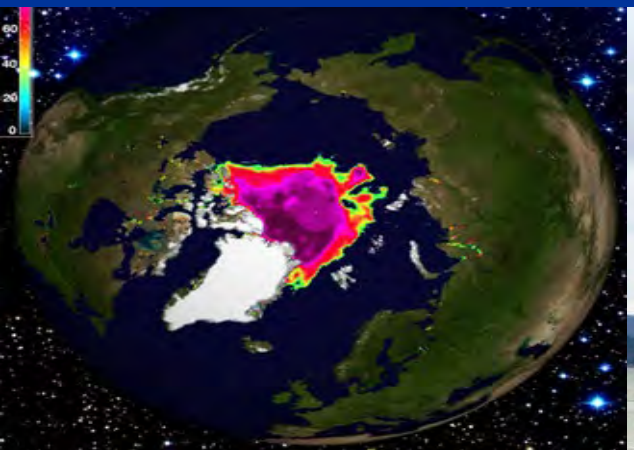
国际海事组织气候行动和技术合作

港口绿化与减碳地区知识共享研讨会

2023年7月27日



INTERNATIONAL MARITIME ORGANIZATION

可持续的航运，造福可持续的地球。

国际海事组织简介

International Maritime Organization (IMO): a global regulator for a global industry

United Nations Specialized Agency mandated to define a **global regulatory framework** to ensure safe, secure and efficient shipping on cleaner oceans

Established in 1948. Headquartered in London

175 Member States, 3 associated members, 143 observer organizations (IGOs and NGOs)

IMO regulates > 50,000 ships trading worldwide

IMO's instruments contain **binding obligations**, which are **enforced globally by flag and port States**

Safe, secure and efficient shipping on cleaner oceans

可持续的航运，造福可持续的地球。

2023 年国际海事组织温室气体战略

2023年国际海事组织关于船舶温室气体排放减少的战略

Vision

IMO remains committed to reducing GHG emissions from international shipping and, as a matter of urgency, aims to phase them out as soon as possible, while promoting, in the context of this Strategy, a just and equitable transition.

Levels of ambition

Levels of ambition directing the 2023 IMO GHG Strategy are as follows:

.1 ***carbon intensity of the ship to decline through further improvement of the energy efficiency for new ships***

to review with the aim of strengthening the energy efficiency design requirements for ships;

.2 ***carbon intensity of international shipping to decline***

to reduce CO_2 emissions per transport work, as an average across international shipping, by at least 40% by 2030, compared to 2008;

.3 ***uptake of zero or near-zero GHG emission technologies, fuels and/or energy sources to increase***

uptake of zero or near-zero GHG emission technologies, fuels and/or energy sources to represent at least 5%, striving for 10%, of the energy used by international shipping by 2030; and

.4 ***GHG emissions from international shipping to reach net zero***

to peak GHG emissions from international shipping as soon as possible and to reach net-zero GHG emissions by or around, i.e., close to, 2050, taking into account different national circumstances, whilst pursuing efforts towards phasing them out as called for in the Vision consistent with the long-term temperature goal set out in Article 2 of the Paris Agreement.

2023年国际海事组织船舶温室气体减排战略

Indicative checkpoints

3.4 Indicative checkpoints to reach net-zero GHG emissions from international shipping:

.1 to reduce the total annual GHG emissions from international shipping by at least 20%, striving for 30%, by 2030, compared to 2008; and

.2 to reduce the total annual GHG emissions from international shipping by at least 70%, striving for 80%, by 2040, compared to 2008.

2023年国际海事组织船舶温室气体减排战略

Basket of candidate mid-term GHG reduction measures

4.5 In accordance with the timelines set out in this Strategy and the Work Plan, a basket of candidate measure(s), delivering on the reduction targets, should be developed and finalized comprised of both:

.1 a technical element, namely a goal-based marine fuel standard regulating the phased reduction of the marine fuel's GHG intensity; and

.2 an economic element, on the basis of a maritime GHG emissions pricing mechanism.

2023年国际海事组织船舶温室气体减排战略

Target dates	Milestones		
	Comprehensive impact assessment of the basket of candidate mid-term measures	**Development of candidate mid-term measures**	**Other milestones**
MEPC 80 (Summer 2023)	Initiation of CIA	Initiate Phase III of the Work Plan on the development of mid-term measures	
MEPC 81 (Spring 2024)	Interim report	Finalization of basket of measures	
MEPC 82 (Autumn 2024)	Finalized report		
MEPC 83 (Spring 2025)		Approval of measures	Review of the short-term measure to be completed by 1 January 2026
Extraordinary one or two-day MEPC (six months after MEPC 83 in Autumn 2025)		Adoption of measures	
MEPC 84 (Spring 2026)			
MEPC 85 (Autumn 2026)			
16 months after adoption (2027)		Entry into force of measures	
MEPC 86 (Summer 2027)			Initiate the review of the 2023 IMO GHG Strategy
MEPC 87 (Spring 2028)			
MEPC 88 (Autumn 2028)			Finalization of the review of the 2023 IMO GHG Strategy with a view to adoption of the 2028 IMO GHG Strategy

2023年国际海事组织船舶温室气体减排战略

5 BARRIERS AND SUPPORTIVE ACTIONS; CAPACITY-BUILDING AND TECHNICAL COOPERATION; R&D

5.1 The Committee recognizes that developing countries, in particular LDCs and SIDS, have special needs with regard to capacity-building and technical cooperation.

5.10 The Organization should assess periodically the provision of financial and technological resources and capacity-building to implement the Revised Strategy through the Integrated Technical Cooperation Programme (ITCP), the IMO GHG TC-Trust Fund and other initiatives, including both IMO and Member States-sponsored programmes, as listed in appendix 2.

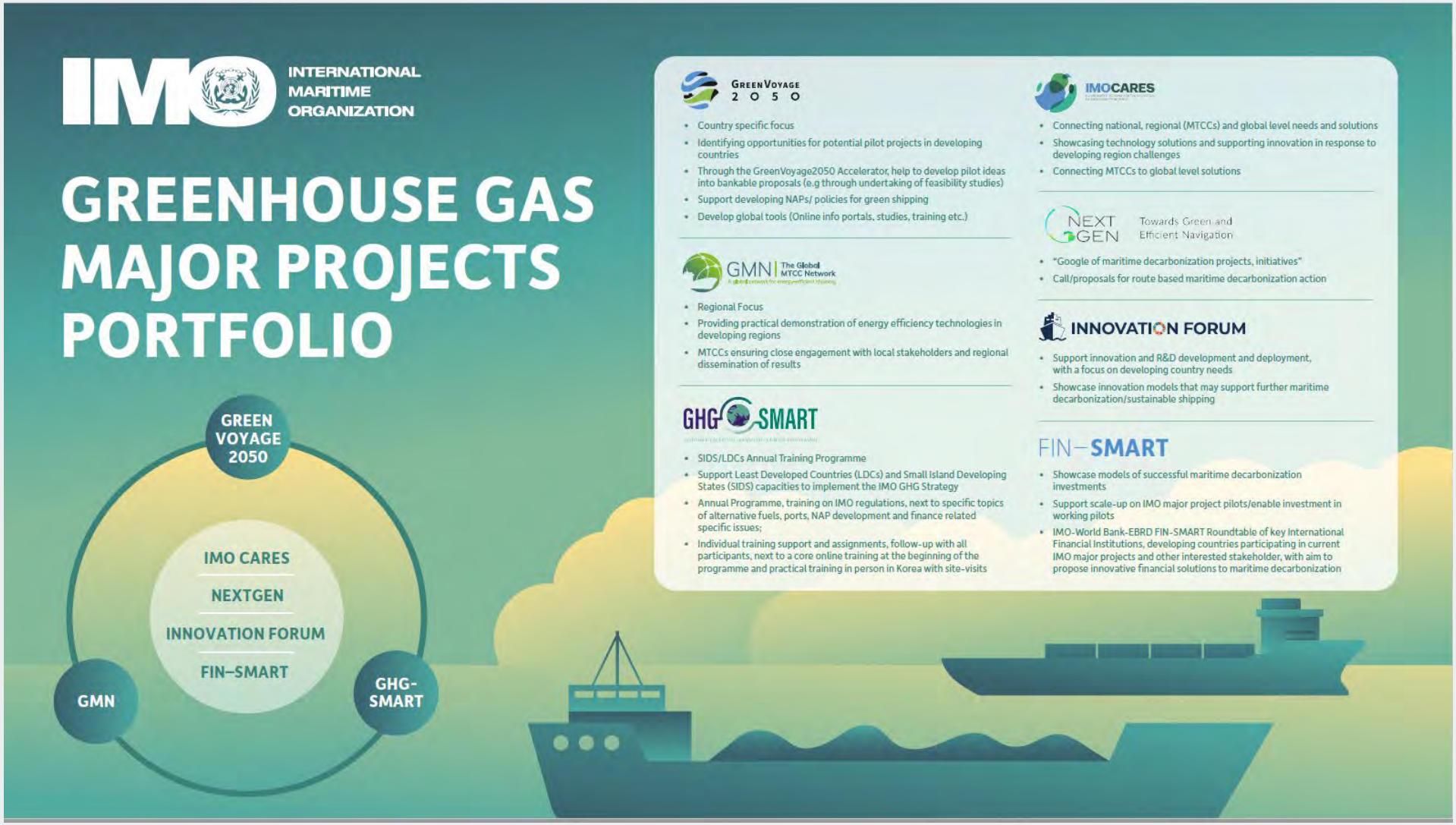
可持续的航运，造福可持续的地球。

国际海事组织温室气体排放主题长期项目

Department of Partnerships and Projects

INTERNATIONAL MARITIME ORGANIZATION

国际海事组织温室气体排放主题长期项目



2023年IMO港口相关的温室气体战略

5 BARRIERS AND SUPPORTIVE ACTIONS; CAPACITY-BUILDING AND TECHNICAL COOPERATION; R&D

5.4 The Committee acknowledges that development and making globally available zero and near-zero GHG emission technologies, fuels and/or energy sources, and the development of the necessary associated port infrastructure, could be specific barriers to the implementation of possible measures.

Other candidate mid-term GHG reduction measures

4.9 In addition to the basket of candidate mid-term GHG reduction measures, the Organization should continue to develop other mid-term GHG reduction measures to reduce GHG emissions from ships. All the following candidate mid-term measures represent possible mid-term further action of the Organization on matters related to the reduction of GHG emissions from ships:

Supporting global availability and uptake of zero or near-zero GHG emission technologies, fuels and/or energy sources:

.7 consider and analyse measures to encourage port developments and activities globally to facilitate reduction of GHG emissions from shipping, including provision of ship and shoreside/onshore power supply from renewable sources, infrastructure to support supply of zero or near-zero GHG emission fuels and/or energy sources, and to further optimize the logistic chain and its planning, including ports.

港口相关决议和监管

MEPC RESOLUTION.366(79)
(adopted on 16 December 2022)

INVITATION TO MEMBER STATES TO ENCOURAGE VOLUNTARY COOPERATION BETWEEN THE PORT AND SHIPPING SECTORS TO CONTRIBUTE TO REDUCING GHG EMISSIONS FROM SHIPS

THE MARINE ENVIRONMENT PROTECTION COMMITTEE,

RECALLING Article 38(a) of the Convention on the International Maritime Organization concerning the functions of the Marine Environment Protection Committee conferred upon it by international conventions for the prevention and control of marine pollution from ships,

RECALLING ALSO that Regulation 28.10 of MARPOL ANNEX VI encourages Administrations, port authorities and other stakeholders as appropriate to provide incentives to ships rated A or B,

HAVING ADOPTED resolution MEPC.304(72) on the *Initial IMO Strategy on reduction of GHG emissions from ships* (hereinafter the Initial Strategy),

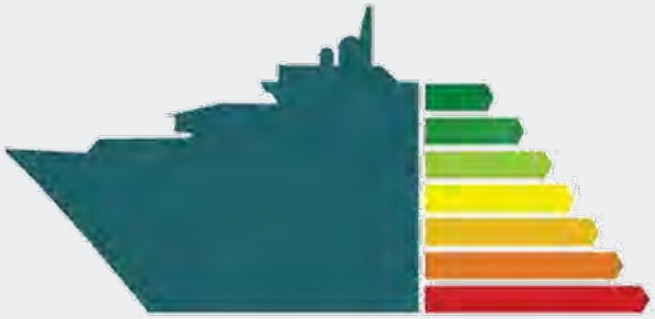
NOTING that the Initial Strategy calls for the encouragement of port developments and activities globally to facilitate reduction of GHG emissions from shipping, including provision of ship and shoreside/onshore power supply from renewable sources, infrastructure to support supply of alternative low-carbon and zero-carbon fuels, and to further optimize the logistic chain and its planning, including ports,

RECALLING that, at its seventy-fourth session, the Committee adopted resolution MEPC.323(74) on the *Invitation to Member States to encourage voluntary cooperation between the port and shipping sectors to contribute to reducing GHG emissions from ships,*

RECALLING ALSO that, at its seventy-ninth session, the Committee agreed to revise resolution MEPC.323(74),

RECOGNIZING that many ports are already taking action to facilitate the reduction of GHG emissions from ships,

Invites Member States to promote the consideration and adoption by ports within their jurisdiction, of regulatory, technical, operational and economic actions to facilitate the reduction of GHG emissions from ships. Those could include but are not limited to the provision of :
(a) **onshore power supply** (preferably from renewable sources)
(b) safe and efficient **bunkering** of alternative low-carbon and zero-carbon fuels
(c) **incentives** promoting sustainable low-carbon and zero-carbon shipping
(d) support for the **optimization of port calls**
(e) facilitating **voluntary cooperation through the whole value chain, including ports**, to create favourable conditions to reduce GHG emissions from ships through shipping routes and maritime hubs consistent with international law, including the multilateral trade regime



Carbon Intensity Indicator (CII)

GreenVoyage 2050

An IMO project under the **Department of Partnerships & Projects (DPP)**

GEOGRAPHIC FOCUS	New Pilot Countries: Azerbaijan, Belize, Cook Islands, Ecuador, Kenya, Solomon Islands and Sri Lanka Pioneer Pilot Countries: China, Georgia, India, Malaysia and South Africa
TOTAL BUDGET	7.15 Million USD
DONOR	Norwegian Ministry of Climate and Environment
PROJECT DURATION	2019-2022
WEBSITE / CONTACT	greenvoyage2050.imo.org greenvoyage2050@imo.org

Supporting shipping's transition **towards a low carbon future**

THE ISSUE

According to the Fourth IMO GHG Study 2020, CO_2 emissions from shipping account for approximately 2.89% of global anthropogenic emissions, and if left unchecked, could rise significantly in the future. In 2018, IMO adopted the Initial IMO Strategy on reduction of GHG emissions from ships confirming IMO's commitment to reducing GHG emissions from international shipping and, as a matter of urgency, to phasing them out as soon as possible.

INTERNATIONAL MARITIME ORGANIZATION

OUR SOLUTION

Supporting effective implementation of the Initial IMO GHG Strategy and in particular, providing support to developing countries in their efforts to reduce GHG emissions from ships, through enhancing government and port management capacities to:

- Undertake legal and policy reforms to effectively implement MARPOL Annex VI.
- Develop National Action Plans (NAPs) to address GHG emissions from ships.
- Catalyze private sector partnerships.
- Deliver pilot demonstration projects to facilitate technology uptake.

IMPACT

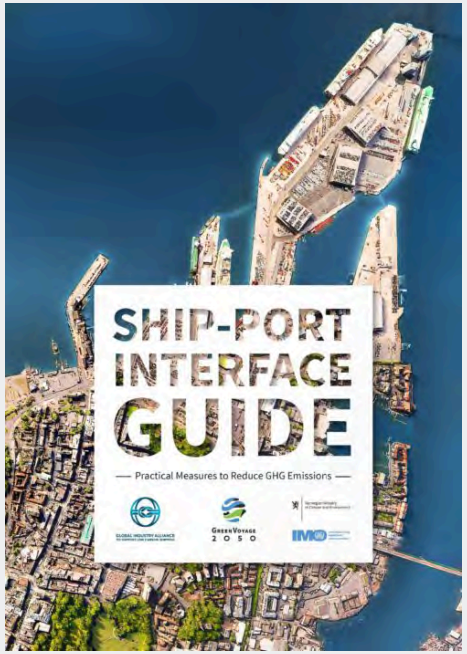
- ✓ High level commitment secured from all participating countries to progress on activities in their tailored workplans.
- ✓ Development of global capacity-building tools and training material to support decarbonization efforts.
- ✓ Initial dialogue with IFI's and other strategic partners to support pilot project implementation and other outputs.
- ✓ Reestablishment of the Low Carbon GIA under GreenVoyage2050, a public-private partnership to support low carbon shipping.

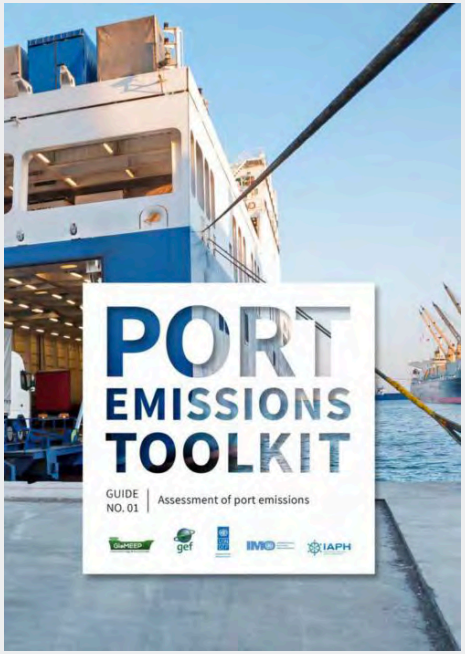
支持低碳航运全球产业联盟(Low Carbon GIA) -绿色航行2050计划PCU 担任秘书处

GLOBAL INDUSTRY ALLIANCE
TO SUPPORT LOW CARBON SHIPPING

刊物


JUST IN
TIME
ARRIVAL GUIDE
Barriers and Potential Solutions


SHIP-PORT
INTERFACE
GUIDE
Practical Measures to Reduce GHG Emissions


PORT
EMISSIONS
TOOLKIT
GUIDE
NO. 01
Assessment of port emissions

绿色航行2050计划- 开放研讨会参与申请

Norwegian Ministry of Climate and Environment
Norway
Pioneering sustainability
Norwegian Consulate General
Mumbai

GREEN VOYAGE 2050

IMO INTERNATIONAL MARITIME ORGANIZATION

iaph

Open call for workshop participation
Port actions for greener shipping

Mumbai, India
10-12 October 2023

The IMO-Norway GreenVoyage2050 Project, in collaboration with the International Association of Ports and Harbours (IAPH), the Directorate General of Shipping of India (DGS) and the Royal Norwegian Consulate General Mumbai are holding the above-mentioned in-person workshop from 10 to 12 October 2023, in Mumbai.

The workshop will take place over three days and train participants on emission reduction opportunities in ports, aligned with IMO's resolution MEPC.366(79) encouraging voluntary cooperation between the port and shipping sectors to contribute to reducing GHG emissions from ships.

Day 1 will provide an introduction and overview of various measures a port can consider contributing to reducing port / ship emissions. Days 2 and 3 will see participants split into two groups – one focussing in on more detail on Onshore Power Supply (OPS) and the other exploring the ports perspective of alternative marine fuels. More information about these two workshops, along with the suggested participant profile is provided below, and the workshop programme overview is attached.

Onshore Power Supply	Alternative marine fuels – a ports perspective
Aim:. OPS is one of many strategies that have potential to reduce emissions from ships while at-berth. The training will provide participants with an in-depth overview of OPS from the port perspective and dive into the various analyses which need to be undertaken to assess feasibility and potential usage before any investment/implementation decisions are made.	**Aim:** Familiarize port operators with alternative marine fuels that will likely play a key role for ships in the coming decades, and support port representatives with know-how to prepare for the new fuels and identify opportunities for future development. The workshop will include an overview of the different types of future fuels, and drivers for their uptake, and present in detail how ports can assess their readiness and prepare for the provision of zero and near-zero GHG fuels.

New Pilot Countries

- Azerbaijan — State Maritime Agency
- Belize — Belize Port Authority
- Cook Islands — Ministry of Foreign Affairs & Immigration
- Ecuador — Subsecretaría de Puertos y Transporte Marítimo y Fluvial
- Kenya — State Department For Maritime And Shipping Affairs
- Solomon Islands — Maritime Authority
- Sri Lanka — Marine Environment Protection Authority

Pioneer Pilot Countries

- China — Maritime Safety Administration
- Georgia — Maritime Transport Agency
- India — Directorate General of Shipping
- Malaysia — Ministry of Transport
- South Africa — Ministry of Transport

可持续的航运，造福可持续的地球。

资源调动战略与知识伙伴关系

资源调动战略 – 信息流程

IMO的工作是有价值的，并与您的利益一致

- 拯救生命
- 保护环境
- 促进经济发展

- 联合国可持续发展目标和发展援助的关键标准

与IMO合作将使您的工作受益

- 全球标准制定组织
- 与各国政府建立网络
- 海事知识和专业知识 – 在技术委员会活动中已有50多年的经验
- 联合国

IMO 能力和经验的证据

- 全球海事培训机构
- 世界海事大学
- 国际海洋法律学院
- 海事管理机构的建立
- 意识与培训课程
- 需求评估
- 主要项目
- 全球船舶压舱水管理合作项目
- 全球船舶能效合作项目

您的购物清单 - 选择一个或多个

- 安全问题
- 人为因素
- 搜救
- 导航辅助设施
- 客船安全

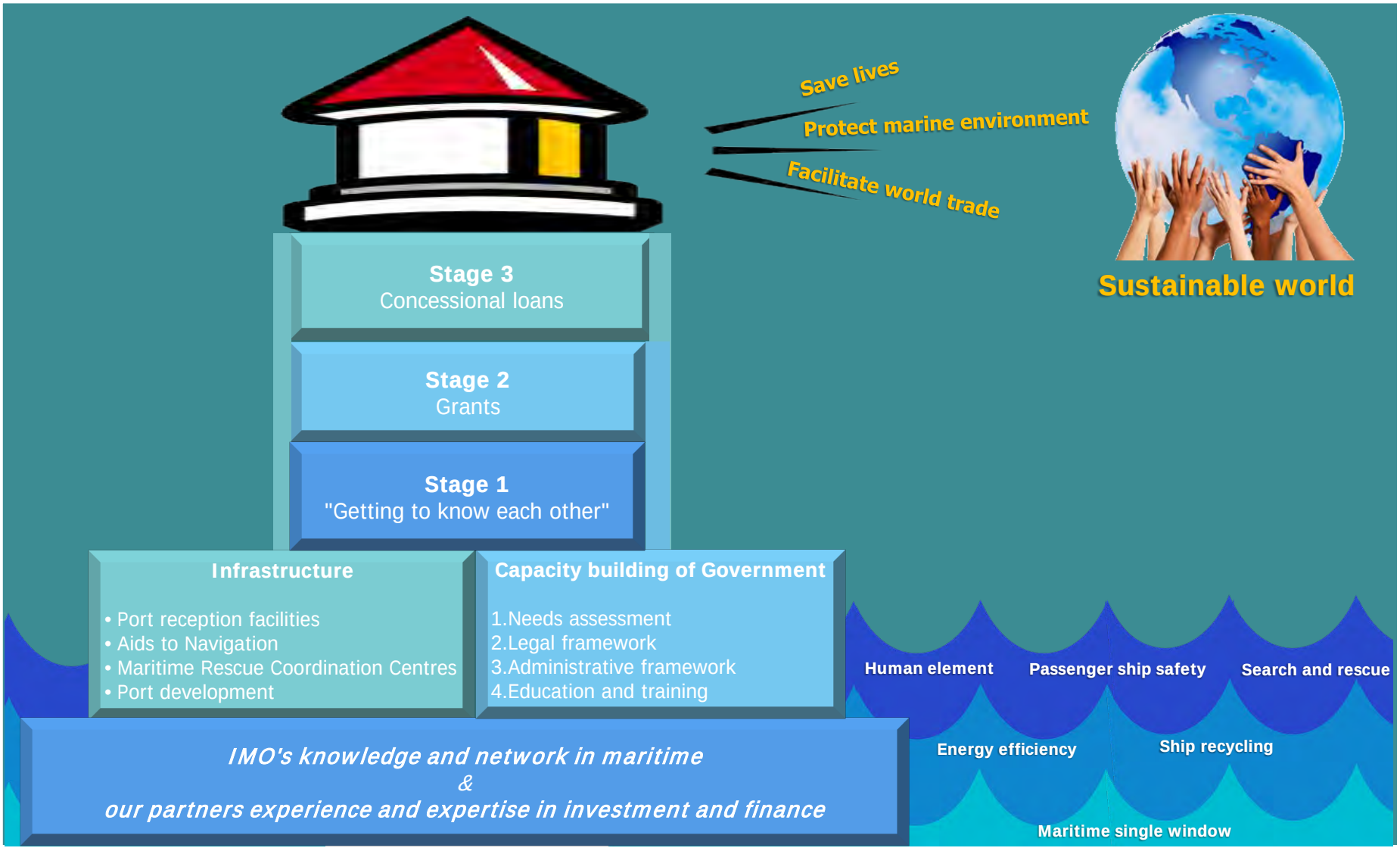
- 环境问题
- 压舱水处理
- 能效
- 船舶回收利用
- 生物污损
- 接收设施
- 岸电

- 海事单一窗口

- 信息管理系统及分析服务

- 性别

知识伙伴关系机制


Save lives
Protect marine environment
Facilitate world trade
Sustainable world
Stage 3
Concessional loans
Stage 2
Grants
Stage 1
"Getting to know each other"
Infrastructure
• Port reception facilities
• Aids to Navigation
• Maritime Rescue Coordination Centres
• Port development
Capacity building of Government
1.Needs assessment
2.Legal framework
3.Administrative framework
4.Education and training
IMO's knowledge and network in maritime
&
our partners experience and expertise in investment and finance
Human element
Passenger ship safety
Search and rescue
Energy efficiency
Ship recycling
Maritime single window

知识伙伴关系机制 – 国际海事组织的作用

阶段1：相互了解

在捐助者/受捐者之间搭建桥梁，充当协调员和撮合人。

如何实现：

- 知识伙伴关系研讨会
- 营销活动
    - 向潜在捐助者进行宣传
    - 与海事管理机构进行沟通
    - 分发营销材料

知识伙伴关系机制 – 国际海事组织的作用

阶段二：资助项目

以打包形式的项目。

项目规模：每年70万美元（范围：10万美元 – 1000万美元）

知识伙伴关系机制 – 国际海事组织的作用

阶段三：基础设施项目

“确保项目的可持续性”

涵盖所有阶段从

规划 准备 建设 运营

到

咨询 评估/检测 培训

与IMO合作

为什么选择海事领域?

海事和港口活动对国家经济增长至关重要。支持海事发展合作活动有助于加强捐助国与发展中国家之间的外交关系。通过**可持续海事运输（SMART）**的发展，为技术和解决方案创造新的市场。能源转型和数字化是主要的推动因素。

为什么选择 IMO?

IMO以其灵活性、高效性和召集能力而闻名。IMO是**联合国**负责确保航运安全、安全、环保、高效和可持续性的**专门机构**。

IMO已在**OECD DAC（经济合作与发展组织发展援助委员会）注册**，这意味着所有捐助将在OECD统计中进行报告。

通过IMO**广泛的全球网络**，包括175个成员国、三个准成员国、88个非政府组织和66个国际组织，IMO的合作伙伴关系将获得可见性和认知度。

IMO的作用:

受援国	IMO	捐助国

• **确定可持**续海事运输（SMART）**的需求**	• **制定**项目概念
	  • **基于**SMART **需求**
	  • **与捐助国的**优先事项保持一**致**
		• 选择项目/**受援国**

• **确保**项目的所有权和成果
  • **建立国家工作**组
  • **基于里程碑的**资源分配
• **由高**级官员（NKPOs*）监督管理
	• **召集关**键利益相关者
	• **高效的**项目实施和管理
		• **提供可**见性
		  • 175**个成**员国和三个准成员**国**
		  • 154**个非政府**组织/**国**际组织
		• **有效利用官方**发展援助（ODA）资**金用于**SMART发展

NKPO - **国家知**识伙伴关系官员/**高**级官员，负责与IMO**就合作伙伴关系和**项目持续保持联系

OECD-DAC（**经济合作与发展组织发展援助委员会**）- 经济合作与发展组织发展援助委员会。ODA**受援国名**单显示所有有资格接受官方发展援助（ODA）**的国家和地区**。

截至2023年3月的项目组合价值为1.1亿美元

IMO项目领域

海洋环境

气候变化 - 8个项目（5600万美元）
- 提升政府和港口管理能力
- 法律和政策改革
- 有效执行IMO规章和公约
- 技术部署的试点项目
- 人才培养
- 促进私营部门合作伙伴关系
- 全球机构网络，如区域卓越中心
- 可持续智能金融设施
- 能源转型和未来燃料
- 基于区域路线的行动
- 低碳航运创新

海洋塑料和垃圾 - 2个项目（1100万美元）
海洋生物安全 - 2个项目（1100万美元）
绿色船舶回收 - 1个项目（390万美元）
航运水下噪音 - 1个项目（200万美元）
支持批准和执行IMO公约 - 1个项目（200万美元）

油污应急响应

港口接收设施

为船舶提供岸上清洁能源供应

安全保障

海事安全与保障

安全 - 3个项目（340万美元）
- 国内渡轮安全
- 非法、无管理和未报告的渔业（IUU）
- 船舶交通服务

保障 - 2个项目（1340万美元）
- 红海地区的海上安全
- 西非和南非的港口安全

人为因素 - 2个项目（440万美元）
- 学员的船上培训
- 实施IMO公约和规章的能力建设

安全
- 渔船安全
- 货物安全运输（危险货物）
- 海上自主船舶（MASS）
- 海上事故和事故调查

保障
- 网络安全
- 船舶和港口设施安全（ISPS规范）

人为因素
- 安全管理（ISM规范）
- 性侵犯和性骚扰（SASH）

基础设施
- 搜救（SAR）/海上搜救协调中心（MRCC）
- 船舶交通监控系统
- 辅助航行设施
- 全球海上遇难和安全系统（GMDSS）

法律与便利化

船舶进入港口的数字化系统（海事单一窗口）

建立或改进海事管理机构
船舶安全检查活动的协调
实施赔偿责任和赔偿协议
国家海上运输政策/立法
数字化

跨主题

海事中的女性 - 1个项目和1个计划（300万美元）
赴WMU和IMLI的奖学金

帮助成员国在审核后实施行动计划

建立/改进海事培训设施

注意：正在进行中的项目可以扩展和/或在其他地区推广。

关键点
当前项目
未来项目

INTERNATIONAL MARITIME ORGANIZATION

实施资源调动战略

The Commonwealth

Norwegian Ministry of Climate and Environment

MPA SINGAPORE

CABEI Central American Bank for Economic Integration

ESCAP 75 MOVING FORWARD TOGETHER

European Bank for Reconstruction and Development

感谢您加入我们的可持续发展之旅

INTERNATIONAL MARITIME ORGANIZATION

Imo_hq

twitter.com/imohq

facebook.com/imohq

youtube.com/imohq

flickr.com/photos/imo-un/

Linkedin

partnerships@imo.org

www.imo.org