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HIGH LEVEL PANEL for
**A SUSTAINABLE
OCEAN ECONOMY**

REPORT AT A GLANCE

Ocean Solutions That Benefit People, Nature and the Economy

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Humanity's well-being is intertwined with the health of the ocean. But this vital resource is under threat. The challenge requires urgent attention, because of the dangers an unhealthy ocean poses to the global economy and people's well-being, and because of the extraordinary potential a healthy ocean offers to solve some of the planet's most pressing problems. Indeed, a healthy ocean can help mitigate climate change, achieve food security, massively increase the supply of sustainable energy, provide more equitable jobs, and help the world rebuild better following the end of the COVID-19 pandemic.

The ocean plays an essential—and usually unrecognised—role in the daily lives of all of the planet's inhabitants. It makes life both possible (by providing half of the earth's oxygen) and enjoyable (by providing cultural, spiritual and recreational benefits), and it contributes more than \$1.5 trillion a year to the global economy¹. Around 90 percent of the world's goods are moved across the ocean, and hundreds of millions of people work in fishing and mariculture (marine aquaculture), shipping and ports, tourism, offshore energy, pharmaceuticals and cosmetics—all of which rely on ocean resources². The ocean is also important to billions of people with no clear connection to it, such as farmers in landlocked Zimbabwe, whose imported tools may have travelled to Africa on a container ship and whose air quality and climate are affected by what happens in the ocean.

What's the Problem?

Putting a resource this critical at risk is reckless. But the world has not handled the ocean with care. Climate change, overfishing, habitat destruction, biodiversity loss, excessive nutrient loads and pollution are damaging the ocean's health. The consequences are sobering:

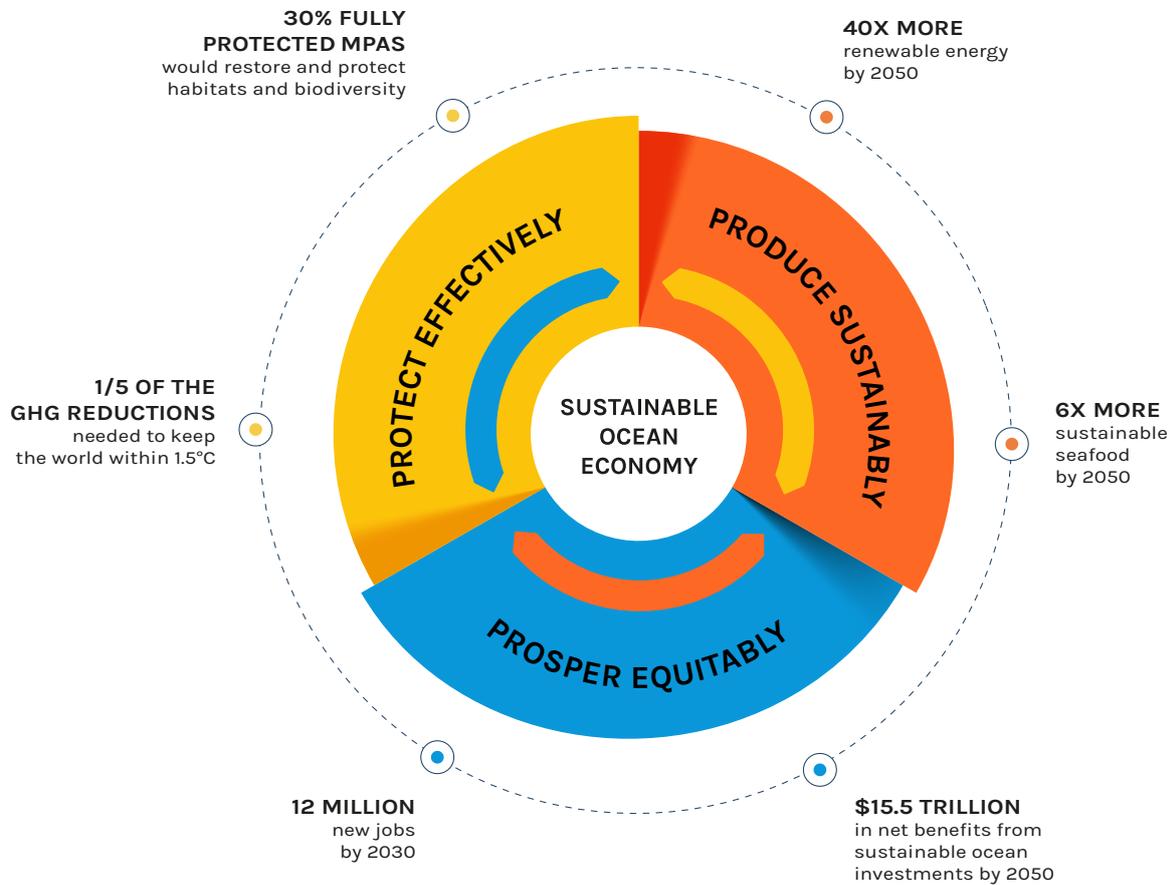
- If overfishing continues, annual yield is projected to fall by over 16 percent by 2050, threatening global food security³.
- The loss of coastal habitats and coral reefs is eroding natural coastal protection, exposing 100–300 million people living within coastal 100-year flood zones to increased risk of floods and hurricanes⁴.
- Millions of metric tons of plastic are dumped into the ocean every year, entangling, sickening and contaminating at least 700 species of marine life⁵.
- Without action, mishandling of the ocean economy could cost the global economy more than \$400 billion a year by 2050. By 2100, the annual cost could reach \$2 trillion⁶.

A New Relationship with the Ocean Is Needed—One That Creates a Healthy Ocean and a Sustainable Ocean Economy

In contrast to a conservation philosophy of minimising destruction and an extractive approach that focuses on exploiting the ocean to create wealth, a sustainable ocean economy brings diverse stakeholders together to achieve common goals—the three Ps of effective protection, sustainable production and equitable prosperity. In this new paradigm, groups work together by adopting integrated and balanced management of the ocean in which each of the three Ps contributes to the others. Sustainable production based on regenerative practices—such as ecosystem-based management of fisheries—can help restore ocean health, producing a triple win for nature, people and the economy (Figure 1).



Figure 1. A Sustainable Ocean Economy Can Create a Triple Win for People, Nature and the Economy



Note: MPAs: Marine protected areas. GHG: Greenhouse gas emissions.

Source: Authors, drawing on the following sources: OECD. 2016. *The Ocean Economy in 2030. Directorate for Science, Technology and Innovation Policy Note, April.* <https://www.oecd.org/futures/Policy-Note-Ocean-Economy.pdf>; Konar, M., and H. Ding. 2020. "A Sustainable Ocean Economy for 2050: Approximating Its Benefits and Costs." Washington, DC: World Resources Institute. <https://www.oceanpanel.org/Economicanalysis>; Costello, C., L. Cao, S. Gelcich et al. 2019. "The Future of Food from the Sea." Washington, DC: World Resources Institute. <https://www.oceanpanel.org/blue-papers/future-food-sea>; Hoegh-Guldberg, O., et al. 2019. "The Ocean as a Solution to Climate Change: Five Opportunities for Action." Washington, DC: World Resources Institute. https://oceanpanel.org/sites/default/files/2019-10/HLP_Report_Ocean_Solution_Climate_Change_final.pdf.

Protecting the ocean effectively

Protecting the ocean doesn't mean just leaving it alone—it means managing human activity wisely, in order to preserve biodiversity and critical habitats, allow the ocean to sustainably yield greater benefits and preserve the ocean's cultural and spiritual value. In some areas, significantly scaling back or prohibiting human activities will be necessary to allow ecosystems to recover and regenerate. In most areas, sustainable practices will be needed that both allow the ocean to produce and maintain (or even regenerate) ocean health.

Far from holding back production, restoring and maintaining ocean health represents the best way to generate ocean-based wealth and make the most of the ocean's unique resources:

- A sustainable ocean economy would help protect the ocean by reducing the carbon dioxide emissions that are threatening it. It could contribute about a fifth of the reductions in greenhouse gas emissions needed to prevent the average global temperature from rising by more than 1.5°C by 2050. Emission reductions of this magnitude are equivalent to the annual emissions from all coal-fired power plants worldwide or the removal of 2.5 billion cars from the road every year⁷.
- A restored and protected ocean would help mitigate the impact of storm and sea level rise, saving lives and livelihoods and reducing the economic costs of damage and recovery. Healthy coral reefs, for example, potentially protect up to 100 million coastal inhabitants from storm risks⁸.
- Creating fully and highly protected 'marine protected areas'—areas that are protected from extractive and destructive activities—on 30 percent of the ocean globally could rebuild and safeguard biodiversity and boost the productivity of fisheries in areas near them through the spillover of fish⁹.
- Protecting the ocean from pollution could catalyse deeper reform of contaminating, wasteful material management practices on land. The most effective way of stopping pollutants from entering the ocean is to tackle the root causes of pollution on land.

Producing from the ocean sustainably

The output of the ocean could soar if the ocean were managed better and sustainably—and it could do so with a low environmental footprint:

- Managed better and sustainably, the ocean could produce up to six times more food than it currently does, largely through the development of sustainable mariculture¹⁰. Massively increasing the sustainable production of healthy food could help ensure food security for the 9 billion people who will inhabit the planet in 2050.
- The ocean could produce 40 times more renewable energy than it does today¹¹. Increasing the supply of renewable energy could revolutionise people's lives and help mitigate global climate change.

Prospering equitably

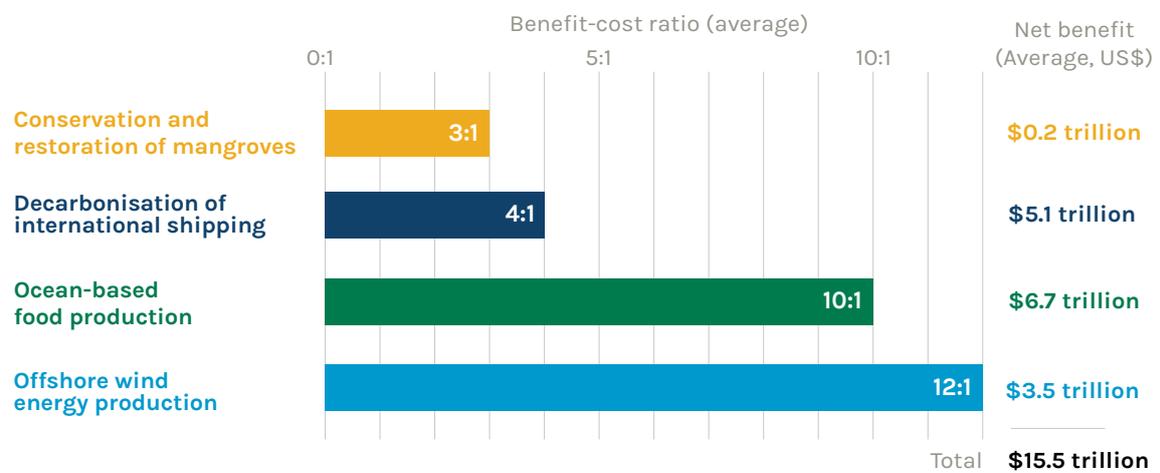
Neglect and abuse of the ocean and the effects of global climate change will make life worse for everyone. But historically underrepresented and underserved communities—including women—will bear a disproportionately large share of the burden, making the need for action particularly urgent.

A sustainable ocean economy would create a world in which resources are distributed more evenly and all ocean users have an opportunity to have a voice in critical decisions:

- It could create as many as 12 million new jobs that pay more than the jobs they would displace, with thousands of new jobs created in engineering, information technology, offshore wind and mariculture¹².

- The ocean has spiritual, cultural and recreational value to billions of people. Well-designed marine protected areas and other effective area-based conservation measures can help preserve pristine ocean areas and culturally important ocean areas, such as sacred sites, historic wrecks and sea graves.
- Investing \$2.8 trillion today in just four ocean-based solutions—offshore wind production, sustainable ocean-based food production, decarbonisation of international shipping, and conservation and restoration of mangroves—would yield an estimated net benefit of \$15.5 trillion by 2050, a benefit–cost ratio of more than 5:1 (Figure 2)¹³.

Figure 2. Sustainable Ocean-Based Interventions Have Very High Benefit–Cost Ratios and Could Yield Trillions of Dollars of Benefits



Note: Average benefit-cost (B-C) ratios have been rounded to the nearest integer and the net benefits value to the first decimal place. The B-C ratio for mangroves is the combined ratio for both conservation- and restoration-based interventions. The average net benefits represent the average net present value for investments and are calculated over a 30-year horizon (2020–50).

Source: Konar, M., and H. Ding. 2020. "A Sustainable Ocean Economy for 2050: Approximating Its Benefits and Costs." Washington, DC: World Resources Institute. <https://www.oceanpanel.org/Economicanalysis>.



Five Building Blocks Can Help Achieve a Sustainable Ocean Economy

Realising the new vision requires an integrated, rather than a sectoral, approach that is based on five cross-cutting building blocks. Putting these building blocks in place would enable change across the entire ocean economy. With these foundations in place, sector-specific reforms in key ocean sectors such as sustainable food and renewable energy from the ocean can be implemented and accelerated. Table 1 shows the kinds of actions that could be taken in each area.

Table 1. Sustainable Ocean-Based Interventions Have Very High Benefit-Cost Ratios and Could Yield Trillions of Dollars of Benefits

Building Block	Key Actions
Using data to drive decision-making	<ul style="list-style-type: none"> ▪ Create global data networks that provide broad and automated access to ocean data, and mandate standards and help create data networks that aggregate decentralised data into a common, searchable database. ▪ Condition access to public resources—fish stocks, mineral deposits, funds for coastal management or research—on data sharing. ▪ Prioritise technology-forcing regulations governing the real-time monitoring of fishing, seafood imports, shipping emissions, mining, coastal development and pollution.
Engaging in goal-oriented ocean planning	<ul style="list-style-type: none"> ▪ Establish, fund and implement ocean plans for 100% of the areas under national jurisdiction, using a process that is science-based, inclusive, participatory and adapted to the local context. ▪ Develop sustainable ocean economic zones as spatially defined ‘laboratories’ for fully managed areas comprising various sectors, multisectoral projects and fully protected areas.
De-risking finance and using innovation to mobilise investment	<ul style="list-style-type: none"> ▪ Catalyse private investment in novel industries and business models such as sustainable fisheries (reforms) or marine protected areas financed by tourism fees. ▪ Provide grants or other forms of support to early-stage innovation, as Norway has done to support next-generation offshore aquaculture and the European Union has done to support offshore wind generation. ▪ Reduce risk by ensuring regulatory certainty, providing insurance and providing offtake/demand guarantees, particularly for capital-intensive offshore investments such as wind energy and large-scale mariculture.
Stopping land-based pollution	<ul style="list-style-type: none"> ▪ Reduce unnecessary use of plastics, recycle materials and safely dispose of waste. ▪ Hold companies accountable for how much plastic they use and whether they use recycled content, recyclable product designs and plastic substitutes. ▪ Invest in waste collection and recycling technology and infrastructure, particularly in developing countries where such infrastructure is weak.
Changing ocean accounting so that it reflects the true value of the ocean	<ul style="list-style-type: none"> ▪ Develop complete sets of national ocean accounts, so that the value of the ocean reflects more than just the gross national product the ocean produces. ▪ Create interactive dashboards to allow users to explore the data by aggregating and disaggregating sectors and groups of people. ▪ Encourage international collaboration and standardisation of ocean accounts.

Source: Authors.

Pragmatic, Cost-Effective Solutions Could Be Implemented Now

The journey towards a sustainable future has already begun, with pioneers leading the way. New sustainable technologies are attracting investors, and businesses and governments are waking up to the opportunities of a sustainable ocean economy. They are also increasingly recognising the risks and cost of inaction. Inspiring efforts from around the world provide a glimpse of what can be achieved globally if stakeholders act now.

A key objective of the massive recovery from the COVID contraction will be to restore economic activity without simply restoring old patterns of environmental degradation. The ocean economy can play a critical role in this process. Investment in five areas—coastal and marine ecosystem restoration and protection, sewage and waste infrastructure, sustainable unfed mariculture, zero-emission marine transport and sustainable ocean-based renewable energy—could create jobs and spur economic growth in the immediate term¹⁴.

Investments made over the coming months and years will have long-term effects on the nature of the world's economies and their resilience to shocks. Efforts must be made now to avoid locking in high-emitting, high-polluting and inequitable pathways and locking out a sustainable future. The opportunity to reset and rebuild a stronger, more equitable, more resilient and sustainable ocean economy should not be missed.

The Ocean Is Not Too Big to Fail or Too Big To Fix

The ocean is too big to ignore. Taking bold action now makes sense, not just because of the urgency of the challenges but also because of the enormous benefits that a healthy ocean and a sustainable ocean economy could bring to people, nature and the economy.

Creating a sustainable ocean economy requires a shift away from thinking of the ocean as a victim towards seeing it as an essential part of the solution to global challenges. It requires new partnerships and a recognition by all stakeholders that we do not have to choose between protecting the ocean and producing more from it; instead, we can and must achieve both to help ensure a healthy and prosperous future.



About the Report and the High Level Panel on a Sustainable Ocean Economy

This report that this brief summarises lays out the contours of a new relationship between the ocean and humanity. Building on the latest scientific research, analyses and debates from around the world, the report showcases a balanced model for ocean management that simultaneously achieves effective ocean protection, sustainable production and equitable prosperity.

This work has been commissioned as an input to the High Level Panel for a Sustainable Ocean Economy (Ocean Panel), a unique initiative by 14 world leaders who are working with government, business, financial institutions, the science community and civil society to catalyse and scale bold, pragmatic solutions across policy, governance, technology and finance to ultimately develop an action agenda for transitioning to a sustainable ocean economy. The Ocean Panel comprises members from Australia, Canada, Chile, Fiji, Ghana, Indonesia, Jamaica, Japan, Kenya, Mexico, Namibia, Norway, Palau and Portugal and is supported by the UN Secretary-General's Special Envoy for the Ocean. The Ocean Panel is supported by an Expert Group and Advisory Network. The Secretariat, based at World Resources Institute, assists with analytical work, communications and stakeholder engagement. Ultimately, this report is an independent input to the Ocean Panel process and does not necessarily represent the thinking of the Ocean Panel.

The full report can be found at www.oceanpanel.org/ocean-solutions.

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