Carbon Future through Improved Energy Efficiency (GloMEEP))*.

The essentials of the project to be evaluated are as follows:

PROJECT SUMMARY TABLE

| | | | | |
|--------------------------|---|--|--|---|
| Project Title: | <i>Transforming the Global Maritime Transport Industry towards a low Carbon Future through Improved Energy Efficiency (GloMEEP)</i> | | | |
| GEF Project ID: | 5201 | | <i>at endorsement (Million US\$)</i> | <i>at completion (Million US\$)</i> |
| UNDP Project ID: | 0092137 | GEF financing: | 1.9 | |
| Country: | Global | IA/EA own: | 7.418 | |
| Region: | Global | Government: | 2.9476 | |
| Focal Area: | IW/CC | Other: | 1.510 | |
| FA Objectives, (OP/SP): | | Total co-financing: | 11.8756 | |
| Executing Agency: | IMO | Total Project Cost: | 13.7756 | |
| Other Partners involved: | | ProDoc Signature (date project began): | | June 2015 |
| | | (Operational) Closing Date: | Proposed: May 2017 | Actual: Dec 2018 |

OBJECTIVE AND SCOPE

The project was designed 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's technical and operational energy efficiency measures, 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.

The TE will be conducted according to the guidance, rules and procedures established by UNDP and GEF as reflected in the UNDP Evaluation Guidance for GEF Financed Projects.

The objectives of the evaluation are to assess the achievement of project results, and to draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming.

EVALUATION APPROACH AND METHOD

An overall approach and method¹⁶ for conducting project terminal evaluations of UNDP supported GEF financed projects has developed over time. The evaluator is expected to frame the evaluation effort using the criteria of **relevance, effectiveness, efficiency, sustainability, and impact**, as defined and explained in the [UNDP Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-financed Projects](#). A set of questions covering each of these criteria has been drafted and are included with this TOR ([Annex C](#)) The evaluator is expected to amend, complete and submit this matrix as part of an evaluation inception report, and shall include it as an annex to the final report.

The evaluation must provide evidence-based information that is credible, reliable and useful. The evaluator is expected to follow a participatory and consultative approach ensuring close engagement with government counterparts, in particular the key stakeholders. The evaluator is expected to conduct a field mission to [London](#). Interviews will be held with the following organizations and individuals at a minimum: GloMEEP PCU, IMO officers, UNDP officers, Strategic Partners, National Focal Points and Coordinators, and members of the Global Industry Alliance.

The evaluator will review all relevant sources of information, such as the project document, project reports – including Annual APR/PIR, project budget revisions, midterm review, progress reports, GEF focal area tracking tools, project files, national strategic and legal documents, and any other materials that the evaluator considers useful for this evidence-based assessment. A list of documents that the project team will provide to the evaluator for review is included in [Annex B](#) of this Terms of Reference.

EVALUATION CRITERIA & RATINGS

An assessment of project performance will be carried out, based against expectations set out in the Project Logical Framework/Results Framework (see [Annex A](#)), which provides performance and impact indicators for project implementation along with their corresponding means of verification. The evaluation will at a minimum cover the criteria of: **relevance, effectiveness, efficiency, sustainability and impact**. Ratings must be provided on the following performance criteria. The completed table must be included in the evaluation executive summary. The obligatory rating scales are included in [Annex D](#).

| Evaluation Ratings: | | | |
|------------------------------|--------|---|--------|
| 1. Monitoring and Evaluation | rating | 2. IA& EA Execution | rating |
| M&E design at entry | | Quality of UNDP Implementation | |
| M&E Plan Implementation | | Quality of Execution - Executing Agency | |

¹⁶ For additional information on methods, see the [Handbook on Planning, Monitoring and Evaluating for Development Results](#), Chapter 7, pg. 163

| | | | |
|----------------------------------|---------------|---|---------------|
| Overall quality of M&E | | Overall quality of Implementation / Execution | |
| 3. Assessment of Outcomes | rating | 4. Sustainability | rating |
| Relevance | | Financial resources: | |
| Effectiveness | | Socio-political: | |
| Efficiency | | Institutional framework and governance: | |
| Overall Project Outcome Rating | | Environmental : | |
| | | Overall likelihood of sustainability: | |

PROJECT FINANCE / COFINANCE

The Evaluation will assess the key financial aspects of the project, including the extent of co-financing planned and realized. Project cost and funding data will be required, including annual expenditures. Variances between planned and actual expenditures will need to be assessed and explained. Results from recent financial audits, as available, should be taken into consideration. The evaluator(s) will receive assistance from the Project Team to obtain financial data in order to complete the co-financing table below, which will be included in the terminal evaluation report.

| Co-financing (type/source) | UNDP own financing (mill. US\$) | | Government (mill. US\$) | | Partner Agency (mill. US\$) | | Total (mill. US\$) | |
|-------------------------------|------------------------------------|--------|----------------------------|--------|--------------------------------|--------|-----------------------|--------|
| | Planned | Actual | Planned | Actual | Planned | Actual | Actual | Actual |
| Grants | | | | | | | | |
| Loans/Concessions | | | | | | | | |
| • In-kind support | | | | | | | | |
| • Other | | | | | | | | |
| Totals | | | | | | | | |

MAINSTREAMING

UNDP supported GEF financed projects are key components in UNDP country programming, as well as regional and global programmes. The evaluation will assess the extent to which the project was successfully mainstreamed with other UNDP priorities, including poverty alleviation, improved governance, the prevention and recovery from natural disasters, and gender.

IMPACT

The evaluators will assess the extent to which the project is achieving impacts or progressing towards the achievement of impacts. Key findings that should be brought out in the evaluations include whether the project has demonstrated: a) verifiable improvements in ecological status, b) verifiable reductions in stress on ecological systems, and/or c) demonstrated progress towards these impact achievements.¹⁷

CONCLUSIONS, RECOMMENDATIONS & LESSONS

The evaluation report must include a chapter providing a set of **conclusions, recommendations** and **lessons**.

Conclusions should build on findings and be based in evidence. Recommendations should be prioritized, specific,

¹⁷ A useful tool for gauging progress to impact is the Review of Outcomes to Impacts (ROTI) method developed by the GEF Evaluation Office: [ROTI Handbook 2009](#)

relevant, and targeted, with suggested implementers of the recommendations. Lessons should have wider applicability to other initiatives across the region, the area of intervention, and for the future.

IMPLEMENTATION ARRANGEMENTS

The principal responsibility for managing this evaluation resides with the Executing Agency (IMO). The EA will contract the evaluator. The Project Team will be responsible for liaising with the evaluator to set up stakeholder interviews, coordinate with the Government etc. It has been agreed that the evaluator will be responsible for making his own travel arrangements, which are included within the remuneration of this contract.

EVALUATION TIMEFRAME

The total duration of the evaluation will be **44 days** according to the following plan:

| Activity | Timing | Completion Date |
|--------------------------------|---------|-----------------|
| Preparation | 22 days | 07/09/17 |
| Evaluation Mission | 5 days | 15/09/17 |
| Draft Evaluation Report | 10 days | 25/09/17 |
| Final Report | 5 days | 30/09/17 |

EVALUATION DELIVERABLES

The evaluation team is expected to deliver the following:

| Deliverable | Content | Timing | Responsibilities |
|---------------------------|--|--|--|
| Inception Report | Evaluator provides clarifications on timing and method | No later than 1 week before the mission to London. | Consultant submits to UNDP and GloMEEP PCU |
| Presentation | Initial Findings | End of evaluation mission (London) | To PCU and UNDP |
| Draft Final Report | Full report, (per annexed template) with annexes | Within 3 weeks of the evaluation mission | Sent to IMO, PCU, UNDP GEF Technical Adviser |
| Final Report* | Revised report | Within 1 week of receiving UNDP comments on draft | Sent to IMO and UNDP for uploading to UNDP ERC |
| Presentation | Final presentation of full report and findings | 12 th of November via videoconference | To final Global Project Task Force Meeting (Ningbo, China) |

*When submitting the final evaluation report, the evaluator is required also to provide an 'audit trail', detailing how all received comments have (and have not) been addressed in the final evaluation report.

EVALUATOR ETHICS

Evaluation consultants will be held to the highest ethical standards and are required to sign a Code of Conduct (Annex E) upon acceptance of the assignment. UNDP evaluations are conducted in accordance with the principles outlined in the [UNEG 'Ethical Guidelines for Evaluations'](#)

PAYMENT MODALITIES AND SPECIFICATIONS

| Days | Milestone |
|------|--|
| 10 | At contract signing |
| 29 | Following submission and approval of the 1ST draft terminal evaluation report |
| 5 | Following submission and approval (UNDP-CO and UNDP RTA) of the final terminal evaluation report |

ANNEX A: PROJECT LOGICAL 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 Objective¹⁸ 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 | 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. <ul style="list-style-type: none"> Level of dissemination and knowledge sharing efforts and activities. | <ul style="list-style-type: none"> 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 GHG emissions. There are no significant initiatives between North-South (e.g. such as proposed GIA) and South- | <ul style="list-style-type: none"> 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 relevant experts are in place for undertaking national or regional tasks in this area. One existing maritime institution in each LPC is | <ul style="list-style-type: none"> 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 of executed capacity building activities. Records of dissemination activities. Record of international events organized within the | Changes in policy, decision makers, and/or other events beyond the control of the project. <ul style="list-style-type: none"> 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. <ul style="list-style-type: none"> Formation of GIA will be given priority from early in the project. It is assumed that failure to secure significant GIA Fund will reduce the private sector catalytic effects but will not impact the main objectives of the project. |

¹⁸ Objective (Atlas output) monitored quarterly ERBM and annually in APR/PIR

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| | | | <p>South (such as GloMEEP itself) in these areas.</p> <ul style="list-style-type: none"> • 4 of LPCs have not ratified the MARPOL Annex VI and another 4 has no detailed implementation and enforcement processes in place. | <p>capacitated in area of providing training on IMO MEEF and ship energy efficiency measure.</p> <ul style="list-style-type: none"> • 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. | <p>framework of GloMEEP.</p> | <p>Large number of capacity building workshops and lack of capacity to deliver them. This is mitigated via:</p> <ul style="list-style-type: none"> • 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. <p>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:</p> <ul style="list-style-type: none"> • 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 |
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| | | | | | | in debates; thus secure their buy-in for future activities. |
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| | Expected Outcomes | Indicator | Baseline | Targets End of Project | Source of verification | Risks and Assumptions |
| Component 1: ¹⁹ 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 | <ul style="list-style-type: none"> Number of LPCs that have identified their baselines, policies 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. | <ul style="list-style-type: none"> 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. | <ul style="list-style-type: none"> 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. | <ul style="list-style-type: none"> 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. | <p>It is assumed that country buy-in and political support exists. This risk is mitigated:</p> <ul style="list-style-type: none"> 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. <p>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:</p> <ul style="list-style-type: none"> 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 "responsible international expert" for each deliverable globally to act as consultant to national experts. |

¹⁹ All outcomes monitored annually in the APR/PIR.

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| | | | | | | <ul style="list-style-type: none"> • 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. <p>Approval of NMEESs may be delayed. To mitigate this risk:</p> <ul style="list-style-type: none"> • 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. <p>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.</p> <ul style="list-style-type: none"> • 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. <p>Preparation of legislation may be delayed due to lack of non-</p> |
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| | | | | | | <p>cooperative stakeholders. To mitigate this risk:</p> <ul style="list-style-type: none"> 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. |
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| | 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. | <p>Level of human capacity of the LPCs in area of shipping energy efficiency regulations and operational and technical measures.</p> <p>Number of capacity building workshops successfully executed.</p> <p>Level of dissemination and knowledge sharing activities of the project.</p> <ul style="list-style-type: none"> | <ul style="list-style-type: none"> 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 in their curriculum. Port authorities and personnel are generally unaware of impact of port | <p>Specific objectives and targets include:</p> <ul style="list-style-type: none"> 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 4/LPC). The developed GloMEEP training materials are | <ul style="list-style-type: none"> 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. Published GloMEEP newsletters. | <p>Large number of capacity building workshops and lack of capacity to deliver them. This is mitigated via:</p> <ul style="list-style-type: none"> 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. Workshops are mainly national ones; thus the efforts are distributed between 10 |

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| | | | management on ship energy efficiency. | disseminated to all LPCs. | | 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. | <ul style="list-style-type: none"> GIA is formed and GIA Fund is secured EETs database realization. Number of global activities / international events organised. | <ul style="list-style-type: none"> 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: <ul style="list-style-type: none"> 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. | <ul style="list-style-type: none"> 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. | <p>The risk is that the industry may need convincing to join GIA in particular to donate cash to GIA Fund. To mitigate this risk:</p> <ul style="list-style-type: none"> 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. <p>GIA formation activities will start early in the project. Already consultation meetings have taken place with a number of industries.</p> |
| | Expected Outcomes | Indicator | Baseline | Targets End of Project | Source of verification | Risks and Assumptions |

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|---|--|---|--|--|--|--|
| <p>Component 4</p> <p>Monitoring, Learning, adaptive feedback and evaluation</p> | <p>4.1 Adaptive project management and coordination for implementation, monitoring and evaluation.</p> | <ul style="list-style-type: none"> • Realization of project teams at global and national levels. • 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. | <p>The baseline is represented as follows:</p> <ul style="list-style-type: none"> • 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. | <p>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.</p> <p>Specific objectives and targets include:</p> <ul style="list-style-type: none"> • 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. | <ul style="list-style-type: none"> • 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. | <p>Setting up of the global management elements” may be delayed. This risk is mitigated via:</p> <ul style="list-style-type: none"> • 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). <p>Number of deliverables and report are too many for this size of the project. This risk is mitigated via:</p> <ul style="list-style-type: none"> • 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. |
|---|--|---|--|--|--|--|

ANNEX B: LIST OF DOCUMENTS TO BE REVIEWED BY THE EVALUATORS

- *Project document (full version, including updates and reports from GPTF meetings)*
- *Project reports – including Annual APR/PIR, project budget revisions, etc.*
- *Project general files*
- *GEF focal area tracking tools*
- *National strategic assessments and legal documents developed by Lead Pilot Countries*
- *Awareness materials*
- *Courses and presentations*
- *Any other materials that the Consultant considers useful for this evidence-based assessment*

ANNEX C: EVALUATION QUESTIONS

This is a generic list, to be further detailed with more specific questions by CO and UNDP GEF Technical Adviser based on the particulars of the project.

| Evaluative Criteria Questions | Indicators | Sources | Methodology |
|---|------------|---------|-------------|
| Relevance: How does the project relate to the main objectives of the GEF focal area, and to the environment and development priorities at the local, regional and national levels? | | | |
| • | • | • | • |
| • | • | • | • |
| • | • | • | • |
| Effectiveness: To what extent have the expected outcomes and objectives of the project been achieved? | | | |
| • | • | • | • |
| • | • | • | • |
| • | | • | • |
| Efficiency: Was the project implemented efficiently, in-line with international and national norms and standards? | | | |
| • | • | • | • |
| • | • | • | • |
| • | • | • | • |
| Sustainability: To what extent are there financial, institutional, social-economic, and/or environmental risks to sustaining long-term project results? | | | |
| • | • | • | • |
| • | • | • | • |
| • | • | • | • |
| Impact: Are there indications that the project has contributed to, or enabled progress toward, reduced environmental stress and/or improved ecological status? | | | |
| • | • | • | • |
| • | • | • | • |

ANNEX D: RATING SCALES

| | | |
|---|--|---|
| <i>Ratings for Outcomes, Effectiveness, Efficiency, M&E, I&E Execution</i> 6: Highly Satisfactory (HS): no shortcomings 5: Satisfactory (S): minor shortcomings 4: Moderately Satisfactory (MS) 3. Moderately Unsatisfactory (MU): significant shortcomings 2. Unsatisfactory (U): major problems 1. Highly Unsatisfactory (HU): severe problems | <i>Sustainability ratings:</i> 4. Likely (L): negligible risks to sustainability 3. Moderately Likely (ML): moderate risks 2. Moderately Unlikely (MU): significant risks 1. Unlikely (U): severe risks | <i>Relevance ratings</i> 2. Relevant (R) 1.. Not relevant (NR) <i>Impact Ratings:</i> 3. Significant (S) 2. Minimal (M) 1. Negligible (N) |
| <i>Additional ratings where relevant:</i> Not Applicable (N/A) Unable to Assess (U/A) | | |

ANNEX E: EVALUATION CONSULTANT CODE OF CONDUCT AND AGREEMENT FORM

Evaluators:

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study imitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Evaluation Consultant Agreement Form²⁰

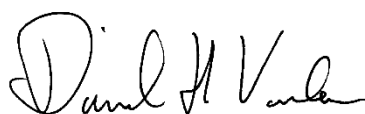
Agreement to abide by the Code of Conduct for Evaluation in the UN System

Name of Consultant: David Vousden

Name of Consultancy Organization (where relevant):

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed at *Grahamstown, South Africa* on *21st December 2018*



Signature:

²⁰www.unevaluation.org/unegcodeofconduct

ANNEX F: EVALUATION REPORT OUTLINE²¹

- i. Opening page:
 - Title of UNDP supported GEF financed project
 - UNDP and GEF project ID#s.
 - Evaluation time frame and date of evaluation report
 - Region and countries included in the project
 - GEF Operational Program/Strategic Program
 - Implementing Partner and other project partners
 - Evaluation team members
 - Acknowledgements
- ii. Executive Summary
 - Project Summary Table
 - Project Description (brief)
 - Evaluation Rating Table
 - Summary of conclusions, recommendations and lessons
- iii. Acronyms and Abbreviations
(See: UNDP Editorial Manual²²)
1. Introduction
 - Purpose of the evaluation
 - Scope & Methodology
 - Structure of the evaluation report
2. Project description and development context
 - Project start and duration
 - Problems that the project sought to address
 - Immediate and development objectives of the project
 - Baseline Indicators established
 - Main stakeholders
 - Expected Results
3. Findings
(In addition to a descriptive assessment, all criteria marked with (*) must be rated²³)
- 3.1 Project Design / Formulation
 - Analysis of LFA/Results Framework (Project logic /strategy; Indicators)
 - Assumptions and Risks
 - Lessons from other relevant projects (e.g., same focal area) incorporated into project design
 - Planned stakeholder participation
 - Replication approach
 - UNDP comparative advantage
 - Linkages between project and other interventions within the sector
 - Management arrangements
- 3.2 Project Implementation
 - Adaptive management (changes to the project design and project outputs during implementation)
 - Partnership arrangements (with relevant stakeholders involved in the country/region)
 - Feedback from M&E activities used for adaptive management
 - Project Finance:
 - Monitoring and evaluation: design at entry and implementation (*)
 - UNDP and Implementing Partner implementation / execution (*) coordination, and operational issues
- 3.3 Project Results
 - Overall results (attainment of objectives) (*)

²¹The Report length should not exceed 40 pages in total (not including annexes).

²² UNDP Style Manual, Office of Communications, Partnerships Bureau, updated November 2008

²³ Using a six-point rating scale: 6: Highly Satisfactory, 5: Satisfactory, 4: Marginally Satisfactory, 3: Marginally Unsatisfactory, 2: Unsatisfactory and 1: Highly Unsatisfactory, see section 3.5, page 37 for ratings explanations.

- Relevance(*)
 - Effectiveness & Efficiency (*)
 - Country ownership
 - Mainstreaming
 - Sustainability (*)
 - Impact
4. Conclusions, Recommendations & Lessons
- Corrective actions for the design, implementation, monitoring and evaluation of the project
 - Actions to follow up or reinforce initial benefits from the project
 - Proposals for future directions underlining main objectives
 - Best and worst practices in addressing issues relating to relevance, performance and success
5. Annexes
- ToR
 - Itinerary
 - List of persons interviewed
 - Summary of field visits
 - List of documents reviewed
 - Evaluation Question Matrix
 - Questionnaire used and summary of results
 - Evaluation Consultant Agreement Form
 - *Annexed in a separate file:* TE Audit Trail
 - *Annexed in a separate file:* Terminal GEF Tracking Tool (if applicable)

ANNEX G: EVALUATION REPORT CLEARANCE FORM

(to be completed by IMO and UNDP GEF Technical Adviser based in the region and included in the final document)

Evaluation Report Reviewed and Cleared by

IMO

Name: _____

Signature: _____ Date: _____

UNDP GEF TA

Name: _____

Signature: _____ Date: _____

ANNEX 7.8: SIGNED EVALUATION CONSULTANT CODE OF CONDUCT AND AGREEMENT FORM

Evaluators:

8. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
9. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
10. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals and must balance an evaluation of management functions with this general principle.
11. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
12. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
13. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study imitations, findings and recommendations.
14. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Evaluation Consultant Agreement Form²⁴

Agreement to abide by the Code of Conduct for Evaluation in the UN System

Name of Consultant: David Vousden

Name of Consultancy Organization (where relevant):

I confirm that I have received and will abide by the United Nations Code of Conduct for Evaluation.

Signed at *Grahamstown, South Africa* on *8th September 2018*



Signature: _____

²⁴www.unevaluation.org/unegcodeofconduct

ANNEX 7.9: MANAGEMENT RESPONSE TO TERMINAL EVALUATION

| RECOMMENDATION | COMMENTS FROM MANAGEMENT | EVALUATOR'S RESPONSE |
|---|---|--|
| First and foremost among any recommendations must be the obvious practical need for a further phase of GloMEEP. The Project has created strong ownership by countries and industry as well as a momentum toward implementing Annex VI and the new MEPC Greenhouse Gas Strategy. Many of the following recommendations relate to logical further activities and work required which could be captured and delivered through such a second phase | IMO and UNDP agree with this recommendation. Several IMO member States have also formally requested a further phase of GloMEEP especially considering the role of GloMEEP Phase 2 in supporting IMO's initial GHG strategy. The IMO Secretariat has therefore taken a proactive step of hiring a consultant to develop a PIF for a follow-up phase (GloBEEEMS), building in particular on the public-private partnership success of the GIA mechanism. | The Evaluator concurs |
| Although Legal frameworks for national legislation have been drafted, these still need to be adopted by the countries and this would be a valuable exercise for further support. | IMO will continue to use its ITCP arm to support and encourage GloMEEP LPCs to adopt the national legislation although any national legislation adoption by the respective parliaments of the countries is beyond IMO's control. IMO's initial GHG strategy envisages countries adopting a national action plan (NAP) and it is expected that adoption of national legislations would be the first priority in the NAPs of many of the countries. Once again, a follow-up phase would have catalysed such a political engagement by the countries. | The Evaluator concurs |
| A wealth of valuable tools and guidance materials have been developed and employed successfully by the 10 LPCs. It is important now that these toolkits and guidelines are not only made available to other countries aiming to comply with Annex VI but that they are delivered effectively through appropriate regional workshops to assist those same countries that were not part of the original GloMEEP Project. In short, a GloMEEP replication process needs to now take place beyond the original LPCs | IMO has a global programme on energy efficiency under its ITCP umbrella. IMO will, as much as possible, utilise the toolkits in any future workshops organised under this global programme. Furthermore, IMO will utilise these tools in the regional and sub-regional workshops held by the Global Maritime Technology Cooperation Centres (MTCC) established by IMO. | This will address the recommendation effectively |
| GIA is just getting started but is showing tremendous buy-in and ownership from industry with a dedicated group of enthusiastic representatives. It would be a waste of the initial investment in time and finances and it would send a very poor signal to the private sector if the plug were to be pulled on this innovative and unique process just as it is showing positive accomplishments and delivering real benefits. The priority activities adopted by GIA and their commitment to | IMO places a high importance on this pioneering initiative. GIA was expected to continue till June 2019 and hence for this reason IMO requested to UNDP an extension of GloMEEP beyond December 2018 so that it can continue to facilitate the GIA activities. IMO has secured a full one-year extension from UNDP and this will ensure that GIA can continue to function. The one-year timeframe will provide enough time to | This addresses the recommendation effectively |

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|---|---|--|
| fund them is a major step toward implementing Annex VI. Every effort should be made by IMO to ensure that, with the closure of GloMEEP in December, the secretariat function that the project provided to GIA can continue. | identify a strategy to sustain GIA beyond end of 2019. | |
| The countries have requested more activities related to technology transfer that can help them reduced emissions from ships and at the port level. Specific efforts should be made to provide more assistance with identifying appropriate technology, both tried-and-tested as well as innovative development. If a further phase were to be implemented, it would need to include a mechanisms for capture and transfer of emerging technologies related to maritime energy efficiency. Closer linkages with the Maritime Technical Cooperation Centres would provide a valuable vehicle to bring such activities and support into the regions. | Technology Transfer would have to happen between private sector as neither IMO nor governments hold IP rights. What IMO and countries could do is to create an enabling environment for flow of technologies and facilitate technology demonstrations. IMO has already incorporated this component in its new draft PIF for possible GEF7 financing. This will also be a focus of any bilateral TC projects that IMO would be implementing in the future. Moreover, the IMO established MTCCS will continue to be the centre of excellence in various regions to facilitate technology cooperation and technology uptake. | This will address the recommendation effectively |
| GloMEEP original designed to focus on Annex VI - Chapter 4. Energy Efficiency. National legislation, however, needs to address the entire Annex and not just one part. IMO has now set a global limit for sulphur in fuel oil used on board ships to come into effect as of 1 st January 2020. This will now require a significant support process similar to many of the GloMEEP activities if the developing counties are going to meet their compliance requirements. | GloMEEP has taken this important point into consideration in the development of relevant tools (e.g. the Guide for incorporation of MARPOL Annex VI into national law) and will continue to use these tools for activities delivered under IMO's ITCP arm. IMO will also ensure that any follow-up phase of GloMEEP will, from the outset, take this legal aspect into account so as to avoid any confusion in the drafting of national legislation. | This will address the recommendation effectively |
| Further training on monitoring of compliance and enforcement of Annex VI and emissions control as well as the compulsory data collection systems within the LPCs and with a view to replication | IMO will, using funds under its global programme on energy efficiency under its ITCP umbrella, continue to deliver relevant trainings, using the GloMEEP tools and materials as a basis. Furthermore, IMO will utilise these tools in the regional and sub-regional workshops held by the Global Maritime Technology Cooperation Centres (MTCC) established by IMO. | This will address the recommendation effectively |
| The need for more effective monitoring of ship emissions (especial as part of the compulsory IMO data collection system) through better interaction between local municipal agencies responsible for air quality monitoring and national agencies tasked with manage emissions | Recognizing that the fuel consumption data collected from 1.1.2019 will provide the basis for any further policy decisions that IMO Member States will adopt: IMO will, using the newly developed GloMEEP training package on the IMO Data Collection System (DCS), continue to deliver DCS trainings to ensure all stakeholders can support the effective monitoring and reporting of data. IMO is also planning to include a major DCS component in any GloMEEP follow- | This will address the recommendation effectively |

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| | up phase so as to ensure that the new DCS provisions under MARPOL Annex V are fully and effectively implemented. | |
| The relatively new initial GHG Strategy adopted by MEPC in 2018 represents a framework for Member States, setting out the future vision for international shipping, the levels of ambition to reduce GHG emissions and guiding principles; and includes candidate short-, mid- and long-term further measures with possible timelines and their impacts on States. Once again, these are energy efficiency related issues that need to be followed up with support to the developing countries beyond the life of GloMEEP | Agree with this and IMO will continue to endeavour to follow-up on the implementation of IMO GHG strategy. Any future projects will also have the action plans of the strategy as the basis of implementation. The GIA will also continue supporting development of measures to operationalize IMO's initial GHG Strategy through submission of relevant proposals and ideas to MEPC. | This will support the recommendation through these activities |
| Great collaboration between shipping, ports and terminal and nationally responsible government agencies with regard to GHG reductions and the new GHG strategy | Agree and this will, in the meantime and until a follow-up phase of GloMEEP has been secured, be ensured through further collaboration of IMO within the GIA that has embarked on several projects that will support reductions of emissions from both shipping and in ports. Work of the GIA will also continue to feed into IMO's wider work to reduce emissions, e.g. by submitting information and proposals on measures to operationalize IMO's initial GHG strategy. | This is addressing the recommendation as required |
| In country assessments of availability of compliant fuels including comparative assessment of scrubbers (EGC systems) vs fuel quality as a measure to improve air quality. This should also cover the need for reception facilities and disposal mechanisms for waste generated by EGC systems | IMO will take this recommendation on-board when drafting the follow-up GloMEEP project proposal and consider whether these type of assessments would be feasible and fall in-line with the donor's strategic directions / objectives. In light of the importance of the 2020 sulphur cap, IMO will also consider how Member States could in the meantime and before a follow-up phase of GloMEEP is secured, be supported in preparations up to 2020. | The Evaluator concurs with this response and proposed action |
| The GloMEEP Project should engage with IW:LEARN and Grid Arundel (who manage their website) to ensure that it has links into GloMEEP and some information on GloMEEP on the IW:LEARN website. They should also discuss the achievements of GloMEEP with a view to developing an appropriate experience note on a relevant subject such as private sector engagement | Agree with this and IMO will engage with IW:LEARN and Grid Arundel to ensure that it has links to GloMEEP and some information on the project is on the IW:LEARN website. IMO will also discuss with IW:LEARN development of an experience note to ensure sharing of best practices and lessons learned from GloMEEP's highly successful establishment and management of its public-private partnership, the GIA. | The Evaluator concurs with this response and proposed action |

ANNEX 7.10: AUDIT TRAIL OF COMMENTS RECEIVED

To the comments received from the Terminal Evaluation of *Transforming the Global Maritime Transport Industry towards a low Carbon Future through Improved Energy Efficiency* (UNDP 5201)

The following comments were provided in track changes to the draft Terminal Evaluation report; they are referenced by institution ("Author" column) and by comment number ("#" column):

| Author | # | Para No./ comment location | Comment/Feedback on the draft TE report | Evaluator response and actions taken |
|-------------------------|---|----------------------------------|--|---|
| UNDP | | VARIOUS | VARIOUS | ALL MINOR AND MOSTLY TYPOS. ALL ACCEPTED BY EVALUATOR |
| IMO | | VARIOUS | Various | ALL MINOR AND MOSTLY TYPOS. ALL ACCEPTED BY EVALUATOR |
| OTHER STAKEHOLDERS | | | MINIMAL | VERY MINOR AND ADOPTED INTO THE REPORT |
| MANAGEMENT RESPONSES | | VARIOUS – IN ANNEX 7.9 | CAPUTRED IN THE REPORT AS ANNEX 7.9 | THE EVALUATOR RECONGISES ALL OF THE POSITIVE RESPONSES RECEIVED BACK FROM MANAGEMENT AND CONCURS |