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BEYOND AWARENESS CALLING COMPANIES TO ACTION

The health of the ocean is vital for our survival and well-being. Over 40 percent of the world's population relies on biodiversity and services offered by marine ecosystems. The ocean supports unique habitats, and the ecosystem services it provides include provisioning, regulating, and cultural services, thus ensuring a fundamental contribution to global social and economic development. While the importance of protecting the ocean is increasingly acknowledged, progress remains slow compared to the growing threats to marine ecosystems. Awareness of the pressures on marine ecosystems is critical, but not sufficient. There is a need to move from awareness to action by taking concrete steps to protect the ocean.

OCEAN ECONOMY//OCEAN SUSTAINABILITY//SUSTAINABILITY REPORTING//SDG14//OCEAN DISCLOSURE INITIATIVE (ODI)



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Despite their importance, marine ecosystems have continued to degrade at an accelerating rate in recent decades. This deterioration underscores the urgent need for radical action to relieve the pressure on our “blue lungs.”

Based on the findings of the recently published study, *Business for Ocean Sustainability, Third Edition: Seizing the Blue Opportunity* (One Ocean Foundation et al., 2023), this paper aims to highlight the business focus on ocean protection and assess the level of engagement in various management intervention areas aimed at reducing and mitigating negative impacts on marine ecosystems.

RAISING AWARENESS TO SAVE THE OCEAN

Awareness of the direct and indirect pressures exerted by human activities on the ocean is essential to its conservation. Direct pressures arise from interactions such as oil or mining drilling, trawling, or the direct dumping of plastics into the sea. Conversely, indirect pressures, such as greenhouse gas emissions, land-based plastic runoff, or fertilizer use, originate far from the ocean but still exert a significant impact on marine ecosystems.

Numerous studies confirm that most negative impacts on the ocean stem from activities occurring beyond its immediate vicinity. Companies bear primary responsibility for these pressures, yet they also hold the key to mitigating them.

A primary metric for assessing corporate commitment to ocean protection is the adoption of Sustainable Development Goal SDG14, *Life Below Water*, within the United Nations 2030 Agenda. The United Nations Sustainable Development Agenda and its 17 goals represent a cornerstone of collective efforts to tackle the most pressing global challenges. In particular, SDG14 outlines specific targets for the conservation and sustainable use of ocean and marine resources and serves as a leading indicator of the level of corporate focus on these issues.

To analyze the level of corporate reporting on SDG14, we examined the 2021 annual or sustainability reports from a sample of approximately 2,500 of the world's largest companies by market capitalization across 17 industries. In economic terms, this sample represents a capitalization of around \$65 trillion, constituting over 70 percent of global market capitalization. This analysis employed *Natural Language Processing* (NLP) techniques to identify director or window matches of keywords related to reporting on SDG14 within the examined texts. A

comparative analysis was then conducted with the findings of a similar study,

*Business for Ocean Sustainability. A Global Perspective*¹ (One Ocean Foundation et al., 2023), carried out in 2020. This prior study utilized the same methodology on a sample of 1,664 annual or sustainability reports published in 2019 (Figure 1).

The latest research reveals an increasing corporate commitment to the SDGs across nearly all 17 goals. In 2021, 76 percent of companies demonstrated commitment to at least one SDG, up from 60 percent in 2019.

This trend underscores the growing global recognition of the importance of adopting the Sustainable Development Goals.

However, the analysis also reveals that among the 17 goals, SDG14 is mentioned by only 9 percent of the companies examined, indicating it is one of the least prioritized goals. Companies focus primarily on SDG5, *Gender Equality*, and SDG13, *Climate Action*. This is not surprising, given that climate change and gender equality are prominent environmental and social concerns that businesses have been trying to address for years.

Nevertheless, there is a growing recognition of the importance of the ocean, as evidenced by the rising mentions of SDG14 over time. Indeed, the number of mentions increased from 6 percent in 2019 to 9 percent in 2021, indicating a modest yet increasing awareness. Thus, while the process of raising awareness appears to be consolidating, it is progressing slowly compared to the escalating threats to marine ecosystems and their alarming state.

Focus on SDG14 is particularly high among companies in the ocean economy (Figure 2) due to their direct connection to the marine environment. Of these, 32 percent include SDG14 in their reporting. Following closely are textiles and apparel (24 percent), utilities and energy, and agribusiness (13 percent each). Mention of SDG14 is relatively consistent across the remaining sectors, with an approximate average of 9 percent.

1 A project supported by the One Ocean Foundation and carried out in collaboration with SDA Bocconi, McKinsey & Co, and CSIC.

FIGURE 1. REPORTING ON SUSTAINABLE DEVELOPMENT GOALS (SDGs)

Reporting on Sustainable Development Goals (SDGs)

companies mentioning selected SDG/total # companies in the sample, %

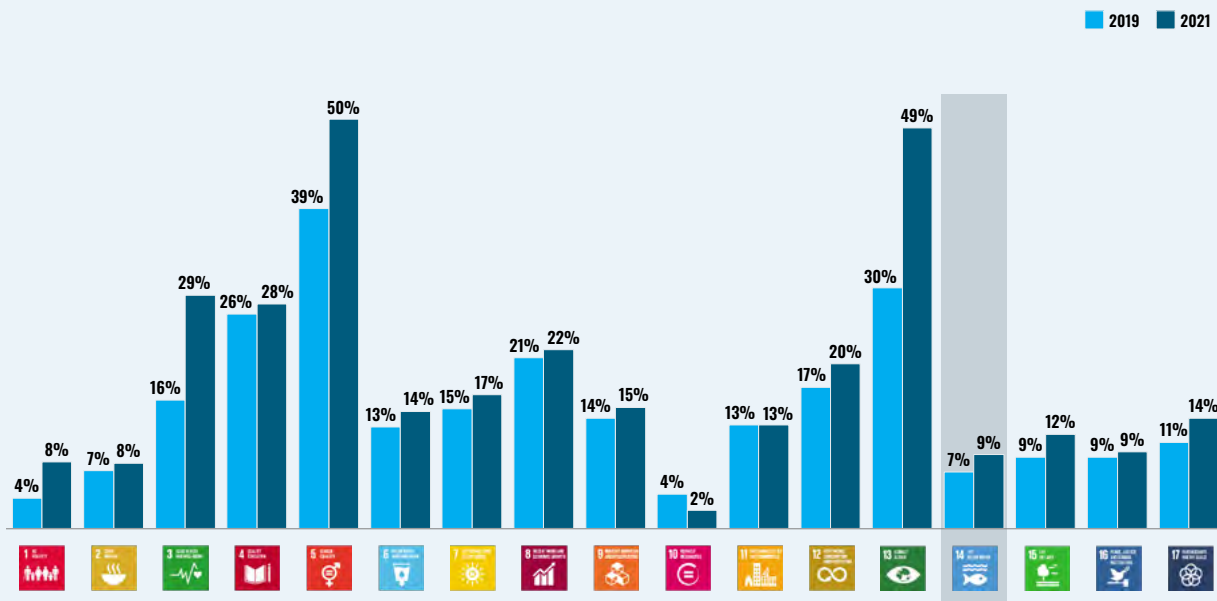
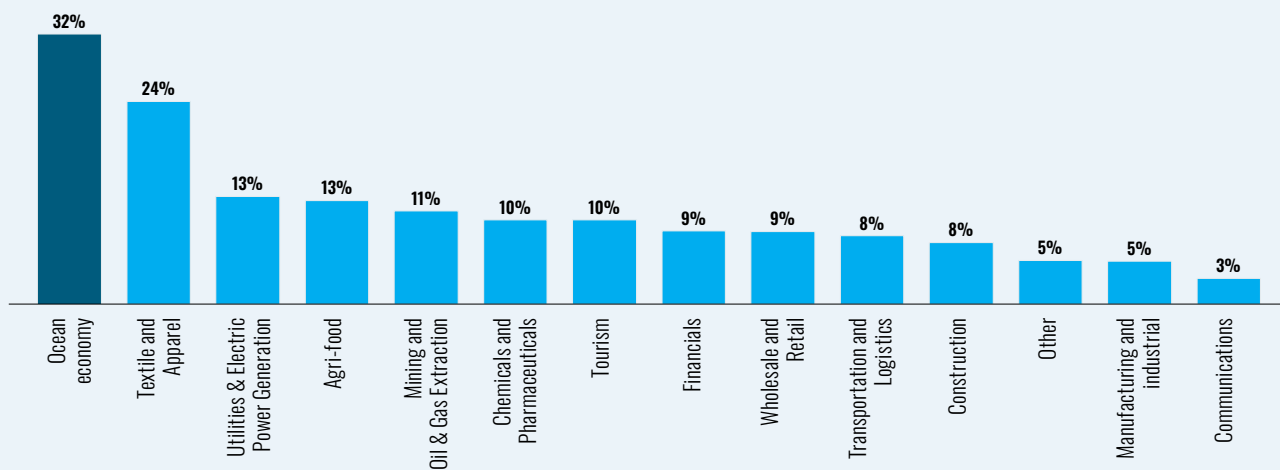


FIGURE 2. REPORTING ON SDG 14 “LIFE BELOW WATER” BY SECTOR

Reporting on SDG 14 “Life Below Water” by sector

of companies reporting on SDG 14/total # companies in each sector, %



1. Ocean Economy sectors include Maritime Transportation, Fishing and Aquaculture, Ports and Warehousing, Shipbuilding and Repair

2. Other include IT, software and public health companies

Source: Authors' elaboration: Natural Language Processing and lexicometry approach applied on a sample of 2,451 Sustainability or Annual Reports (2021)

FROM AWARENESS TO ACTION TO PROTECT THE OCEAN

Developing and disseminating genuine awareness of the pressures on marine ecosystems is necessary but insufficient for protecting the ocean. Such awareness must be followed by the adoption of appropriate strategic and organizational responses aimed at implementing concrete initiatives to safeguard the ocean.

Our research indicates a slight increase in awareness of the pressures on the ocean and marine environment in recent years, with some companies initiating both direct and indirect actions to mitigate their impact.

To address this second aspect, an analytical model based on Generative Artificial Intelligence (GenAI) was employed. This approach enabled the identification of concrete measures taken by companies to prevent or mitigate their impact on marine ecosystems by examining over 400 sustainability reports from companies across six sectors of particular interest.

Based on the framework established by the *Ocean Disclosure Initiative* (ODI)², the four management dimensions used to measure the level of activation and best practices in ocean stewardship implemented by companies are:

1. **Governance and policy.** Assess whether and how companies integrate ocean issues into their policies, and whether the board of directors oversees these issues to translate the company's commitment into formal governance structures and/or initiatives.
2. **Pressure and risk assessment.** Examine whether companies systematically analyze the direct and indirect pressures on the marine environment and the risks they face in relation to key marine issues.
3. **Role and measurement of ocean pressures.** Examine whether companies have integrated the

protection of marine and coastal ecosystems into their long-term strategy by establishing specific ocean-related targets or Key Performance Indicators (KPIs).

4. **Management activation.** Focus on activities undertaken to address pressures on marine ecosystems, such as direct mitigation activities related to ocean protection (e.g., certification, ocean-focused innovation, partnerships, engagement, education, and outreach initiatives) and activities yielding indirect benefits (e.g., product, process, and supply chain innovation).

The company activation level was calculated by considering the aforementioned four management dimensions and the eleven actionable initiatives. It ranges from 0 to 100 percent and is the ratio of the number of initiatives undertaken to the total number of actionable initiatives for each company. Our findings suggest that the activation score of the sampled companies is generally low, with an average value of 20 percent (Figure 3). This means that, on average, each company is engaged in fewer than two actionable ocean conservation initiatives, leaving ample room for improvement.

The fishing and aquaculture industry notably shows the highest level of activation, with an average score of 52 percent. This result can be attributed to various factors, including the industry's inherent dependence on natural resources, or the necessity to comply with marine environmental regulations. Other sectors exhibit comparable patterns, with scores closely aligned with or below the overall average, with the exception of the textile and apparel industry, registering a score of 24 percent.

To understand the differences in behavior among individual firms within the same sector, we considered the dispersion of activation scores. The significant dispersion of firm activation across sectors indicates some heterogeneity among firms. The fishing and aquaculture sector displays the greatest dispersion, emphasizing the coexistence of

² The Ocean Disclosure Initiative (ODI), unveiled by the One Ocean Foundation in September 2021, is the first framework for companies expressly dedicated to reporting and disclosing information related to ocean protection. For more information, visit oceansdisclosureinitiative.org

high performers (i.e., firms actively engaged in all or nearly all implementable initiatives to prevent/mitigate pressures on the ocean) and laggards. In contrast, the textile and apparel sector has the lowest dispersion, indicating a more uniform trend.

The activation score is primarily influenced by the management activation dimension, which accounts for 60-90 percent of the total score (Figure 4). Few companies have established structured governance and policies specific to the ocean, implemented risk assessment and analysis processes, or developed procedures to measure impacts on marine ecosystems.

Companies in the fishing and aquaculture sector, by their very nature and characteristics, appear to be leading the way in developing more rigorous ocean

governance practices. This includes, for instance, the delineation of board level responsibilities, the implementation of marine stewardship policies, and the inclusion of marine ecosystem protection sections in environmental policies.

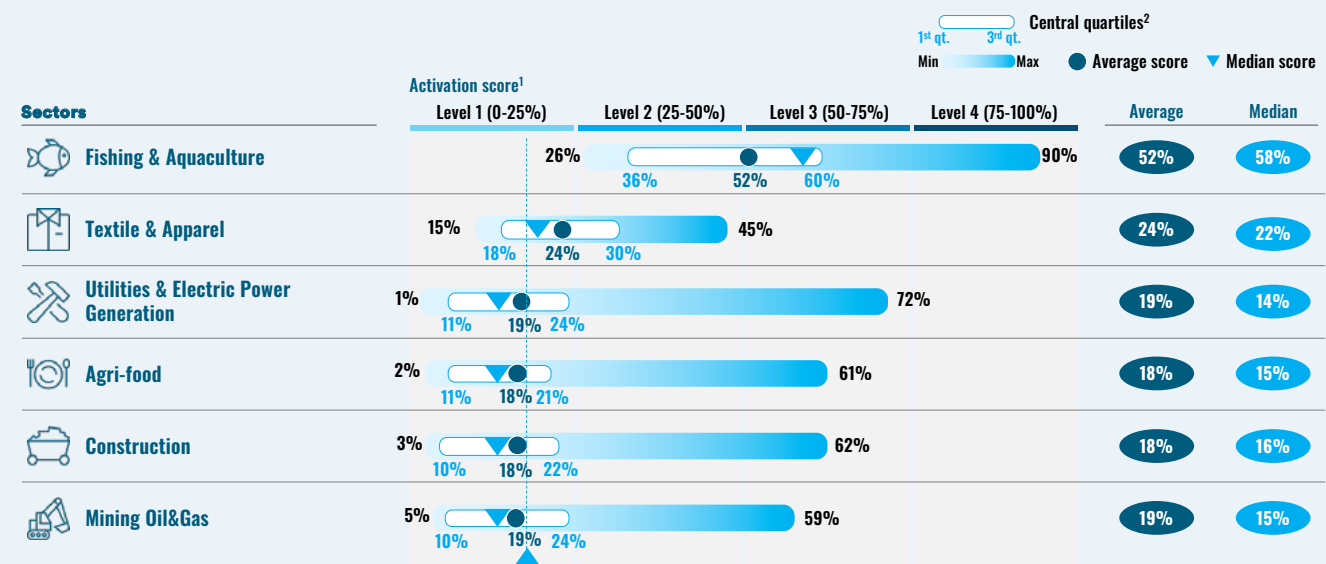
The number of companies *conducting assessments of pressures, dependencies, and risks* related to marine issues is marginally higher in industries more likely to operate in direct contact with the aquatic environment, such as fishing and aquaculture, mining, oil, utilities, and energy. However, the formalization of such risk assessments remains low.

Measuring *corporate impacts on the ocean* through the establishment of KPIs and/or specific targets is relatively common. For example, some companies monitor the release of pollutants that could harm

FIGURE 3. ACTIVATION SCORE'S DISPERSION BY SECTOR

Activation score's dispersion by sector

Dispersion, average and median activation score by sector



1. The activation score is calculated on 4 ODI managerial dimensions: Governance and policies; Pressure, dependence and risk assessment; Role and measurement of ocean pressure; Managerial activation and 11 actionable initiatives: Ocean policy; Board oversight on ocean-related issues; Risk analysis on ocean-related issues; Ocean-related Targets and KPIs; Innovation for the oceans; partnerships; engagement, education & awareness initiatives; Ocean-related certifications; Product innovation; Process innovation; Supply chain innovation

2. Central quartiles include the 2nd and the 3rd quartiles, collecting the 50% of companies scores

Source: Authors' elaboration: GenAI approach applied on a sample of 424 Sustainability or Annual Reports (2021) of companies belonging to 6 sectors (Textile & Apparel, Fishing & Aquaculture, Construction, Agri-food, Mining Oil & Gas, Utilities & Electric Power Generation)

marine biodiversity and habitats, while others commit to conducting regular inspections of the marine areas in which they operate.

The *management activation* dimension was assessed through two sub-dimensions: one directly linked to the ocean and one indirectly linked to the ocean. The former comprises initiatives specifically aimed at promoting marine protection, while the latter includes initiatives not explicitly aimed at ocean protection but with positive effects on it. Our analysis reveals that while all sectors implement measures indirectly aimed at mitigating pressures on marine ecosystems, only the fishing and aquaculture sector extensively implements actions directly aimed at their conservation.

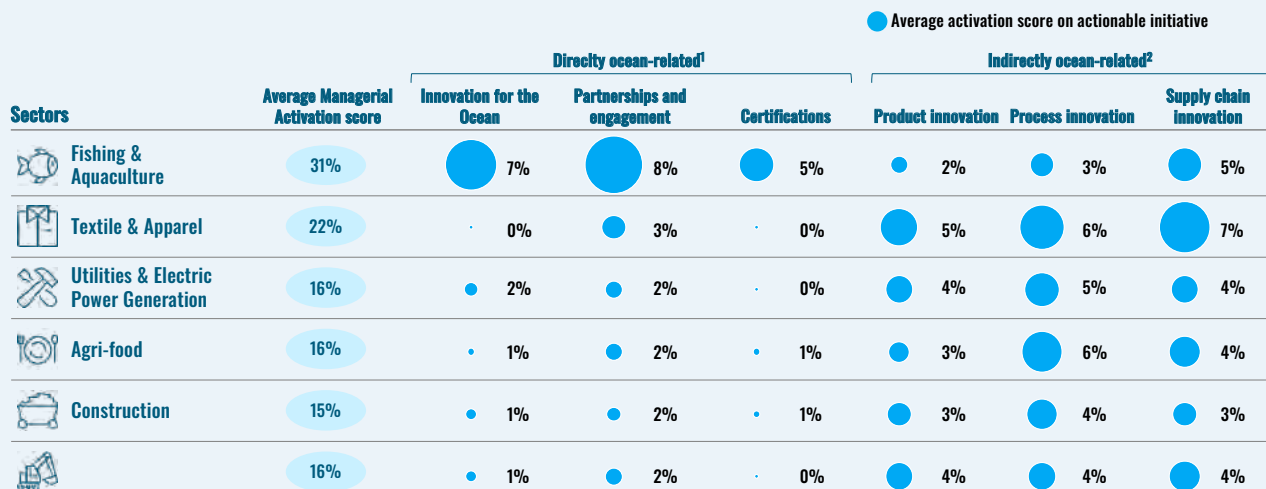
THE IMPORTANCE OF IMPLEMENTING DIRECT AND INDIRECT INITIATIVES

Using generative AI, our analysis identified actions that are directly or indirectly related to ocean protection. The former include actionable initiatives that companies are taking to promote ocean sustainability, while the latter include initiatives that are not specifically designed for ocean sustainability but that still have a positive impact. Our analysis shows that while all sectors take actions indirectly linked to the ocean to alleviate their own environmental pressures and mitigate impacts on marine ecosystems, only the fishing and aquaculture sector extensively engages in actions

FIGURE 4. ODI DIMENSIONS' CONTRIBUTION TO AVERAGE ACTIVATION SCORE BY SECTOR

"Managerial Activation Dimension" average activation score distribution by action type

of actions classified as "Managerial activation" achieved/total # of actionable initiatives (11) by sector, %



1. Directly ocean-related actions are strictly related to the mitigation of pressures on the Oceans and marine ecosystem

2. Indirectly ocean-related actions are not strictly related to the Ocean dimension but have an indirect beneficial action on mitigating the pressures on the Ocean (e.g., GHG emission reduction, reduction of plastic use on land). Exception for Fishing and Aquaculture, where product, process and supply chain innovations can be considered as actions with direct impact on the Oceans

Source: Authors' elaboration: GenAI approach applied on a sample of 424 Sustainability or Annual Reports (2021) of companies belonging to 6 sectors (Textile & Apparel, Fishing & Aquaculture, Construction, Agri-food, Mining Oil & Gas, Utilities & Electric Power Generation)

directly related to the ocean.

With respect to *management actions directly related to ocean protection*, several companies are forging partnerships to prevent or mitigate their impacts. For example, many companies in the fashion industry have signed the Fashion Pact, a global coalition dedicated to protecting the ocean, among other objectives. Others work with NGOs and form or join industry coalitions to fund projects that protect or restore marine biodiversity and habitats. These projects may include initiatives to restore mangrove forests, coral reefs or Posidonia seagrass beds.

There are also outreach and collaboration programs with research centers aimed at raising awareness of the ocean and disseminating information about its health. The fishing and aquaculture sector, with over 80 percent of companies engaged in ocean-focused partnerships, is particularly committed to fostering collaborations to promote innovation and new technologies, such as monitoring tools.

Regarding *initiatives indirectly linked to marine protection*, notable examples include *product innovations* involving the use of recycled or recyclable

materials, the adoption of life cycle assessment strategies, and eco-design choices. For instance, the textile industry is particularly focused on the use of recycled or recyclable materials and on efforts to reduce the use of plastics within its products.

In terms of process innovation, circular economy practices, waste reduction, and eco-efficiency improvements are becoming increasingly important, particularly in the textile and agribusiness sectors. Nearly all companies in all sectors are monitoring greenhouse gas emissions, the reduction of which is critical to mitigating anthropogenic pressures on the ocean. Furthermore, companies are taking a number of steps to improve the monitoring of *sustainability in their supply chains*. These measures include initiatives to improve the traceability of raw materials and purchased products, as well as efforts to improve supplier qualification, often through the adoption of evaluation criteria based on ESG (Environment, Social, Governance) factors. The majority of companies in the sample also calculate Scope 3 greenhouse gas emissions (indirect emissions along the value chain) and have implemented sustainable transportation measures.



GREATER MATURITY, GREATER ACTIVITY

To conclude our analysis, Figure 5 highlights the relevance of the correlation between companies' maturity regarding ocean-related matters, as indicated by their activation level, and the scope and depth of initiatives undertaken. In essence, companies with higher activation levels (levels 3-4) tend to structure ocean governance more comprehensively and develop more articulated risk assessment processes. They also prioritize a broader range of initiatives, encompassing long-term strategic planning with defined objectives, targets, and KPIs to evaluate the effectiveness of the adopted initiatives.

Conversely, companies scoring lower on the activation scale (levels 1-2) tend to focus mainly on management actions. They may set targets and KPIs in a limited manner and address various issues without a clear strategic vision or governance framework.

Our analysis shows that protecting the ocean requires a profound commitment from the business sector. Awareness of the pressures on marine ecosystems is just the initial step in the process. Companies need to be proactive in adopting governance strategies and policies to address the various challenges, assess the associated risks, clearly define their role, measure pressures on the ocean, and ultimately take action through tangible interventions.



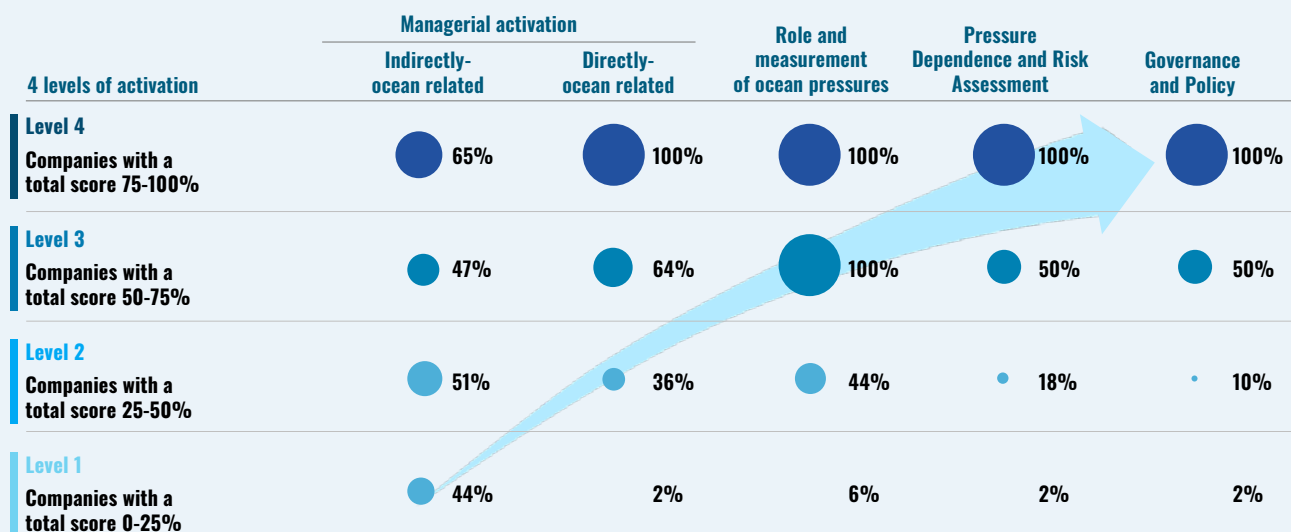
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FIGURA 5. ACTIVATION PERFORMANCE BY ODI DIMENSIONS

Activation performance by ODI dimensions

of actions achieved in each ODI dimension/total # actionable initiatives available in each ODI dimension by level of activation, %



Source: Authors' elaboration: GenAI approach applied on a sample of 424 Sustainability or Annual Reports (2021) of companies belonging to 6 sectors (Textile & Apparel, Fishing & Aquaculture, Construction, Agri-food, Mining Oil & Gas, Utilities & Electric Power Generation)