

ECOSYSTEM REVIEW

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**Blue Economy:
Energy, Tourism & Transport**

**Climate
Justice:**

The Ever Expanding
Avenue

Blue Carbon Ecosystems

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under the supervision of TSKB Economic Research

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Upcoming Events

29th United Nations Climate Change Conference (COP29) will be held in Azerbaijan, November 11th—22nd.

United Nations Biodiversity Conference will be held in Colombia, October 21st—November 1st.

What is the color of the matter?

Greetings from our 16th issue!

There is no doubt that the Ecosystem Review brings color to our lives. In this issue, the color is blue, and my colleagues will tell you more about the blue economy. First of all through, let me tell you tell you what I should in fact be saying in the end - the Blue economy constitutes more than just blue – it is the idea behind it that matters.”

To be frank, I knew little about the blue economy until my colleagues at the Economic Research Department asked me to write a piece about it. Seeing the opportunity to learn something new, I welcomed the challenge and now I am delighted that I went through the rabbit hole.

The [European Commission](#) defines the blue economy as “All economic activity related to the oceans, seas and coasts.”. This definition triggered a flashback on my mind, taking me some centuries back where I was a young postgraduate student, eagerly interested in the history of economics. Recalling the importance of river transportation in the Industrial Revolution (*Old Man River* by Paul Robeson playing in the background), I was already positive about anything that comes from the waterways. And indeed, my recent reading about the blue economy has only encouraged me.

In its “Oceans 2030” report dating back to 2016, the [World Bank](#) noted the importance of “Diversifying countries’ economies beyond land-based activities”, a warning that got me thinking. Yes, our focal point in this issue is indeed the Blue Economy, but combined with the pertinent warning from the World Bank, the key issue not only about the color but about diversifying - the main point is to dare to change old practices!

Diversifying in fact serves the purpose of preserving the full resource set by seeking new methods to better utilize them. It also fuels the feeling of ownership and encourages responsible behavior. For example, if we all swam in the Sea of Marmara even just once in our life time, we might not have allowed it to get even slightly dirty. If we spoke more about integrating waterways into the transportation of agricultural products within the scope of lowering agflation, we might have been more involved in shipyards, or supporting maritime education. At the same time, diversifying our activities and looking beyond land-based resources will also support our interest in these resources and motivate us to protect them.

It is true that the world’s blue economy may not as be as big as we might have hoped, despite its rising trend. While this review will certainly furnish you with plenty of numbers, I would surmise the one key point we all wonder about is the potential of the blue economy in Turkey. Here, allow me to digress and extend the question - daring to change the old practices, paying attention to the SoS signal from our beloved planet and accepting the challenge of diversifying our resource utilization, what is the potential we can realize for a better world in which we leave no one behind?

Well, we believe the potential is great when we color-up our mind - let it be green, or even blue!

A Sectoral Approach to the Blue Economy: Marine Transportation

The blue economy is perhaps the best example of the overarching framework of the ecosystem crisis that goes beyond a mere climate perspective. As the name suggests, the term refers to economic activity related to the oceans, seas and coasts such as fishing, aquaculture, tourism, and transport as well as emerging and new activities such as offshore renewable energy, seabed mining, marine biotechnology and aquaculture. Despite the lack of a globally agreed definition of the term, the World Bank [defines](#) the blue economy as “the sustainable use of ocean resources for economic growth, improved livelihoods and job creation while preserving the health of ocean ecosystems”.

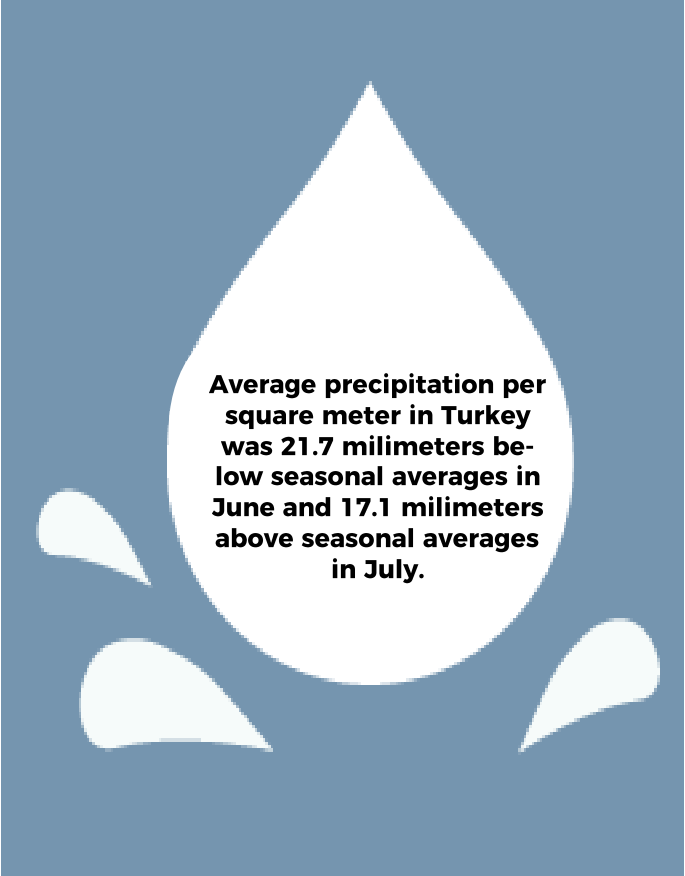
What makes the blue economy more integrated in the ecosystem crisis, therefore, is that the challenges faced by the world's seas and oceans go beyond sole global (and hence ocean) warming or extreme weather events. Such challenges surpass greenhouse gas (GHG) emissions and [encompass](#) human induced actions such as marine (mainly plastic) pollution or overexploitation of marine resources that have a more devastating impact on marine ecosystems than sole climate impacts.

A second demarcation line should also be drawn between the terms “ocean economy” and “the blue economy”. Defined as the sum of the economic activities of ocean-based industries, assets, goods and services of marine ecosystems, the OECD [estimates](#) that the ocean economy contributed roughly USD 1.5 trillion to global gross value added in 2010, with this contribution expected to exceed USD 3 trillion by 2030. The blue economy, on the other hand, specifically [refers](#) to the “management of the ocean economy” considering the threats from climate change, destructive practices, overexploitation, sustainable management of the oceanic sectors as well as the integrated management of these sectors to account for their cumulative impact on marine ecosystems.

Marine transportation, for instance, is one of the largest oceanic sectors, [accounting](#) for almost 80% of the volume of world trade - valued in trillions - and [ex-](#)

[pected](#) to quadruple by 2050. Besides the main environmental [impacts](#) of maritime transport such as marine and atmospheric pollution, marine litter, underwater noise and the introduction of invasive species, GHG emissions from marine shipping industry poses an important threat to healthy marine ecosystems. The industry's GHG emissions [increased](#) by 20% over the last decade, accounting for 3% of the global total and could reach 130% of their 2008 levels by 2050 under a business-as-usual scenario.

Hence, on top of strengthening port and operational efficiency, resilience against the potentially devastating effects of climate and the related ecosystem crisis requires the maritime shipping industry to accelerate its decarbonization efforts. Yet decarbonizing the global fleet comes at a hefty cost, [estimated](#) to require between USD 8 billion and USD 28 billion in annual investment up until 2050. Switching to 100% carbon neutral fuel infrastructure, on the other hand, is projected to cost between USD 28 and USD 90 billion annually, potentially doubling the annual fuel costs.

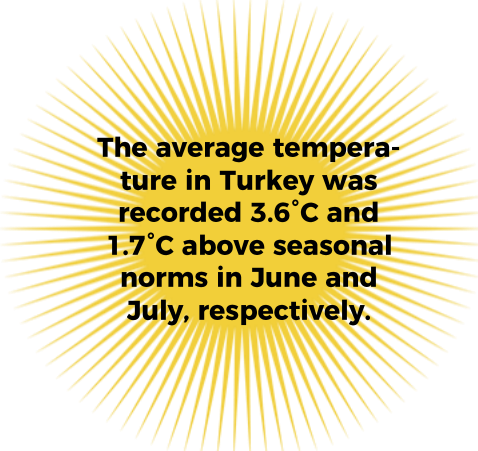


Average precipitation per square meter in Turkey was 21.7 millimeters below seasonal averages in June and 17.1 millimeters above seasonal averages in July.

Efforts to solve this challenge have prompted the International Maritime Organization (IMO) to introduce a Greenhouse Gases Strategy to [reduce](#) the carbon intensity of international shipping by at least 40% by 2030. Additionally, carbon pricing as an alternative method to cut GHG emissions of maritime shipping (by adopting a revenue-raising market-based measure) is [projected](#) to raise between USD 1 and USD 3.7 trillion by 2050, corresponding to an annual average of between USD 40 and USD 60 billion between 2025 and 2050. The remaining balance, though, would require the mobilization of additional private and public finance provided through platforms like the [Poseidon Principles](#) that would help fund the decarbonization and sustainability of the industry.

Furthermore, Introduced in 2005, the EU Emissions Trading System (EU ETS), the world's largest carbon market, started to apply to the maritime transport sector as of January 1, 2024. In this context, the regulatory interaction between the EU and IMO measures in this field will be an important issue to follow. Overall, the overarching scope of the blue economy, which

comprises the oceanic sectors and the related industries ranging from marine transportation to ports, fishing, shipbuilding and power generation as well as oceans' overlooked potential in areas such as carbon sequestration, coastal protection and ecosystem regulation also require an all-encompassing methodology to tackle the degradation faced by marine and coastal ecosystems. The good news is that the [work](#) on the blue economy is now a core plank of the ecosystem action. Reaping the benefits of such efforts, though, would depends on a wholistic approach accounting for all of the economic, social, cultural, and environmental components of our coasts and oceans.



The average temperature in Turkey was recorded 3.6°C and 1.7°C above seasonal norms in June and July, respectively.





How Useful Are Debt-for-Nature Swaps?

Curbing global warming appears to be a central tenet in the efforts to tackle the climate crisis. A broader ecosystem perspective, however, requires a focus on actions that goes beyond warming and emphasizes solutions including restoring nature and its biodiversity. Accordingly, professionals are coming up with innovative methods to finance nature restoration efforts. Debt-for-nature swaps, for instance, emerge as a creative method towards this aim, although the extent of these swaps' intended consequences is a hot topic.

Debt-for-nature swaps are financial agreements that roughly [refer](#) to a reduction, restructuring or purchase of a biodiverse developing country's debt at a discount by a conservation organization or government, in exchange for investment in local conservation activities. Hence, there are both private and public swaps created to address two big problems: debt and the ecosystem crisis. Introduced in 1984, debt-for-nature swaps are built on the debt swap idea initiated in response to the global debt [crisis](#) of 1982 and 1983.

In 2022, the African Development Bank (AfDB) [reported](#) that globally more than 100 debt-for-nature swaps had been carried out since the 1980s. Nevertheless, their effectiveness on both debt relief and nature conservation has attracted controversy. Studies [find](#) that between 1987 and 2023, out of the USD 7.6 trillion worth of debt serviced by low and middle income countries, only USD 8.4 billion had been treated through debt-for

-nature swaps. These swaps are also criticized for leading to a loss of [autonomy](#) or sovereignty over the resolution of public debt as the lenders determine the terms of swaps and for not [creating](#) new and additional biodiversity funds from the lenders.

In terms of nature conservation, on the other hand, two main problems with these swaps are [cited](#) as (i) the need for improved governance and transparency for the debtor countries to make sure that the funds are used in line with their requirements, and (ii) the minimal proportion of debt actually used for conservancy efforts. [Studies](#) indicate that in 35 out of the 67 countries home to 22% of global biodiversity priority areas, and which had defaulted on their loans, the entire unprotected biodiversity priority areas could be protected by a fraction of the national debt.

Hence, it would appear that after its inception almost 40 years ago, the debt-for-nature swap notion needs revisiting to improve the promising rationale behind its architecture. This reconfiguration should aim to further decrease the debt burden on developing countries with an aim to free up more funding and increase the share of loans used for nature conservation, if we are serious about meeting the USD 711 billion annual financing [gap](#) to conserve nature and biodiversity.

IDB Invest Invests in Costa Rica's First Blue Bond

Inter-American Development Bank Invest (IDB Invest) partnered with Banco Nacional de Costa Rica (BNCR) to [launch](#) Costa Rica's first blue bond, with IDB Invest committing USD 25 million to the USD 50 million issuance. The bond, which also received support from FinDev Canada and LAGreen, will finance blue economy projects focused on marine-coastal areas, sustainable water management, the reduction of plastic waste and the circular economy. This initiative aligns with international guidelines and aims to support Costa Rica's marine ecosystems, contributing to several UN Sustainable Development Goals, while also strengthening BNCR's blue portfolio. Costa Rica is home to approximately 4% of the world's biodiversity with 51,000 square kilometers of marine area and 1,200 kilometers of coastline.



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Blue Carbon Ecosystems

We are all aware of the importance of the oceans. Covering nearly three-quarters of the planet, the oceans are a source of income and nutrition for millions of people, the life support system of our planet and the basis for more than half of the oxygen we breathe. Although this in itself emphasizes the importance of the oceans, our focus today is not the generation of oxygen from the oceans but their vital support in making room for the oxygen produced in the atmosphere. It is here that their importance may not seem familiar to you, and where we need to look at what exactly Blue Carbon Ecosystems (BCE) are.

Blue Carbon refers to the carbon dioxide captured by oceans and coastal ecosystems. These ecosystems have the potential to store **five times** more carbon than forests - and we are talking about storage that lasts for thousands of years, not years or centuries. Systems that capture carbon dioxide from the atmosphere and store it are referred to as carbon sinks. In this context, mangroves, sea meadows, and marshes in intertidal zones (salt marshes) are the most well-known blue carbon sinks. While other coastal ecosystems also play a vital role in **blue carbon storage**, both carbon cycle budgets and nature-based solution (NBS) strategic planning largely focusses on these three ecosystems. While our country is not home to mangroves, which tend to grow in tropical regions on along the ocean coast, and marshes also thrive in temperate regions, sea meadows can be found along our country's coastline, although without the Black Sea coast.

Given the importance of protecting the blue carbon areas, essential in reducing carbon, the first step is to reduce carbon emissions. Carbon dioxide dissolves in the seas and increases the acidification of the seas, which when widespread, is referred to as ocean acidification. **Ocean acidification** causes the blue carbon re-

gions to be damaged and reduced in area, while causing the carbon density in the atmosphere to increase, dragging us towards a climate change problem with exponentially increasing effects. We have already reached a point where the oceans have an average pH of 8.1, implying a level **30% more acidic** compared to the pre-industrial period.

While reducing emissions is at the heart of any discussion on climate change, the critical role of the oceans and ocean ecosystems is often ignored. However, it is clear that BCEs are an extremely important and cost-effective way of capturing and storing carbon. It is therefore equally important to address the decreasing benefits of BCEs as ocean acidification increases, and to invest in ecological restoration. If investment in blue carbon ecosystems is an invaluable ecosystem service that contributes to the ability to mitigate and adapt to the effects of climate change, then it is our duty to follow and monitor the investments that are being made in this area.



Tourism: More Than Numbers

Healthy coastal and marine ecosystems are under severe strain from acidification of the oceans, sea-level rise and rising water temperatures. The blue economy [approach](#) to development aims to fully anticipate and incorporate such major considerations into its development work and to adapt and mitigate their worst implications. These impacts are immediate for the economic and social well-being of an [estimated](#) 37% of the world population living in coastal areas and dependent on the ocean economy.

Oceans not only [store](#) 90% of excess heat but also [absorb](#) 30% of the carbon dioxide (CO₂) in the atmosphere. Increasing amount of CO₂ in the oceans due to high level of greenhouse gas (GHG) emissions increases the acidity of seawater, putting the life of marine organisms and the overall marine ecosystem at risk. Rising water temperatures due to the absorption of higher global temperatures result in a loss of marine and coastal biodiversity. Coupled with global warming leading to melting glaciers, the global-mean sea level rise in 2023 [reached](#) 9.4 cm relative to 1993, marking the highest level in the modern observation record. Developed economies have not been spared, with cities like Atlantic City, Boston, New Orleans, New York, Osaka and Shanghai projected to see sea levels rise by between 24 and 41 cm by 2050. A 9 cm increase in the sea level was also observed in Istanbul between 1990 to 2020, and is projected to reach between 12 and 22 cm from 2020 to 2050. The combined effects of coastal flooding pose threats such as damage to coastal infrastructure, saltwater intrusion into groundwater and rivers, shoreline retreat and degradation of coastal ecosystems and economic sectors, in which tourism plays a vital role.

The tourism and travel sector is [forecasted](#) to generate USD 16 trillion in value and 449 million jobs in 2034. The industry generated USD 9.9 trillion of value and 330 million jobs in 2023. With a share of around 50% of all global tourism and valued at USD 4.6 trillion,

coastal and marine tourism [constitutes](#) 5.2% of global gross domestic product (GDP).

Nevertheless, the sector's growth presents something of a dilemma as the rising numbers of visitors coming to such areas because of their beauty actually threaten the very health and beauty of the coastal and marine ecosystems they are coming to see. Once [projected](#) to become the largest ocean economy sector in terms of GDP by 2030 (before COVID), coastal and marine tourism is partly responsible for the highly emissions-intensive tourism industry's overall [emissions](#) which contribute to global warming. Coral reef tourism, which [attracts](#) more than 350 million visitors a year and generates USD 36 billion in annual value is under threat by the decline in the global coverage of living coral, which has [halved](#) since the 1950s due to increasing ocean acidity and rising water temperatures. Several historical and cultural heritage sites are in danger of [submerging](#) due to rising sea levels. Hence, a blue economy approach on the transformation of the tourism industry would focus on issues such as the systemic causes of the degradation of marine and coastal ecosystems, on how to manage growing demand and on phasing out practices that are detrimental to the environment.

As a matter of fact, endeavors such as promoting responsible consumption, improving energy and water efficiency, implementing coastal zone management plans, investing in sustainable infrastructure such as waste treatment facilities and supporting ecosystem restoration and regeneration activities would all go a long way towards strengthening a sustainable coastal and marine tourism industry. After all, tourism represents much more than its contribution to GDP.



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“Blue Natural Capital” as an Element of Social Wealth

The ocean economy focuses on the economic value derived from marine and freshwater resources to generate growth, employment and prosperity. The blue economy, on the other hand, emphasizes the sustainable use of resources so the value derived from these resources can be sustained and expanded.

However, the excessive use of blue natural resources on one hand and the pollution caused by terrestrial activities on the other threaten the sustainability of these resources. Factors such as changes in the acid balance of the seas due to climate change and rising sea levels and temperatures further increase the pressure on blue natural resources.

Since nature is [a complex system](#), biodiversity is an indicator of the health of blue natural resources. The “Living Planet” study prepared by the World Wildlife Fund (WWF), which conducts comprehensive monitoring in this area, reveals the severity of the biodiversity loss. The study [indicates](#) that the monitored wildlife population worldwide has decreased by 69% between 1970 and 2018, and by 83% in freshwater habitats.

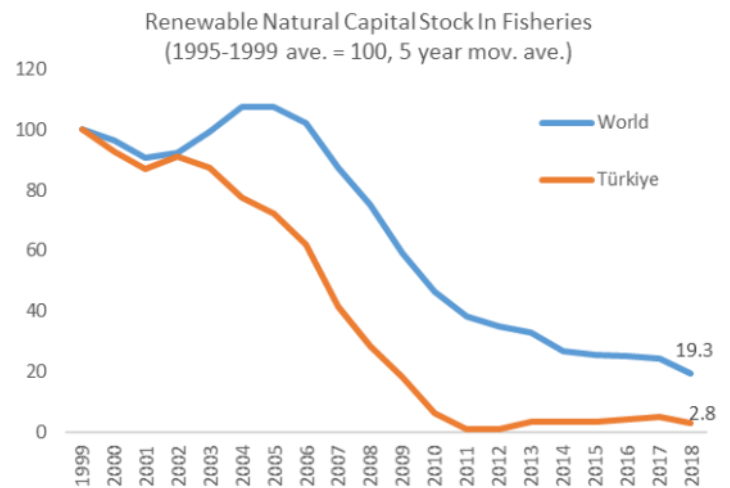
This situation points to the need to go beyond the sustainable blue economy approach and gain a regenerative perspective. The “regenerative blue economy” approach places [“blue natural capital”](#) at the heart of the matter. Blue natural capital is an element of wealth, like physical capital or human capital, and has a renewable quality.

When the subject is considered this way, it becomes clear that blue natural resources are both an important and a fragile element of wealth. If blue natural capital is consumed, or becomes polluted, more rapidly than the resources are able to renew themselves, the stock of the

wealth decreases. The decline in the stock of wealth, as with a decrease in the stock of physical or human capital, compromises the ability of a natural resource to generate income and employment, while also reducing total wealth.

The Changing Wealth of Nations, a study published by the World Bank in 2021, seeks to quantify renewable natural capital. The [development of the natural capital stock](#) under the title of fisheries for the world and Turkey as found in the study is illustrated in the graph. The severe decline depicted in the graph also illustrates the need for a regenerative, nature-positive approach to the blue economy.

Blue natural capital is a common element of wealth in society. It is important to stop and repair the decay in this respect and prioritize investments that create positive effects on nature. The resources obtained from the blue economy should not reduce the capital stock in the medium-long term. This requires extending the time horizon when evaluating the effects of production and investment decisions.



Source: WB CWON, TSKB Economic Research

No Blues for Blue Energy

Energy in the context of the blue economy relates to extracting power from the blue economy for use in both powering it to support offshore industries and meeting the energy and water needs of rural coastal and island stakeholders. While a great deal of attention has focused on the rapid deployment of offshore wind farms to generate power on the sea, energy generation in the blue economy can also come from wave and tidal energy as well as [ocean thermal energy conservation](#) which are all at the [early](#) stages of development.

Offshore industries such as ocean observation and navigation, aquaculture, marine algae, and seawater mining as well as broader projects such as building coastal and coastal community resilience, water desalination or community scale isolated power systems (for remote regions such as Siberia, Alaska or remote island states) all [require](#) energy which can be much less costly if generated on site. Renewable energy in the blue economy will create positive environmental and health impacts by eliminating current dirty energy sources of shipping such as diesel or other fuels which are [responsible](#) for over 250,000 deaths and 6.3 million cases of childhood asthma worldwide annually. Hence, efforts to power oceanic industries via energy generated from clean marine resources are underway. Yet, current tidal and wave projects are [estimated](#) to add 3 gigawatts (GW) of capacity once completed, which constitutes only a tiny fraction of the global installed capacity of all renewables at around 2,600 GWs.

The case of offshore wind power, though, is another story. In 2019, International Energy Agency (IEA) [predicted](#) a 15-fold increase in offshore wind power capacity worldwide by 2040, becoming a \$1 trillion business. The new macroeconomic environment impacted by rising commodity prices and global political tensions triggering a global energy crisis, on the other hand, urged the IEA to [revise](#) down its projection of offshore wind expansion through 2028 by 15%, to a total installed [capacity](#) of almost 218 GW worldwide.

One reason for this expansion is technological advancements enabling the [deployment](#) of offshore wind turbines with water depths of up to 40 m and as far as 80 km offshore. Until 2007, only much smaller turbines could be deployed offshore at depths of up to 20m, and within 30km of the shore. The IEA states that in technical terms, offshore wind power has the [potential](#) to generate 36,000 terawatt hours (TWh) of electricity annually for installations on the sea in depths of less than 60 meters deep and within 60 km of the shore. This potential comfortably exceeds the current global electricity demand at [29,471](#) TWh. Implementing new technologies such as floating turbines in deeper waters, moreover, has the potential to [generate](#) 11 times the global electricity demand in 2040. Increasing investments in clean energy worldwide is the second reason for the impressive growth trajectory of offshore wind. For the first time in 2024, clean energy technologies and infrastructure is [expected](#) to receive USD 2 trillion out of the USD 3 trillion in global energy investments, almost double the spending on oil, gas and coal.

Energy within the context of the blue economy is key in both powering our coasts and oceans and extracting clean power from them. The blue economy presents tremendous opportunities for us to utilize its energy. Hence, it falls upon us to seize this opportunity to power the blue economy.



Climate Finance

Financing the Blue Economy

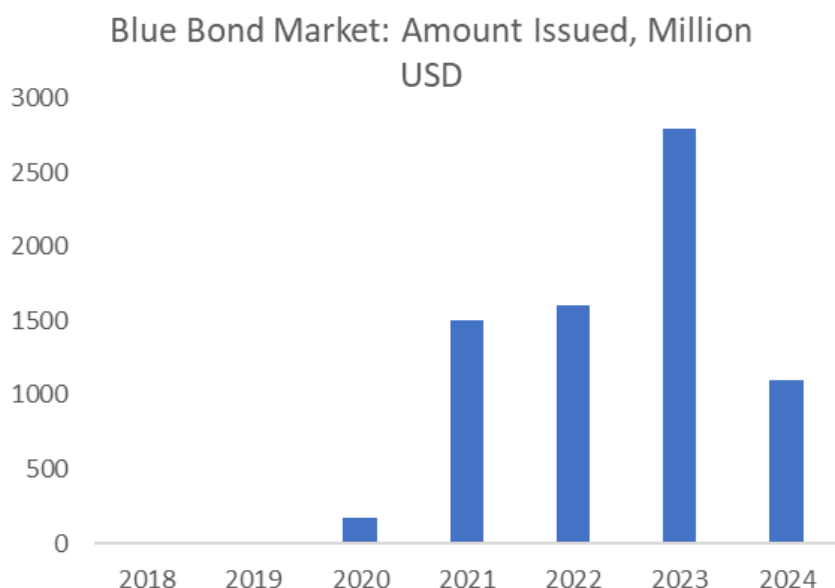
The prominence of the blue economy has placed blue finance as a connected but distinct part of green finance. The International Finance Corporation (IFC) [defines](#) blue finance as “investments dedicated to finance or refinance activities that contribute to the protection of the oceans and/or improved water management.” As the ocean economy is [projected](#) to reach USD 3 trillion by 2030 and employ 40 million people globally, the introduction of blue bonds and blue loans has also gained traction since the issuance of the first blue bond by the World Bank in 2018. Nevertheless, “Life Below Water” is the most [underfunded](#) Sustainable Development Goal (SDG) to date.

Blue bonds and blue loans refer to innovative financing instruments exclusively designed for ocean-friendly and critical clean projects to protect water resources, which are aligned with the green bond principles (GBP) administered by the International Capital Markets Association (ICMA) and green loan principles (GLP) published by the Loan Market Association (LMA). On the other hand, the [Sustainable Blue Economy Finance Principles](#), launched in March 2018, specifically refer to the sustainable conservation and use of the oceans, seas and marine resources. Within this perspective, the IFC indicates that in addition to addressing sustainable water management and ocean protection activities (covered by the targets of SDGs 6 and 14), the blue

component of a green bond or loan may be allocated to finance activities such as

- water supply,
- water sanitation,
- ocean-friendly and water-friendly products (referring to investments in the value chain, including production, packaging, and distribution of environmentally-friendly products that avoid water or ocean pollution),
- ocean-friendly chemicals and plastic-related sectors,
- sustainable shipping and port logistics sectors,
- fisheries, aquaculture and the sea-food value chain,
- restoration of the marine ecosystem,
- sustainable tourism services, and
- offshore renewable energy facilities.

As of the first quarter of 2024, the bond market for water-focused projects [makes](#) up around USD 7.2 billion of the wider USD 4 trillion market for green bonds. A total of 53 blue bonds have been issued since 2018, varying in size from USD 12.8 million to USD 750 million, with almost half originating from Chinese entities according to Bloomberg. With the aim to further increasing investments in emerging market blue bonds, T. Rowe Price and the IFC teamed up to set up a fund to raise more than USD 500 million in the year up to November 2024.



Source: Bloomberg, TSKB Economic Research

The Political Economy of Friendshoring

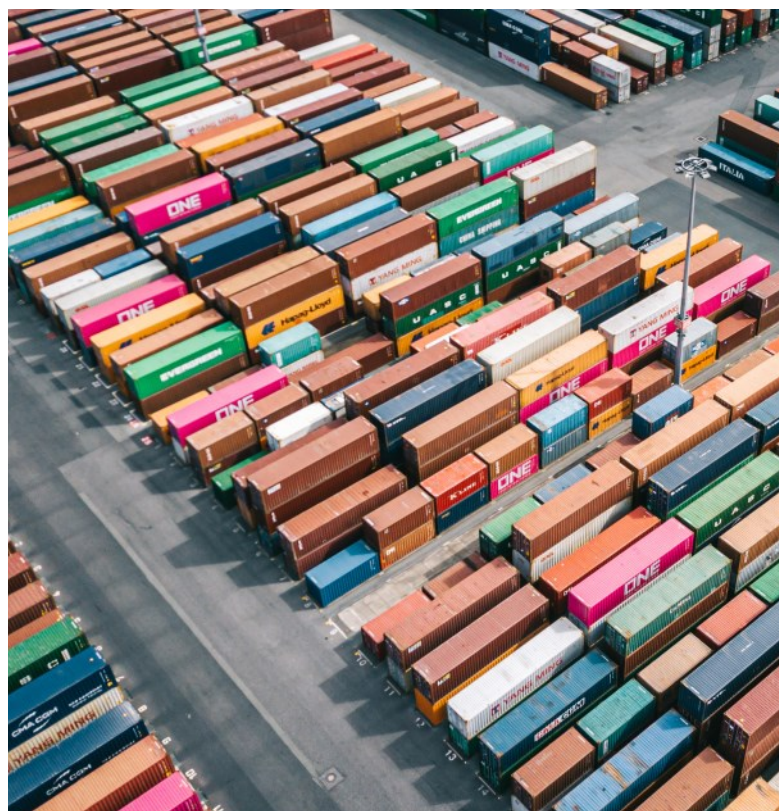
As the race to lead competition has accelerated in recent years, countries are increasingly opting for extraordinary trade and industrial policies, leading to the emergence of novel concepts. [Friendshoring](#), for instance, is the new buzzword of the international political economy which [refers](#) to rerouting supply chains to countries perceived as politically and economically safe or low-risk. While essentially aiming to secure the undisrupted flow of supply chains during the COVID-19 pandemic, friendshoring emerged with its caveats as well, with “selective protectionism” as a major potential side effect.

Fast forward four years and we now witness friendshoring used alongside efforts to avoid the potential implications of China’s overcapacity, persistent industrial targeting and even ‘economic coercion’ as mentioned in the G7 leaders’ [statement](#) in June 2024. Europe is [targeting](#) Chinese automotive (read electric vehicle) exports with countervailing duties (CVD) reaching around 38%, and the United States (U.S.) is policing investments made abroad while [banning](#) U.S. investments in sensitive technologies in China. The two giants also provide generous incentives to their domestic industries. Conversely, China has come under criticism for providing hefty incentives to its domestic industry while implementing [export controls](#) on several critical raw materials including those used in new technologies.

The consequences of such selective protectionism may not, however, be quite as intended as production can become less [efficient](#) when politics come into consideration alongside profits in determining where goods are made. For instance, the International Money Fund (IMF), estimates that the fragmentation of foreign direct investment (FDI) may [shave](#) off around 2% of the world’s gross domestic product (GDP) due to long-term global output losses, and friendshoring may [lead](#) to real GDP losses of up to 4.7% in some economies. Meanwhile, as tariffs add to motor vehicle prices in Europe, Chinese auto makers are in the process of [moving](#) manufacturing to Europe to stay competitive.

Friendshoring and selective protectionism also creates winners within this framework. The quest of European manufacturers to [produce](#) in countries like Türkiye, Romania and Morocco, or Chinese automotive investments in [Hungary](#) and [Türkiye](#) to circumvent selective protectionism are cases at hand. Türkiye’s High Investment Technologies 30 (HIT-30) [investment](#) incentive program, which aims to attract investments in new generation vehicles, battery and chip technologies, solar panels and wind turbines among other high value added industries with overall incentives amounting to USD 30 billion in this perspective, is likely to place Türkiye as a major winner as well.

We are witnessing trade and industrial policies being used as both carrots and sticks within the current global economic climate. Implementing tariffs while providing [exemptions](#) and even incentives to FDI can potentially be beneficial for some developing countries. Whether this trajectory continues to defy deglobalization concerns or if friendshoring and selective protectionism leads to further fragmentation in global trade and investments between blocs in the long run remains to be seen.



Climate Justice

The Ever-Expanding Avenue

The burden of legal responsibilities weighing down on countries to protect their citizens from the negative impacts of the ecosystem crisis or the repercussion of inaction is swiftly expanding. The latest such proceedings will take place at the International Court of Justice (ICJ) starting on December 2nd which is expected to [issue](#) a non-binding advisory opinion in 2025 following public hearings.

Two major questions expected to be addressed by the ICJ concern (i) the obligations of countries under international law to protect the climate and environment from human-caused greenhouse gas (GHG) emissions and (ii) the legal consequences of inaction by governments which could lead to significant harm to the climate and environment. Despite the expectation of a non-binding advisory opinion from the ICJ, the case attracted written comment from dozens of organizations and nations including the European Union (EU), the United Kingdom (UK), the United States (U.S.) and Brazil.

The case follows a recent advisory [opinion](#) from the International Tribunal for the Law of the Sea, which classified carbon emissions as marine pollution, emphasizing the responsibility of nations to protect oceans. The interest in these legal opinions has been extensive because they set the framework for future climate justice cases.

Earlier this year the European Court of Human Rights (ECHR) reached a landmark binding [decision](#) on the relationship between climate and human rights violations as well as the governments' responsibility thereof. The ECHR's decision to hold Switzerland accountable for breaching human rights by taking insufficient action to reduce GHG emissions prompted a [backlash](#) from the Swiss parliament which passed a non-binding motion labelling the ECHR ruling 'inadmissible and disproportionate judicial activism'.

The tension between politics and law on climate and the environment is expected to occupy the headlines in Europe even further, especially after the latest European Parliamentary [elections](#) which led to more seats to climate sceptic groups in the Parliament.

Ecosystem 101

blue economy

the sustainable use of ocean resources for economic growth, improved livelihoods and job creation while preserving the health of ocean ecosystems

ocean economy

the sum of the economic activities of ocean-based industries, assets, goods and services of marine ecosystems

blue carbon

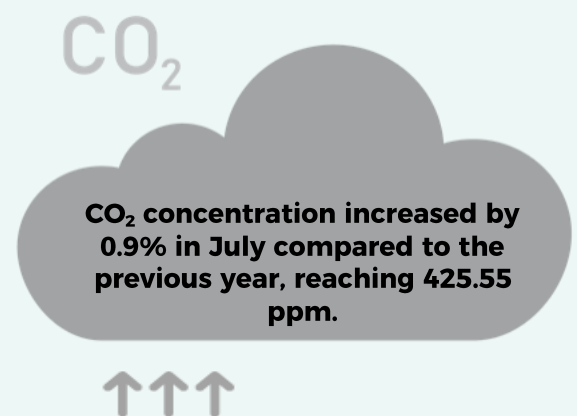
carbon dioxide (CO₂) captured and stored by the world's ocean and coastal ecosystems

carbon intensity of electricity generation

the amount of CO₂ (measured in grams) released to generate one kilowatt hour (kWh) of electricity

blue bonds

the innovative financing instruments exclusively designed for ocean-friendly projects and protection of critical clean water resources and which are aligned with green bond and green loan principles



*ppm: parts per million

Company Highlights



cognizant

Our interaction with the seas and oceans of our blue planet, while reaping the benefits of the blue economy also exacerbates the negative impacts of the ecosystem crisis. However, work to minimize these negative impacts is also under way as companies seek solutions to curb these impacts. Cognizant is one such company working in several areas, including an individual branch named [Cognizant Ocean](#) specialized in blue economy solutions.

In collaboration with its clients, Cognizant [provides](#) digital services and solutions, consulting, application development, systems integration, quality engineering and assurance, application maintenance, infrastructure and security as well as business process services and automation around the globe with over 340,000 [employees](#) in nearly 50 countries. The company utilizes artificial intelligence (AI) and machine learning (ML) systems to help clients build predictive modeling technologies that are used in areas related to blue economy such as food, energy, transportation and marine life.

In terms of marine life, for instance, Cognizant utilizes AI technologies such as remote sensing, drones and underwater robots to monitor marine ecosystems and collect data on temperature, acidity, oxygen levels, pollution, invasive species and overall [biodiversity](#) to not only enhance ecological preservation but also [optimize](#) the nutrition requirements and health of fish and other

marine species to promote sustainable fishing practices. As for maritime [transport](#) and its interaction with marine ecosystems and the blue economy, Cognizant uses AI/ML technologies to predict [noise](#) pollution levels, port and route congestion based on shipping traffic patterns, weather conditions and oceanographic data. These solutions help businesses promote habitat protection while minimizing costs associated with shipping operations such as fuel consumption and emissions.

Cognizant is also providing [solutions](#) to minimize environmental impacts and hence promote the sustainability of offshore renewables industry. The company provides its clients with technologies to monitor ocean currents, wind patterns, seabed conditions, and track the movements of wildlife and change in marine habitats which help [optimize](#) the design, placement and maintenance of offshore renewable energy systems.

With 2023 turnover of USD 19.4 billion, Cognizant has been listed on the Nasdaq stock exchange since 1998. As of early August 2024, the company's market value stood at USD 36.8 billion. Cognizant ranks 629th on The Global 2000 list compiled by the Forbes magazine, which ranks companies based on four metrics: turnover, profit, assets and market value.

In Short...

China to Invest USD 800 billion in Its Energy System

China unveiled a [plan](#) to invest more than USD 800 billion to upgrade its electricity infrastructure over the next six years to cope with the challenges on grids as the country shifts away from coal. The inadequate capacity of the country's electricity networks prevented the connection of small-scale solar operations to distribution lines in more than 100 counties last year. This is despite being home to more than a third of the world's expansion in transmission grids over the last decade.

Hydrogen Power in Action

The world's first hydrogen-powered commercial passenger ferry began [operating](#) in the San Francisco Bay in July. It can carry 75 passengers and travel 300 nautical miles using hydrogen fuel cells, emitting only water as a byproduct. The ferry is part of a pilot program to phase out diesel-powered vessels and reduce carbon emissions, with officials hopeful it will lead to broader adoption of hydrogen-powered ships. The technology could reduce emissions in the international shipping sector, which is responsible for around 3% of global greenhouse gas emissions.

South Africa's Energy Transition Efforts

South Africa's National Treasury [expects](#) to raise up to USD 2.4 billion this year from a climate finance pact with Germany, France, the European Union, the UK, the US, the Netherlands

and Denmark under the Just Energy Transition Partnership (JETP). The country has secured USD 9.3 billion in pledges from the partnership, which is aimed at reducing the country's reliance on coal, although implementation has been delayed due to procedural setbacks and internal government disputes over ditching coal. The JETP, seen as a model for similar programs in other developing countries, is essential for South Africa's shift to renewable energy, supporting investments in green infrastructure and alternative livelihoods for communities affected by the transition.

What Does the New European Parliament Hold for the EU Green Agenda

The new European Commission is [likely](#) to face challenges in advancing ambitious climate policies due to a split between lawmakers following last June's European Parliament elections. Draft documents indicate that major groups like the European People's Party (EPP) and the European Conservatives and Reformists Group (ECR) are aiming to revise or block certain green measures, including the EU's 2035 ban on new combustion engine cars and an expected Commission proposal to cut greenhouse gas emissions by 90% by 2040 compared to 1990 levels. Meanwhile, the Socialists and Democrats, along with other pro-climate groups, are pushing for stronger climate action, creating a significant divide that complicates the Commission's efforts to maintain a cohesive climate agenda.

The Green Economy's Whopping 198% Return

Over the past decade, green economy stocks have [achieved](#) a 198% total return, making it the second-best performing sector after technology, according to a [report](#) by the London Stock Exchange Group (LSEG). The green economy's market capitalization, now valued at USD 7.2 trillion, includes companies in renewables and critical mineral processing, with a 14% compound annual growth rate over the past ten years. However, trade tariffs, particularly on renewable energy equipment and electric vehicles, could pose challenges to the continued growth of this sector.

First Blue Bond Issuance from Vietnam

The Asian Infrastructure Investment Bank (AIIB) added blue bond investments into its portfolio in July 2024 with a USD 75 million financing [agreement](#) to support the issuance of green and blue bonds by Southeast Asia Commercial Joint Stock Bank (SeABank). This initiative represents Vietnam's first-ever blue bond issuance and marks AIIB's inaugural investment in a blue bond.



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