

The International Cooperation and Development Forum on Marine Economy 2020 2020 国际海洋经济合作发展论坛

Shenzhen, Futian Shangri-La 15-16 October 2020 2020 年 10 月 15-16 日 中国深圳 福田香格里拉

Public program 公开日程

Thursday 15 October 2020 2020 年 10 月 15 日星期四	
12:30 – Ongoing	Registration of participants 来宾注册
13:45 – 14:15	Official opening ceremony 论坛开幕式
14:30 – 15:45	Plenary session 全体讨论 Looking at 2030: China's evolving place in the global marine economy 展望 2030 年: 中国将在全球海洋经济中扮演越来越 重要的角色
	 ✓ What trends will be shaping the development of China's marine economy over the next 10 years? 未来十年,什么趋势将影响中国海洋经济的发展? ✓ How to develop China's blue economy as an engine of growth and wealth, and encourage even more innovation to have the marine economy grow from around 9.5% of GDP now to around 15% by 2030? 如何将蓝色经济打造成为中国经济增长和财富升值的引擎,并鼓励更多的创新,使海洋经济从现在的 GDP 的 9.5%增长到 2030 年的 15 左右?
	✓ What is needed to increase China's marine resource utilization



	efficiency and profitability, and bring them to the level of the most developed countries in this domain? 如何提高中国海洋资源利用效率和盈利能力,使其达到该领域最发达国家的水平?需要采取哪些措施? Beyond shipping and fisheries, what are the areas in the marine economy different activities where China has the potential to emerge as a global leader? 除航运和渔业外,中国还能够在海洋经济的哪些领域成为全球领导者?
15:45 – 16:00	Coffee break 茶歇
16:00 – 17:15	Session in parallel 平行会议 Betting on the marine energy as the wave of the future: The technological innovations which will deliver 面向未来的海洋能: 技术创新带来的机会
	Technological innovation is opening up new opportunities for tapping the oceans as an expanding source of renewable energy at economically viable conditions. Whether it is capturing offshore wind energy or thermal energy or plugging into the power of waves and tidal streams or exploring the potentialities of osmotic power – creating through electrochemistry, a concentration cell with saltwater on one side and fresh water on the other, resulting in electricity generation – we are still at the beginning of a long journey to fully leverage the oceans as a source of sustainable renewable energy.技术创新为经济可行条件下开发海洋作为又一可再生能源领域方面开辟了新的机遇。无论是海上风能或热能捕获,海浪与潮汐流能开发,或是探索海水盐差能发展潜力-通过电化学方法形成一个浓水槽,一侧是盐水,另一侧是淡水,从而产生海水盐差能发电—我们仍在不断探索并要充分利用海洋作为又一可持续可再生能源。
	✓ What are the next steps in scaling up and making ocean energy harvesting more cost-efficient, as significant cost-reductions are required for ocean energy technologies to compete with other low-carbon technologies?



	`如何解决设施容量建设与标准化相关挑战?
16:00 – 17:15	Session in parallel 平行会议 Stepping up the global fight against man-made marine pollution 加入全球行动,打击人造海洋污染
	What was already a priority challenge given the dramatic spread of the oceans' man-made pollution has become even more pressing as the huge global proliferation of protective equipment created by the fight against the pandemic, is leading to an aggravation of the seas' plastic pollution. This is today one of the most lethal threat to marine life and bio-diversity. It is estimated that up to 12 million metric tons of plastic enter our ocean each year. By 2050 there could be more plastic in the oceans -measured by weight - than fish. However, beyond plastic pollutants there are too many other sources of marine pollution such as nitrogen and phosphorous, antibiotics, heavy metals, pesticides, oil and gas, and many kinds of debris entering the oceans directly, through rivers, stormwater or even the wind. 随着新冠肺炎导致防护设备在全球范围内的流通,解决海洋人为污染急剧恶化问题已成为当务之急,这种流通行为会加剧海洋塑料污染的危险-这也是今天对海洋生物和生物多样性最致命的威胁之一。据估计,每年有多达 1200 万吨的塑料进入我们的海洋。到 2050年,海洋中的塑料比例(以重量计)可能比鱼类更多。但是,除了塑料污染物外,还存在许多其他海洋污染源,例如氮和磷,其加剧了有害藻华的生长,抗生素,重金属,农药,石油和天然气污染,导致许多杂物直接通过河流,雨水或水甚至是风来进入海洋。
	 ✓ What should be done to harmonize national policies against single-use plastic, limiting the use of highly polluting chemicals, improving wastewater management to ensure much greater global efficiency against marine pollution? 我们应采取何种措施携起手来建立国家政策,以反对使用一次性塑料,高污染化学品,改善废水管理以确保提高全球效率来应对海洋污染? ✓ What incentives and policies could help expand the circular economy, reducing the throw away mentality in order to prevent pollution instead of having to fight it? ✓ 哪些激励措施和政策可以帮助传播循环经济,并减少一次性废弃行为,从而不必通过强硬手段来防止污染? ✓ How efficient companies can leverage technologies to make the fight against marine pollution a profitable business?



	✓ 如何能够提升公司的技术,使得处理海洋污染成为一项有利可图的业务?
16:00 – 17:15	Session in parallel 平行论坛 Deep seabed mining: The technology and policies to move from exploration to sustainable exploitation 深海采矿: 从勘探到开发的可持续性技术和政策
	As the demand for base metals and minerals keeps increasing new technological developments are helping to enable the still emerging deep seabed mining industry meet the demand. 2020 was supposed to be a crucial year for deep-seabed mining. But the coronavirus pandemic has upended the planning to adopt an international mining code during this year. This mining code to be enforced by the International Seabed Authority – a UN organization – will comprise regulations defining the conditions for the extraction of cobalt, nickel and other minerals in the deep ocean beyond national jurisdiction. The July meeting has been postponed to October 2020 with the view of finalizing the code, but the issue of environmental protection remains a big bone of contention, and the pandemic has also slowed down all scientific research about deep sea ecosystems. However, many industry players consider that we are now getting close to a breakthrough. 随着对基本金属和矿物的需求不断增长,新技术的发展正在帮助正在成长的深海底采矿业不断满足需求。2020 年被认为是深海采矿的关键一年。但是今年冠状病毒大流行已经改变了推行国际采矿法的时间安排,这是一项由联合国组织国际海底管理局强制执行的采矿法规。这些法规包括了国家管辖范围以外深海中钴,镍和其他矿物的开采条件。原定于7月举行的法规最终版本讨论会议虽然因为疫情推迟至10月,但环境保护问题仍然是争论的重中之重,新冠疫情大流行也暂缓了有关深海生态系统的所有科学研究。但是,许多行业参与者认为深海采矿的技术和政策巨变正在到来。
	 ✓ What is the picture for prospecting and exploration in terms of technological capabilities and where are the most promising regional opportunities? ✓ 哪些勘探技术最具发展前景?哪些区域是未来深海采矿的重点发展区域? ✓ How to assess the evolution for metal demand in a post Covid global economy? 如何评估新冠疫情之后全球重要金属需求的变化?
	✓ What kind of safeguards and requirements will reassure investors in the present uncertain economic environment?



	什么样 的保护措施能够使得投资者在当前不确定的经济环境
	中放心?
17:30–18:45	Plenary Session in parallel 全体平行讨论
	What future for the shipping industry in a new
	international trade landscape?
	全球贸易新形势下的航运业未来
	The shipping industry is now confronting a changed global environment as a result of trends in the macroeconomic as well as geopolitical domains which have been amplified by the Covid pandemic. In addition to the impact of the global recession generated by the pandemic, the industry has to adjust to the redrawing of global supply chains, the deterioration of the multilateral trade system, with rising protectionist policies, the impact of the new health and sanitations rules. Adjusting to the challenges created by these new trends is made even more difficult as the shipping industry is still reeling from the dramatic decline of global economic activity triggered by the pandemic. The Baltic Capsize Index (BCI) has moved during the year into negative territory for the first time in its almost 30-year history. It is an implicit proxy for industrial activity and production in China and other industrial centers which – after a very steep decline - has now moved up since then. 除了新冠疫情造成的全球经济衰退的影响之外,地缘政治摩擦与气候变化压力,多边贸易系统的恶化,贸易保护主义及政策的加剧,以及新卫生法规等因素的冲击,使得航运业必须适应全球供应链的重组及新型"就近资源"采购方法。由于航运业仍受新冠疫情导致的全球贸易活动急剧下降的不利影响,因此其适应这些新趋势所带来的挑战变得更加困难重重。干散货船和油轮船等商品船的需求与这类
	也急剧下降。波罗的海好望角指数(BCI)在近 30 年的历史中首次 出现负值波动。
	✓ Looking towards 2021 how does the overall shipping industry look like in terms of patterns of activity? 展望 2021 年,整个航运业将如何开展生产活动? ✓ As global supply chains and shipping will be different from how they had worked so far, what actions will help sustain the profitability of shipping companies? 全球供应链和航运业目前的运作方式与其数十年来的运作方
	全球供应链和机运业目前的运作方式与其数十年来的运作方式相比发生了极大改变,那么在这些改变中哪些是关键性改变而它们对于航运业的调整方式又意味着什么呢? ✓ Is a new wave of consolidation of the shipping industry in the cards? 航运业是否有可能要面临行业新整合浪潮?



17:30-18:45

Plenary Session in parallel 全体平行讨论

Coming up with the right answers to the increasing threats to maritime security

应对日益严峻的海洋安全问题

As the digitization of the marine industry accelerates and ships are more and more connected and integrated into corporate IT networks the issue of marine cybersecurity is acquiring ever more urgency. Most standard marine insurance policies exclude financial protection against any form of cyber-attack, while lax security and poorlyperforming firewalls make ocean supply chains, and industries as a whole, exceptionally vulnerable. Ship owners are under pressure to comply with the new International Maritime Organization (IMO) regulations on cybersecurity coming into force in January 2021 and to increase the protection of their assets from rising cyber threats. However, cyber-threats are not the only security challenge facing the maritime industry as it has also to contend with piracy and terrorism. The general public might not realize that the sea is more than ever of great strategic importance, as nearly 80% of global trade is transported in ships' hulls, and how threats to security at sea have a real impact for almost all countries around the world.

随着海洋行业的数字化加速发展,船舶之间联系日益紧密且与IT 网络联系的加强,海洋网络安全问题变得越来越紧迫和相关。大多数标准海洋保险政策都可提供针对任何形式的网络攻击的财务保护,而安全性和性能低下的防火墙则使海洋供应链以及整个行业易受到安全威胁。船东承受这一压力,即遵守新的国际海事组织(IMO)关于网络安全的规定。该规定将于2021年1月生效,其旨在加强保护船东资产免受日益严重的网络威胁的侵害。但是,网络威胁并非海事行业面临的唯一安全挑战,由于近80%的全球贸易是通过船体运输,其还必须应对海盗和恐怖主义等问题。大众对海洋比以往任何时候都具有更大的战略重要性,以及海上安全威胁是如何对全世界几乎所有国家产生重大影响等方面知之甚少。

- ✓ While there has already been significant progress in coordinating international action on maritime security, what additional steps are needed to increase the efficiency of the responses to maritime security challenges which involve a number of different players?
 - _尽管我们在协调国际间合作以应对共同挑战方面已经取得了重大进展,但可以采取哪些其他措施来提高涉及不同参与者,例如国家,国际组织,行业协会,公司,智囊团,民事和军事决策者的海上安全挑战呢?
- ✓ How to enhance the role of private sector actors in maritime



	security? 如何增强私营部门管理者在海上安全中的作用?
19:00 – 20:45	Official opening dinner 开幕晚宴
	With a keynote speaker
	Friday 16 October 2020 2020 年 10 月 16 日 星期五
08:45 – 10:00	Plenary in parallel
	全体平行会议
	Managing ocean investments for wealth and growth
	creation in a responsible way
	海洋投资的未来:用负责任的方式创造财富
	Interest in the blue economy has been growing among investors as this sector represents today between US\$ 2.5 and 3 trillion of economic output and is expected to grow at twice the rate of the overall global economy by 2030. However, financing a sustainable blue economy remains fraught with many challenges, whether it is the lack of industry expertise, or sometimes a lack of investment-grade projects. There is however a growing awareness that a number of investment opportunities now exist in activities linked to climate change mitigation especially the whole domain of marine renewables - the technologies linked to fighting marine pollution and in the domains of coastal and marine tourism as well as in sustainable fisheries and aquaculture. 如今,投资者对蓝色经济越发关注,这一点则是因为这一新兴经济模式能够为其带来 2.5 到 3 万亿美元的经济产值,且预计到 2030 年还将以全球整体经济的两倍速度增长。但是,对于为可持续蓝色经济提供资金仍然面临许多挑战,其中不乏是由于人们对该行业缺乏专业认知与知识,又或者是缺乏专业投资项目的加持。不过,人们也越来越意识到,在减缓气候变化相关领域,特别是海洋可再生能源的整个领域,都涌现出了许多投资机遇-其包括与抗击海洋污染的相关技术以及沿海和海洋旅游与可持续发展的渔业和水产养殖业。
	✓ What innovative finance approaches could help reduce risks associated with investing in some sectors of the marine



economy?

哪些创新型金融方法可以帮助降低人们对海洋经济某些领域进行投资的相关风险?

- ✓ What is required to create or improve the governance framework that will help incentivize responsible private sector investments by reducing risks and promoting innovation?
 - 对于建立或改善可通过降低风险和促进创新来帮助激励可靠 私营企业的治理框架,人们需要做出哪些努力?
- ✓ Are there investment areas in the marine economy which look more promising than others?
 - 海洋经济中的哪些领域最具有投资价值和潜力?
- ✓ Can Public/Private Partnerships help boost investments in a sustainable marine economy? And what would the success factors be for that?
- ✓ 公私合作伙伴关系可以帮助促进对可持续海洋经济的投资吗? 其中所包含的成功因素是什么?

08:45 - 10:00

Plenary in parallel

全体平行会议

Global ocean governance : Addressing the need for a big leap forward

全球海洋治理:需要大跨越发展

The Sustainable Development Goal 14 of the United Nations' 2030 Agenda for Sustainable Development, is "to conserve and sustainably use the oceans, seas and marine resources ». However, while there is an increasing realization that the pressure on oceans' resources needs to be reduced and that these resources should be used in a much more rational manner, there is also a general recognition that the ocean international governance framework needs to be strengthened, progress in that direction remains fraught with many difficulties. As Areas Beyond National Jurisdiction represent 65% of the surface of the oceans and are beyond any single government authority and surveillance they are subject to overexploitation, pollution and degradation. And these parts of the oceans are rich in biodiversity and resources and play a critical role in oxygen production and carbon storage. In 2015 the UN General Assembly passed a resolution to develop a legally-binding instrument under the UN Convention on the Law of the Sea for the conservation and sustainable use of marine biological diversity in Areas Beyond National Jurisdiction.

联合国《2030年可持续发展议程》所提出的可持续发展目标 14 是 "保护和可持续性利用海洋,海洋和海洋资源"。然而,尽管人们日益 认识到要减轻对海洋资源的压力,并应以更加可持续和合理的方式 使用这些资源,及巩固海洋国际治理框架,目前仍未有所成效且面



临诸多挑战。由于国家管辖范围以外的地区占海洋表面的65%,因此这些地区不受任何单一政府管辖及监视,这样则导致了这些地区被过度开发,污染及退化。这些海洋地区生物多样性及资源丰富,并且在地球氧气生产和碳储存方面起着至关重要的作用。2015年,联合国大会通过了一项决议并根据《联合国海洋法公约》制定了具有法律约束力的文书,其目的旨在保护和可持续利用国家管辖范围以外区域的海洋生物多样性。

- ✓ Why is it so difficult to achieve a more integrated approach to ocean governance, and what are the possible actions for accelerating the development of this much needed integrated approach?
 - 尽管各国政府已经认识到需要采取更为综合的海洋治理方法,但为什么到现在仍未有所成效。造成这种情况的原因是什么?为加速开发海洋治理方案与方法,我们需采取什么行动?
- ✓ What are the areas where there is the most pressing need for accepted international regulations in Areas Beyond National Jurisdiction?
- ✓ 在国家管辖范围以外的地区,哪些地区最迫切需要通过公认 法规规范来管理?
- ✓ While a broad range of commitments have been made by states to adopt ecosystem approaches, integrate biodiversity conservation into ocean management there remain significant differences in how those principles are applied and understood when it comes to activities in Areas Beyond National Jurisdiction (ABNJ). What are the possibilities for achieving binding norms for the application of these principles?

尽管各国做出了广泛承诺,但我们还是要采用生态系统方法,将生物多样性保护纳入海洋管理等方面。在涉及 ABNJ 地区的生产活动时,各国在如何应用和理解这些原则方面仍然存在较大分歧。为落实这些原则以达成具有约束力的规范,我们可能会面临哪些情况?

10:10-11:25

Session in parallel

平行会议

Digitalization and IoT: The way to smart ports and logistics

数字化和物联网、智慧港口和智慧物流的新未来

Ports are under pressure to add value to the entire supply chain as the expectations increase for one-day-delivery and for flexible distribution networks. The growing demand for distribution facilities



located in ports will increasingly lead to the expansion of port-centric logistics. On the other hand, the steady increase of ships size is making it imperative for ports authorities to create the infrastructure and acquire and master the technologies that will enable them to manage efficiently these ever bigger vessels.

随着对一日交付和灵活分销网络的期望不断提高,港口也面临着增加整个供应链收益压力。对港口配送设施的需求不断增长,将不断促使以港口为中心的物流发展。另一方面,船舶尺寸的不断增加也使得港口当局必须建立基础设施及掌握技术,以使其能够有效地管理大尺寸船舶。

- ✓ What does the move from automated ports to intelligent ports mean in terms of acquisition, use of disruptive technologies and ports management?
- ✓ 从获取和使用破坏性技术以及港口管理的角度来看,从自动 化向智能化港口的转变意味着什么?
- ✓ How will new technologies optimize maritime logistics? 新技术将如何优化海上物流?
- ✓ What are the next steps for the ports and logistics industry to adjust to supply chains becoming more circular than linear as a response to the greater consumer demand for greener products and processes?
- ✓ 为了响应消费者对绿色产品和工艺的更大需求,港口和物流 行业应采取哪些措施,以实现循环环供应链而不是单一线性 供应链。
- ✓ What conditions to ensure a good return on the investment needed for creating the smart ports and logistics of the 21st century?
- ✓ 哪些条件能够确保投资一个现代化智能港口和先进物流产业 获得积极回报?

10:10 - 11:25

Session in parallel

平行会议

Leveraging the technologies that are reshaping the shipping industry
重塑航运业的前沿技术

While ship owners are generally cautious when it comes to new technology, climate change pressures are forcing the shipping industry to accelerate its move towards decarbonization, looking at all the options from LNG and hybrid propulsion to hydrogen. In the same way, the drive for greater cost efficiency is also increasing the pace towards the digitization of the industry. The smart ship of the 21st century will integrate and leverage the capabilities of AI and big data



along with a number of connected technologies to improve efficiency, ship performance, itinerary adjustments to weather safety enhancements. Smart ships will also have to make full use of the possibilities offered by robotics, advanced materials, new generation of sensors etc.尽管船东通常对新技术持谨慎态度,但气候变化压力迫使航运业加快了脱碳步伐,并使其开始研究从 LNG 和混合动力到氢的所有选择性能源。同样,其自身为提高成本效率的驱动也加快了行业数字化的步伐。21 世纪及以后的智能船将整合并利用 AI 和大数据的功能以及多种互联技术,以提高船舶工作效率及性能,调整更具有天气安全性的运输路线。智能船还将充分利用机器人技术,先进材料,新一代传感器等所提供的可能性。

- ✓ How to assess the impact of the pandemic with respect to the ability of the shipping industry to finance its move towards smart shipping? 如何评估新冠疫情大流行对航运业资助其向智能航运迈进的能力的影响?
- ✓ Assessing the impact of new emissions standards on the decarbonization of shipping 评估新排放标准对航运业脱碳的影响
- ✓ How to ensure that the expanding digitization of ships goes hand in hand with enhanced cyber-security? 如何确保船舶数字化扩展与网络安全性增强并驾齐驱?
- ✓ How will the move towards smart ships change the business model of the shipping industry?
 人们向智能船的转变将如何改变航运业的商业模式?

10:10 - 11:25

Session in parallel

平行会议

From coastal tourism to marine tourism: Strategies for a fast growth sector

从岸线旅游到海洋旅游,蓬勃发展的新行业

Ocean and coastal tourism has suffered a big blow from the Covid 19 Pandemic. Global ocean tourism was estimated by the OECD at US\$ 390 billion and it will take some time for the industry to recover and resume its growth trajectory. The pandemic will put pressure on cruise companies not only to implement tighter healthcare safety measures and monitoring but also to invest in new technologies such as sterilization robots. Coral reef tourism has been generating US\$ 36 billion revenues per year and the risk is that lost revenues may increase pressure for near-term exploitation.新冠肺炎给海洋与沿海旅游业带来了沉重打击。据经合组织预估,全球海洋旅游业产值约为3900亿美元,若全面恢复并使其步入正轨则需要一段时间。从邮



轮在海上搁浅且急需许可来准许其停靠港口的景象我们可以看到,邮轮旅游业也受到了疫情的严重打击。此次疫情将会给邮轮施加巨大压力,即迫使其不仅需要实施更为严格的医疗保健安全措施和监控,而且还需对诸如消毒机器人的新技术进行投资。每年创造 360 亿美元收入的珊瑚礁旅游业,也正在遭受收入下降所带来的近期开采压力。

- ✓ How long will it take for ocean and coastal tourism to fully recover and get back to its previous growth pattern? ~海洋与沿海旅游业需要花费多长时间以回到正轨?
- ✓ To what extent will the pandemic accelerate public expectations and demand for a bluer" blue tourism"? 新冠疫情会在多大程度上加速公众对蓝色旅游业的期望和需求?
- ✓ Will the pandemic generate a shift towards small scale ocean and coastal tourism? 新冠疫情会导致小规模海洋和沿海旅游业的转变吗?
- ✓ What is the scale of investments needed from ocean and coastal tourism operators in the post Covid era and what is required to ensure the profitability of these investments? 海洋和沿海旅游业经营者需要加大多少投资力度才能满足疫情后其卫生安全和可持续性发展要求?

11:30 - 12:30

Plenary in parallel

全体平行会议

The oceans at the front line of the fight against climate change: The technologies and policies to make the difference

应对海洋气候变化的关键技术和政策

The ocean and coastal areas provide critical ecosystem services such as carbon storage, oxygen generation, food and income generation now endangered by the oceans warming and acidification generated by greenhouse gas emissions. However, oceans are as much damaged by climate change as they are – or should be – part of the solution in fighting climate change. For instance, oceans represent a potential huge source of non-polluting renewable energy helping to reduce greenhouse gas emissions. « Blue carbon » - the carbon dioxide captured by the world's ocean and coastal ecosystems - may provide a solution for the long-term sequestration and storage of carbon.

海洋和沿海地区提供了人类生存和发展的关键生态系统,例如碳储存,氧气产生,粮食生存和经济增长等,但现在由于海洋变暖和温室气体排放产生的酸化而受到威胁。与此同时,海洋虽然受到气候



	变化的破坏,但它也是气候变化问题很好解决者。例如,海洋是潜在的巨大的无污染可再生能源的巨大来源,有助于减少温室气体的排放;"蓝色碳"-世界海洋和沿海生态系统捕获的二氧化碳-可能为长期封存和储存碳提供解决方案。 ✓ What oceans sustainability actions will provide the best contribution to the fight against climate change? 什么样的海洋可持续性行动将为应对气候变化做出最大贡献? ✓ How to create the most efficient Public/Private Partnerships in protecting the oceans and thus making them an integral part of the fight against climate change? 如何建立最有效的公共/私人合作伙伴关系来保护海洋,从而使之成为应对气候变化的有机组成部分? ✓ What ways to ensure that private sector initiatives towards
	the sustainability of oceans activities and climate change mitigation remain economically viable? ✓ 有哪些方法可以确保私营部门关于海洋活动可持续性和减缓气候变化的举措在经济上仍然可行?
12:30 – 12:45	Concluding remarks: What we take home 总结:会议收获
12:45 – 13:30	Light farewell buffet 闭幕自助午餐