



Blue Economy Investment Funds: Opportunities and Challenges for Maritime Sector Growth

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ABSTRACT

The expansion of the blue economy has intensified interest in financial mechanisms capable of mobilising private and institutional capital for sustainable maritime development. Blue economy investment funds have emerged as potentially important vehicles for financing ports, clean shipping, offshore renewable energy, sustainable aquaculture and fisheries, coastal tourism, marine biotechnology, ecosystem restoration and related maritime infrastructure. Unlike individual blue bonds or project loans, investment funds can pool capital across multiple assets, technologies and jurisdictions, potentially diversifying risk, aggregating projects and providing patient capital to sectors whose investment horizons often exceed those preferred by conventional financiers. This paper examines the opportunities and challenges associated with blue economy investment funds and assesses their potential contribution to maritime sector growth. A structured integrative review of peer-reviewed research and authoritative policy literature published through 2026 is employed, with particular attention to recent scholarship on blue bonds, natural-capital markets, fisheries finance, ocean governance and sustainability measurement. The findings identify six principal opportunities: closing maritime investment gaps; facilitating portfolio diversification and project aggregation; accelerating technological transition and maritime decarbonisation; mobilising blended finance; supporting coastal enterprises and employment; and creating financial value from ecosystem services. However, significant constraints remain. These include the absence of a universally accepted blue-finance taxonomy, limited pipelines of investment-ready projects, information asymmetry, long project payback periods, environmental-impact measurement difficulties, regulatory fragmentation, currency and political risks, bluewashing and the potential exclusion of coastal communities. The paper argues that expanding the volume of blue-labelled capital is insufficient. Effective blue economy investment funds require credible eligibility standards, transparent impact measurement, independent verification, appropriate risk-sharing structures, community participation and alignment between financial returns and long-term ecological carrying capacity. A policy framework is proposed in which public finance absorbs selected early-stage risks while private capital finances commercially viable maritime activities under robust environmental and social safeguards. The study concludes that well-designed investment funds can become significant catalysts of sustainable maritime growth, but poorly governed funds risk converting the blue economy into a financial label without producing commensurate ocean or societal benefits.

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1. Introduction

The ocean economy has become increasingly important to debates concerning economic growth, energy security, food systems, trade, employment and climate resilience. Maritime transport carries the majority of internationally traded goods by volume; fisheries and aquaculture support food security and livelihoods; coastal and marine tourism creates income across a wide range of economies; offshore renewable energy is becoming an increasingly significant component of energy transition; and marine ecosystems provide carbon sequestration, coastal protection, biodiversity and cultural services. The economic significance of these activities means that the future of the maritime sector is inseparable from questions concerning capital allocation.

The Organisation for Economic Co-operation and Development has shown that ocean-based industries already constitute a substantial component of the global economy and that their economic significance could increase markedly over coming decades (OECD, 2025a). At the same time, the ocean economy confronts substantial ecological limits. Climate change, biodiversity loss, marine pollution, unsustainable fisheries, coastal degradation and increasing competition for marine space are placing pressure on the natural systems on which many ocean industries ultimately depend. Jouffray et al. (2020) describe the accelerating industrialisation of marine space as a “blue acceleration,” highlighting the rapid expansion of human claims on ocean resources. Consequently, investment intended to expand maritime industries cannot be evaluated independently from ecological sustainability.

This tension has stimulated the development of blue finance, broadly understood as the mobilisation and allocation of capital toward activities that support sustainable ocean and coastal economies. Blue finance encompasses loans, bonds, investment funds, guarantees, insurance, blended-finance structures, sustainability-linked instruments, debt-for-nature transactions and natural-capital mechanisms. Sumaila et al. (2021) argue that financing a sustainable ocean economy requires not only generating additional capital but also redirecting existing financial flows, accounting for ocean impacts and aligning financial institutions with sustainable-ocean objectives. Within this expanding financial architecture, blue economy investment funds deserve particular attention.

An investment fund pools capital from multiple investors and allocates it across a portfolio of assets, enterprises or projects according to a defined investment strategy. A blue economy fund may therefore invest directly in maritime businesses, infrastructure projects, venture-stage technologies, blue bonds or natural-capital projects. This differs from a blue bond, which is a debt security through which an issuer raises capital for eligible blue projects. A fund can purchase blue bonds, but the two financial instruments are conceptually and operationally different.

This distinction matters because investment funds have characteristics particularly relevant to maritime development. Many maritime projects are capital intensive, technologically complex and characterised by long development periods. Offshore renewable energy installations, low-emission vessels, port infrastructure, aquaculture facilities, wastewater systems and coastal-resilience projects may require substantial upfront investment before generating predictable cash flows. Small projects, meanwhile, can be too fragmented to attract institutional investors individually. Funds can potentially aggregate such investments, diversify project risk and connect different classes of capital with maritime opportunities.

The growth of sustainable and impact investing has further increased interest in ocean-related investment products. Jellouli (2025) shows that blue-finance scholarship has expanded rapidly and increasingly connects sustainable investment, innovation, resilience and ocean governance. Yet academic research also cautions against assuming that financial innovation necessarily produces ecological sustainability. Thompson (2022), examining early blue bonds, finds significant variation in the quality of impact reporting and in the relationship between financed activities and measurable environmental outcomes. Recent research strengthens these concerns. Corzo et al. (2026) identify considerable heterogeneity across the global blue-bond market and highlight weaknesses in standardisation and disclosure. Liu et al. (2026) go further, arguing that a fundamental tension exists between the long-term and geographically dispersed value created through ecological restoration and the shorter-term requirements of capital markets.

This problem extends beyond bonds. Any blue investment fund faces a fundamental question: how can financial return, maritime-sector development and measurable ocean sustainability be aligned within the same investment structure?

The question is particularly important for developing economies, small island developing states and coastal regions. These economies frequently possess significant marine resources but face limited fiscal capacity, high financing costs and underdeveloped capital markets. Private finance could expand investment capacity, yet investors may perceive maritime projects in these jurisdictions as carrying elevated policy, currency, climate, technological or execution risks. Public and concessional capital may consequently be required to improve project bankability.

Governance introduces an additional challenge. The term blue economy has never had a single universally accepted interpretation. Silver et al. (2015) identified competing discourses surrounding economic growth, environmental sustainability and social equity in blue-economy policy. Voyer et al. (2018) similarly demonstrate that different interpretations of the blue

economy lead to different governance priorities. An investment labelled “blue” can therefore range from ecosystem restoration to industrial port development, depending on the taxonomy applied.

This ambiguity creates opportunities for innovation but also risks bluewashing: the use of ocean-related sustainability claims without sufficiently strong evidence that financed activities create meaningful environmental or social improvements.

The present paper therefore examines the following research questions:

- **RQ1:** What investment opportunities can blue economy funds create for maritime-sector development?
- **RQ2:** What financial, institutional, environmental and social barriers constrain the expansion of blue economy investment funds?
- **RQ3:** Which fund structures and policy interventions can improve the ability of blue investment vehicles to generate sustainable maritime growth?

The paper contributes to the literature by treating blue economy investment funds not simply as sources of additional capital but as financial intermediaries connecting investors, maritime industries, governments and marine ecosystems. It argues that fund performance should consequently be evaluated through three simultaneous dimensions: financial viability, maritime economic additionality and environmental-social integrity.

2. Literature Review

2.1. From the blue economy to blue finance

The conceptual foundations of the blue economy remain contested. Silver et al. (2015) identified competing interpretations ranging from ocean-centred economic growth to conservation-oriented development. Voyer et al. (2018) further demonstrated that the term can support substantially different policy priorities depending on whether environmental sustainability, industrial development, livelihoods or governance receives primary emphasis.

This conceptual ambiguity has direct implications for finance. Capital markets require classifications. Investors need to know which activities qualify as blue, how environmental performance will be assessed and which activities should be excluded.

The sustainable and equitable blue-economy literature has therefore increasingly emphasised enabling conditions rather than simply sectoral growth. Bennett et al. (2019) argue for approaches that place sustainability and equity at the centre of ocean development. Cisneros-Montemayor et al. (2021) identify governance, infrastructure, human capacity and social conditions as important determinants of whether blue-economy opportunities become both sustainable and equitable. Finance constitutes one such enabling condition.

Bos et al. (2015) identified inadequate, unstable and poorly diversified funding as a fundamental limitation affecting marine conservation. Traditional dependence on public budgets and philanthropy was unlikely to provide sufficient capital for the scale and duration of required interventions. The subsequent blue-finance literature therefore increasingly examined mechanisms through which private capital could supplement public expenditure.

Shiiba et al. (2022) propose a conceptual framework in which financial mechanisms become integrated with marine governance. Sumaila et al. (2021) similarly argue that sustainable ocean finance requires systemic alignment rather than isolated financial products. Under this interpretation, blue finance should not simply raise capital for additional ocean activity; it should influence which ocean activities receive capital and under what conditions.

2.2. Why investment funds matter

Maritime investments display financial characteristics that can make pooled vehicles attractive.

First, projects differ substantially in risk and maturity. A mature container terminal may generate relatively predictable cash flows, whereas a marine-biotechnology start-up can have venture-capital characteristics. Offshore renewable energy involves large construction risk but potentially stable long-term revenues after commissioning. Mangrove restoration can generate valuable ecosystem services but may lack conventional cash flows.

Second, maritime assets are geographically dispersed. Investors seeking direct exposure would otherwise need to evaluate projects across different legal systems, currencies and environmental contexts.

Third, transaction costs can be high relative to investment size, particularly for community-based fisheries, coastal enterprises and nature-restoration projects.

A fund can theoretically address these limitations through portfolio construction. Capital from several investors is pooled, professional managers conduct due diligence and multiple assets are held within one vehicle. Risk can consequently be diversified across sectors, countries, technologies or revenue structures.

Such funds can take multiple forms. Private-equity funds may acquire stakes in established maritime companies. Venture funds may finance marine technology and biotechnology. Infrastructure funds may invest in ports, renewable energy or coastal-resilience assets. Fixed-income funds may construct portfolios of blue bonds. Impact funds may prioritise measurable environmental or social outcomes alongside financial return. Natural-capital funds can finance ecosystem restoration supported by carbon, biodiversity, tourism or resilience-related revenue.

Consequently, there is no single “blue fund model.” Fund design depends on the economic characteristics of the assets being financed.

2.3. Blue bonds and the lessons for investment funds

Although blue bonds are not themselves investment funds, their development provides important lessons for blue-investment governance.

Thompson (2022) examines some of the earliest blue bonds and finds that environmental impact measurement frequently relied more on outputs than on demonstrated ecological outcomes. Such weaknesses create difficulties for investors seeking confidence that a blue label represents genuine sustainability.

The 2026 literature shows that this challenge has not disappeared as the market has expanded. Corzo et al. (2026) analyse the global blue-bond universe and demonstrate considerable heterogeneity in governance and Sustainable Development Goal disclosure. The authors emphasise the need for stronger taxonomies, standardised disclosures and verification mechanisms.

Liu et al. (2026), examining 45 blue-bond instruments issued since 2018, identify a deeper structural problem. Financial instruments demand defined payment schedules and investable cash flows, whereas marine ecosystem recovery can occur over long periods and produce benefits dispersed among multiple beneficiaries. Therefore, improved disclosure alone cannot eliminate the mismatch between ecological and financial value creation.

Investment funds can potentially manage this problem better than individual securities because fund managers can hold diversified assets and employ different capital structures. Nevertheless, funds cannot eliminate the underlying economic problem. Unless an ecosystem service produces monetisable cash flows or is supported by government, philanthropic or regulatory payments, conservation value does not automatically become investment return.

2.4. Blended finance and risk allocation

Blended finance has emerged as an important solution to this challenge.

In a blended-finance structure, concessional or public capital is strategically combined with commercially oriented capital. Development institutions or philanthropic investors may provide grants, first-loss capital, guarantees or subordinated debt. These instruments can reduce risks borne by senior commercial investors.

The logic is especially relevant for emerging maritime sectors where technology, policy or demand risks discourage private investment even when projects have significant social or environmental benefits.

The Asian Development Bank (2023) emphasises the importance of clear project eligibility, proceeds management and reporting in blue-finance transactions. Similarly, the International Finance Corporation (2025) has expanded guidance defining eligible blue-finance sectors and impact indicators.

Blended finance should nevertheless be used carefully. Public risk absorption is economically justified when it addresses genuine market failures or creates additional investment that would otherwise not occur. It becomes problematic if scarce public resources merely improve returns for private investors financing already commercially viable projects.

2.5. Natural capital and investable ecosystem services

The emergence of blue natural-capital markets expands the frontier of maritime finance.

Mangroves, salt marshes, seagrass meadows, coral reefs and other coastal ecosystems can provide carbon sequestration, fisheries support, biodiversity, tourism value and protection from storms and erosion. Historically, many of these benefits have not generated direct revenue for ecosystem owners or managers.

Chami et al. (2026) argue that blue natural-capital markets could potentially mobilise private capital for ecosystem conservation and restoration but stress that credible markets require appropriate valuation, governance, regulation and benefit-sharing mechanisms.

The underlying policy problem is one of market design. The financial system can readily value a contractual cash flow but has much greater difficulty valuing ecological resilience or avoided biodiversity loss.

De Queiroz et al. (2026) highlight this measurement challenge by proposing an Ocean Footprint framework linking human demand on marine ecosystems with regenerative capacity. Their analysis is relevant to blue finance because it demonstrates that financial claims of sustainability ultimately need to be evaluated against biophysical constraints, not merely against the amount of capital classified as sustainable.

2.6. Equity and blue justice

Investment decisions also affect the distribution of access to marine space and resources.

Cisneros-Montemayor et al. (2019) argue that social equity and distribution of benefits should be central to a transformative blue economy. Bennett et al. (2021) similarly identify significant blue-justice risks, including dispossession, exclusion and inequitable benefit distribution.

Financialisation can intensify these concerns.

If marine ecosystems acquire new economic value through carbon, biodiversity or conservation markets, questions arise concerning ownership of the underlying resources and rights to financial benefits. Small-scale fishers, Indigenous communities and coastal residents can be affected by restrictions associated with conservation or industrial development without receiving proportional financial returns.

Midlen (2026) reinforces the importance of place-specific governance, arguing that blue-economy development cannot be understood separately from the communities and geographical contexts in which it is implemented.

Consequently, the performance of a blue investment fund cannot be assessed solely through internal rates of return and environmental indicators. Distributional effects require explicit consideration.

3. Methodology

3.1. Research design

This study employs a structured integrative literature review.

An integrative approach is appropriate because research concerning blue economy investment funds is distributed across sustainable finance, marine policy, development economics, conservation finance, ocean governance and investment literature. Furthermore, blue investment funds remain an emerging financial category for which a sufficiently homogeneous empirical literature does not yet exist to support conventional meta-analysis.

The study therefore synthesises evidence and develops a mechanism-based framework explaining how blue funds can influence maritime growth.

3.2. Literature scope

The literature considered includes peer-reviewed academic research and selected authoritative institutional publications available through August 2026.

Search concepts included combinations of:

blue economy, blue finance, ocean finance, blue investment, investment funds, blue bonds, marine conservation finance, blended finance, ocean investment, natural capital, sustainable fisheries finance, maritime investment and ocean governance.

Particular emphasis was placed on studies that:

- Examined financial mechanisms for ocean or coastal sectors;
- Investigated the relationship between private finance and sustainable maritime development;
- Evaluated blue bonds, funds, natural-capital markets or blended-finance approaches;
- Analysed institutional, ecological or social risks associated with ocean investment; or

- Provided evidence relevant to measuring blue-finance outcomes.

Recent publications through 2026 were prioritised to ensure that the analysis reflects the rapidly evolving blue-finance landscape.

3.3. Analytical framework

Evidence was synthesised through five connected dimensions:

- **Capital mobilisation:** whether the mechanism expands the quantity or diversity of finance available to maritime projects.
- **Financial intermediation:** whether funds improve project aggregation, diversification, risk allocation or access to institutional capital.
- **Maritime additionality:** whether investment results in additional productive capacity, innovation, employment or infrastructure that would not otherwise occur.
- **Environmental integrity:** whether financed activities produce measurable improvements or avoid significant harm to marine ecosystems.
- **Social distribution:** whether costs and benefits are distributed equitably among investors, firms, workers, coastal populations and resource-dependent communities.

This framework allows blue funds to be assessed as financial vehicles and as maritime-policy instruments.

4. Findings

4.1. Blue funds can bridge the maritime financing gap

The first major finding is that pooled investment vehicles can increase the range of capital available to maritime industries.

Ocean-based industries frequently require substantial upfront investment, while conservation activities often face persistent funding shortages (Bos et al., 2015). Public budgets alone are unlikely to meet simultaneously the capital requirements of maritime decarbonisation, coastal adaptation, biodiversity protection, sustainable fisheries and marine infrastructure.

Private capital is therefore potentially important, but individual investors frequently lack sector expertise or the capacity to conduct due diligence on specialised maritime projects.

Funds can resolve part of this intermediation problem.

A professional fund manager can identify projects, perform technical and environmental assessments, structure transactions and monitor investment performance. This creates a bridge between capital-market investors and specialised maritime opportunities.

The mechanism can be expressed as:

Investor capital → pooled blue fund → diversified maritime portfolio → productive investment → maritime-sector growth

The critical word, however, is productive. Merely reallocating ownership of existing profitable maritime assets does not necessarily create additional maritime capacity. A credible development-oriented blue fund should demonstrate additionality through new infrastructure, improved technology, reduced pollution, ecosystem restoration, new enterprises or increased resilience.

4.2. Portfolio aggregation can make smaller blue projects investable

A second opportunity concerns aggregation.

Institutional investors generally prefer investments large enough to justify due-diligence and monitoring costs. Many coastal and ocean projects are individually too small.

Examples include small-scale aquaculture enterprises, harbour electrification measures, coastal waste-management projects, fisheries cooperatives, marine-technology SMEs and ecosystem-restoration initiatives.

A specialist fund can combine multiple smaller investments into a portfolio large enough to attract institutional capital.

Aggregation can also diversify idiosyncratic risk. Poor performance by one aquaculture facility, tourism operation or restoration project does not necessarily determine portfolio-wide returns.

Gorain et al. (2026) demonstrate the importance of diversified financial mechanisms for coastal and marine fishing communities. Their review identifies microfinance, insurance, savings systems and de-risking instruments as potentially important tools for livelihood resilience, while also showing that access to formal finance remains constrained.

A blue investment fund designed for coastal enterprises could complement these mechanisms by investing through local financial intermediaries or specialised SME facilities.

However, aggregation creates a governance challenge. Larger funds may prefer standardised, easily scalable projects, potentially excluding locally specific enterprises with high social value but higher transaction costs.

4.3. Blue funds can accelerate maritime technological transition

The maritime sector faces substantial technological transition.

Shipping must reduce emissions; ports require electrification and digitalisation; offshore renewable energy needs specialised vessels and infrastructure; aquaculture requires cleaner production systems; fisheries require traceability and monitoring; and marine pollution requires improved collection and recycling technologies.

Such transitions create significant investment opportunities.

Virdin et al. (2021) demonstrate the concentration of economic activity among large transnational corporations operating within the ocean economy, indicating that corporate investment decisions can materially influence ocean sustainability trajectories. Sardá et al. (2023) similarly show that private-sector ocean governance is increasingly relevant to sustainability outcomes.

Investment funds can act as active owners rather than passive sources of capital. Venture and growth-equity funds can support companies developing cleaner propulsion, vessel-efficiency systems, ocean monitoring, robotics, digital logistics, sustainable feeds, marine biotechnology or circular-economy solutions.

Infrastructure funds can finance larger assets such as shore-power facilities, renewable-energy terminals and resilient coastal infrastructure.

This provides one of the strongest commercial rationales for blue investment funds: technological transition creates identifiable revenue streams while potentially generating measurable environmental benefits.

The danger is that investors may select only already profitable technologies while leaving less commercially attractive but ecologically important interventions unfunded. Public policy therefore remains necessary.

4.4. Blended funds can change maritime risk-return profiles

A fourth finding is that fund structures can deliberately redistribute risk.

Consider a maritime project with strong social and environmental benefits but an expected return below the threshold required by institutional investors. A public or development-finance institution can provide first-loss capital. If project losses occur, this subordinated capital absorbs losses before senior investors are affected.

This can improve the expected risk-adjusted return for commercial participants.

A simplified structure is:

Grant/technical assistance

↓

First-loss or concessional tranche

↓

Commercial debt/equity

↓

Portfolio of maritime investments

Such structures can be particularly useful for developing economies where high financing costs reflect country risk rather than project fundamentals.

Sumaila et al. (2021) emphasise the need to develop financial mechanisms capable of aligning capital with a sustainable ocean economy. OECD (2025b) likewise identifies mobilisation of public and private finance as an important component of sustainable-ocean development.

Yet blended finance should satisfy an additionality test. Public capital should address risks that the private market cannot efficiently absorb, rather than simply subsidising private returns.

4.5. Natural capital creates new investable opportunities but also new risks

Blue natural capital potentially expands the investable maritime universe beyond conventional industries.

Chami et al. (2026) identify potential markets around ecosystem services delivered by marine and coastal environments. Mangrove restoration, for example, can theoretically generate financial value through carbon credits while supporting biodiversity, fisheries and coastal protection.

This opens the possibility of dedicated natural-capital funds acquiring or financing portfolios of ecosystem-restoration projects.

However, three difficulties emerge.

First, measurement is challenging. Carbon sequestration can sometimes be quantified relatively directly, whereas biodiversity, cultural value and resilience are multidimensional.

Second, additionality and permanence must be established. Investors need confidence that financed environmental outcomes would not have occurred without the investment and will persist for an appropriate period.

Third, ownership and benefit sharing are essential. Ecosystem services may be generated on or around land and waters historically used by local communities.

Chami et al. (2026) therefore argue that blue natural-capital markets require strong public policy and governance rather than reliance on markets alone.

De Queiroz et al. (2026) provide an additional warning. If the total environmental pressure generated by ocean industries exceeds ecological regenerative capacity, labelling selected projects “blue” does not necessarily make the overall economic system sustainable.

4.6. Clear taxonomies remain a fundamental market infrastructure problem

The most significant cross-cutting challenge identified in the literature is definitional inconsistency.

What qualifies as a blue investment?

There is broad agreement concerning activities such as wastewater treatment, sustainable fisheries, ecosystem restoration and marine renewable energy under appropriate safeguards. Other sectors create greater controversy.

Ports can facilitate trade and economic development but can also produce emissions, habitat modification and coastal congestion. Shipping is indispensable to global commerce but remains carbon intensive. Aquaculture can reduce pressure on some wild fisheries but can produce nutrient pollution or ecosystem damage depending on production systems.

A taxonomy must therefore evaluate how an activity is conducted, not simply whether it takes place in the ocean.

The International Finance Corporation (2025) and Asian Development Bank (2023) provide practical eligibility frameworks for blue-finance transactions, while the Ocean Investment Protocol developed by UNEP FI and the UN Global Compact (2025) reflects the broader movement toward greater standardisation.

Yet private standards remain diverse.

Corzo et al. (2026) provide contemporary evidence that the blue-bond market remains heterogeneous. This creates the potential for bluwashing and raises due-diligence costs for investors.

For investment funds, the problem can be more pronounced because a single fund may hold dozens of underlying assets. Transparent eligibility criteria and portfolio-level disclosure are therefore crucial.

4.7. Lack of bankable projects can constrain fund deployment

Capital supply alone does not guarantee investment.

Fund managers require projects with credible business models, legal permissions, capable sponsors, reliable revenue assumptions and acceptable risk allocation.

In many developing coastal economies, potentially valuable blue-economy opportunities remain at an early stage. Feasibility studies may be incomplete; permits uncertain; financial accounts weak; environmental data unavailable; and revenue arrangements undefined.

This produces a paradox: governments may report a financing shortage while investors report a shortage of investable projects.

Alhowaish (2026) illustrates this broader institutional problem in an empirical study of Saudi Arabia's Eastern Province. Stakeholders perceived substantial opportunities across fisheries, aquaculture, tourism and logistics but also identified institutional fragmentation, environmental pressures and financial constraints.

The finding has wider relevance. A successful blue-investment strategy requires not only a fund but also a project-development pipeline.

Technical-assistance facilities can consequently be as important as investment capital. Grants can finance feasibility studies, environmental assessments, legal structuring, business planning and financial modelling so that projects subsequently become capable of absorbing commercial capital.

4.8. Financial and ecological time horizons frequently diverge

A particularly important challenge identified by Liu et al. (2026) concerns time.

Investment funds typically have defined investment and exit periods. Private-equity vehicles, for example, are normally structured around eventual asset sales or refinancing.

Ecosystems do not operate according to fund cycles.

Coral restoration, fish-stock recovery or mangrove establishment may generate significant ecological value over decades. The corresponding benefits can accrue to communities, future generations and geographically dispersed beneficiaries rather than to the original investor.

This creates a fundamental temporal and spatial mismatch.

An investment vehicle requiring monetisation within a relatively short period may favour activities producing measurable near-term cash flows while underweighting long-duration ecological outcomes.

Patient-capital vehicles, evergreen funds, public investment institutions and long-dated blended structures may therefore be better suited to some categories of blue investment than conventional closed-end private-equity funds.

4.9. Emerging markets face additional financial constraints

Blue-economy opportunities are particularly significant in developing countries and small island economies, but these jurisdictions can face the highest financing costs.

Currency volatility represents an important problem. Maritime projects may generate revenues in local currency while international funds are denominated in dollars or euros.

Country and regulatory risk can further increase required returns.

Small states may also lack sufficiently deep domestic financial markets to provide long-term capital.

The result can be a financing inequality: economies with the greatest dependence on marine resources may pay the highest cost for capital required to manage those resources sustainably.

Guarantees, local-currency facilities, development-finance participation and political-risk insurance can help address this constraint. Yet such interventions require coordination among governments, multilateral institutions and private investors.

5. Discussion

5.1. Investment funds as maritime-development institutions

The findings suggest that blue economy funds should be understood as more than financial products.

At their most effective, they are maritime-development institutions capable of selecting sectors, technologies and business models that influence the long-term structure of ocean economies.

Capital allocation determines which shipping technologies scale, which ports modernise, which coastal businesses expand and which marine ecosystems generate economically recognised value.

Accordingly, fund design is a form of governance.

A fund focused narrowly on commercially mature ocean industries may increase maritime investment without materially changing sustainability outcomes.

A conservation-focused fund may create significant ecological value but remain too small to influence broader maritime-sector development.

The most strategically important vehicles are likely to occupy the middle ground: financing commercially viable maritime transformation while using robust sustainability criteria to determine what receives capital.

5.2. A proposed Blue Maritime Investment Fund framework

Based on the literature, an effective blue maritime investment fund can be conceptualised as having five layers.

Layer 1: Eligibility and exclusion

The fund should define eligible sectors and explicitly exclude activities incompatible with its environmental objectives.

Eligibility should be based on performance rather than on maritime location alone.

Layer 2: Capital structure

Different risk-bearing capacities should be matched with different investors.

Public and philanthropic capital can support technical assistance or first-loss positions. Development institutions can provide guarantees or concessional financing. Institutional investors can provide senior debt or commercially priced equity once risks become acceptable.

Layer 3: Project pipeline

A dedicated facility should identify and prepare prospective investments before they enter the fund.

This addresses the bankability problem.

Layer 4: Impact architecture

Each investment should contain ex ante environmental and social baselines, target indicators and monitoring requirements.

Financial reporting and sustainability reporting should receive comparable governance attention.

Layer 5: Benefit-sharing and accountability

Local communities and affected stakeholders should participate meaningfully in project planning where investment affects access to coastal resources, fisheries or marine space.

This architecture moves blue investment beyond labelling toward institutional design.

5.3. From ESG reporting to ocean-specific impact measurement

- Conventional environmental, social and governance reporting is often too broad for ocean investments.
- A blue fund requires sector-specific indicators.
- For shipping, relevant indicators may include emissions intensity, fuel type, underwater noise or pollution prevention.

- For ports, they may include shore-power availability, renewable-energy use, air emissions, waste reception, habitat impacts and modal connectivity.
- For fisheries, indicators may include stock condition, bycatch, traceability and livelihood outcomes.
- For aquaculture, they may include feed sourcing, nutrient discharge, antibiotic use and habitat effects.
- For natural-capital investments, indicators may include carbon sequestration, biodiversity, shoreline protection and community access.
- Thompson (2022) demonstrates why this distinction matters. Reporting expenditure or area covered by a project is not equivalent to demonstrating environmental improvement.
- Corzo et al. (2026) similarly show that credible blue markets require better standardisation and disclosure.
- The emerging challenge is therefore to shift from use-of-proceeds reporting toward outcome and impact accounting.

5.4. Preventing bluewashing

Bluewashing threatens the credibility of the entire asset class.

If investments receive a blue label because they are ocean-related rather than because they improve sustainability, investors may eventually treat the label as meaningless.

Three safeguards are particularly important.

- First, eligibility criteria should be publicly available.
- Second, external verification should assess both allocation of capital and reported outcomes.
- Third, funds should disclose negative impacts as well as positive indicators.

For example, a port investment that reduces vessel waiting time but destroys coastal habitat should not report only the emissions savings.

Net environmental assessment is necessary.

De Queiroz et al. (2026) reinforce this systems perspective by showing that ocean sustainability ultimately requires comparison between human demand and ecosystem capacity.

5.5. Blue finance and social legitimacy

Financial legitimacy is insufficient without social legitimacy.

Bennett et al. (2021) caution that blue growth can produce exclusion, displacement and inequitable control over marine resources. Midlen (2026) similarly emphasises that blue-economy governance needs to be grounded in specific places and communities.

Investment funds should therefore undertake more than conventional stakeholder consultation.

Where projects affect traditional fishing areas or coastal livelihoods, benefit-sharing mechanisms may include local ownership, employment agreements, revenue sharing, community-development funds or contractual access rights.

Natural-capital markets make this particularly important. Investors should not receive financial returns from ecosystem services while communities responsible for maintaining those ecosystems are marginalised.

The principle should be straightforward:

No credible blue return without credible blue benefit sharing.

5.6. The role of governments

Private investment does not reduce the importance of the state.

Instead, the growth of blue finance creates new responsibilities for public institutions.

Governments establish marine spatial plans, licensing rules, environmental standards, fisheries policies, port regulations, renewable-energy concessions and property rights. These determine both investment risk and environmental outcomes.

Alhowaish (2026) shows how fragmented governance can constrain blue-economy development even where stakeholders perceive strong economic opportunities.

Governments should therefore provide predictable regulatory frameworks while avoiding guarantees that socialise excessive private risk.

They also need to develop project pipelines.

A national or regional blue-investment platform could identify strategic projects, fund preparation studies and connect opportunities with investment vehicles. This would be especially valuable in countries where individual municipalities or coastal enterprises lack specialised transaction capacity.

5.7. Strategic sector priorities

Not all blue sectors require the same type of capital.

Ports and maritime infrastructure are often suitable for infrastructure funds and long-term debt because revenues can be relatively predictable.

Shipping decarbonisation may require green or blue debt, leasing structures and transition finance because vessel replacement is capital intensive.

Offshore renewable energy can attract infrastructure investors once regulatory and power-purchase frameworks are established.

Marine technology and biotechnology are more naturally suited to venture and growth-equity capital because technological uncertainty is high.

Sustainable fisheries and coastal SMEs may require smaller-ticket funds, guarantees and local financial institutions.

Marine conservation and natural capital frequently require blended structures because ecological value is incompletely monetised.

Consequently, policy should encourage an ecosystem of specialised blue funds rather than searching for one universal vehicle.

5.8. A blue-investment development multiplier

Well-designed funds can generate a broader maritime development multiplier.

The process can be represented as:

Capital mobilisation

↓

Investment in maritime infrastructure, enterprises and ecosystems

↓

Productivity, innovation and environmental improvement

↓

Expanded maritime activity and resilience

↓

Employment, supplier opportunities and fiscal revenue

↓

Greater capacity for future sustainable investment

The multiplier weakens when capital finances isolated assets with limited local linkages.

It strengthens when funds support local suppliers, maritime SMEs, workforce development and technology transfer.

This distinction is essential for developing coastal economies. Large externally owned projects can increase national output while leaving weak local industrial capabilities.

Therefore, blue-fund appraisal should include local economic additionality alongside financial and environmental performance.

5.9. Toward an integrated policy model

The evidence supports a transition from a simple capital-mobilisation model:

“More blue finance = greater sustainability.”

toward a conditional model:

Credible taxonomy + bankable projects + appropriate capital structure + robust governance + measurable impact + equitable participation = sustainable maritime investment.

Capital is therefore necessary but insufficient.

This conclusion corresponds with the broader evolution of blue-economy research. Cisneros-Montemayor et al. (2021) show that enabling conditions determine whether blue opportunities produce sustainable and equitable outcomes. Sumaila et al. (2021) similarly argue that financing the sustainable ocean economy requires systemic change in how capital is generated, invested, aligned and accounted for.

Blue economy investment funds can become important elements of that transformation when they are embedded within a broader maritime-policy architecture.

6. Policy Recommendations

A credible policy architecture for blue economy funds should begin with a recognised national or regional blue-finance taxonomy aligned, where possible, with international guidance. The taxonomy should contain activity-specific environmental thresholds and exclusions rather than treating all ocean-related economic activity as sustainable.

Governments and development institutions should establish blue project-preparation facilities. These facilities should fund feasibility studies, environmental assessments, financial modelling and transaction structuring so that promising projects become investment ready.

Public capital should be deployed strategically through guarantees, first-loss facilities and concessional tranches where genuine market failures prevent commercially promising projects from attracting capital. Public support should be transparent and subject to additionality requirements.

Fund managers should adopt mandatory impact-management systems with baseline measurements, project-specific targets and independent verification. Environmental indicators should measure outcomes rather than expenditure alone.

Investment frameworks should also contain do-no-significant-harm provisions. An investment contributing to one blue objective should not substantially undermine another. For example, renewable-energy expansion should not automatically qualify as sustainable if siting produces major biodiversity damage.

Community and stakeholder participation should become part of investment governance where projects affect marine-resource rights, fisheries, coastal land or culturally important areas.

Developing economies require special attention to foreign-exchange and sovereign-risk constraints. Multilateral guarantees, local-currency structures and regional pooled facilities can help prevent high capital costs from excluding countries with important marine assets from sustainable investment markets.

Finally, policymakers should encourage transparency at the portfolio level. A fund should disclose not only selected successful projects but also the sectoral distribution, environmental performance and material negative impacts of the portfolio as a whole.

These mechanisms can transform the blue label from a marketing category into an accountable financial standard.

7. Conclusion

This paper examined the opportunities and challenges associated with blue economy investment funds and their potential contribution to maritime-sector growth.

The analysis indicates that such funds possess considerable strategic potential.

Investment funds can mobilise capital from institutional, development and impact investors; diversify risk across maritime assets; aggregate projects too small for direct institutional investment; finance technological innovation; accelerate shipping and port transition; support offshore renewable energy, fisheries and aquaculture; and potentially create markets for blue natural capital.

Their importance arises not simply from the amount of capital they can raise but from their ability to intermediate between investors and complex maritime investment opportunities.

However, the analysis also demonstrates that blue investment funds are not inherently sustainable.

A maritime project does not become environmentally beneficial merely because it receives a blue label. The rapidly developing blue-bond literature demonstrates continuing challenges involving taxonomy, disclosure, environmental additionality and impact measurement (Corzo et al., 2026; Liu et al., 2026; Thompson, 2022).

Natural-capital investment produces further complexities because ecological benefits are long term, multidimensional and frequently public in nature. Chami et al. (2026) show that credible markets require governance, appropriate valuation and social equity. De Queiroz et al. (2026) demonstrate the importance of assessing blue-economic activity against the regenerative capacity of marine systems.

For developing coastal economies, the principal constraints are often not simply shortages of capital but shortages of bankable projects, institutional capacity and affordable risk-bearing mechanisms.

The most effective response is therefore a blue investment ecosystem rather than the creation of funds in isolation.

Such an ecosystem combines clear taxonomies, project preparation, blended finance, environmental safeguards, impact verification, maritime-industrial strategy, community participation and resilient institutions.

Public finance has a particularly important catalytic role. It can finance project development, absorb carefully selected early-stage risks and support investments whose social and environmental returns exceed privately monetisable returns. Private capital can then scale commercially viable elements.

The central policy objective should consequently not be to maximise the amount of capital labelled blue.

It should be to maximise the amount of financially viable capital that produces additional, measurable and equitably distributed improvements in maritime economic performance and ocean sustainability.

Under these conditions, blue economy investment funds can evolve from a specialised segment of sustainable finance into a significant mechanism for financing maritime transformation.

Without these conditions, blue finance risks reproducing existing patterns of ocean exploitation under a new financial label.

8. Limitations and Future Research

This study has several limitations.

First, blue economy investment funds remain an emerging and heterogeneous asset class. Publicly available academic evidence is considerably stronger for instruments such as blue bonds than for the financial performance of private blue funds. The paper consequently draws lessons across complementary categories of sustainable-ocean finance.

Second, the study adopts an integrative review rather than a statistical meta-analysis. The diversity of fund structures, projects, jurisdictions and impact indicators prevents calculation of a meaningful common effect size.

Third, disclosure creates selection problems. Private funds frequently publish limited information concerning individual investments, financial returns, failed projects or negative environmental outcomes.

Fourth, rapidly evolving taxonomies can change how the blue-finance market is classified. Estimates of market size can consequently vary depending on which instruments are considered genuinely blue.

Fifth, the long-term effects of blue financialisation on local communities remain inadequately studied. More evidence is required concerning changes in marine-resource rights, distribution of financial benefits and consequences for small-scale producers.

Future research should develop a global database of blue investment funds containing fund size, investors, asset classes, geographical allocation, environmental criteria and realised financial performance.

Comparative studies should evaluate whether dedicated blue funds outperform conventional infrastructure, sustainable or impact funds in both financial and environmental terms.

Research should also examine the effectiveness of different blended-finance structures. Important questions include how much private capital is genuinely mobilised per unit of concessional finance and whether public risk absorption produces projects that would not otherwise have occurred.

More attention should be given to maritime SMEs and coastal communities. Studies should examine whether blue investment capital reaches locally owned firms or remains concentrated among large multinational ocean corporations.

Finally, future research should integrate financial performance with ecological carrying-capacity indicators. The development of approaches such as the Ocean Footprint proposed by de Queiroz et al. (2026) demonstrates the potential for linking financial decisions with biophysical limits.

This would enable blue finance research to move beyond the question of how much capital reaches the ocean economy toward the more important question of whether that capital makes the ocean economy more sustainable, resilient and equitable.

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