

Benchmarks for Evaluating Performance of Blue Economy

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Many uses of the “triple bottom line” (Rio+20)

- **Marine and Coastal Ecosystem health** in terms of species, ecological functions, and water quality
- **Economic growth** (revenues and jobs), which require marine and coastal ecosystem health
- **Equitable benefits** to front-line coastal communities and vulnerable populations

- Communication based on business-as-usual
- Pragmatic versus STRATEGIC
- Intergenerational Equity versus short-term STRATEGIC

- Source: Cisneros-Montemayor et al. 2021 OBJECTIVES Selected





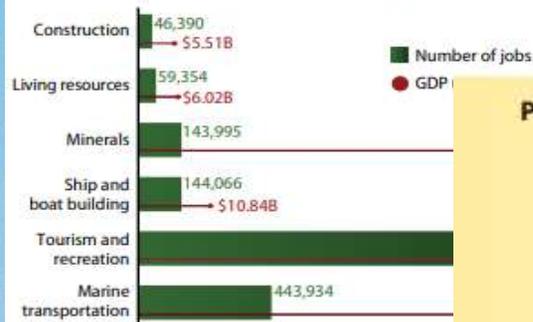
What is Blue Economy?

- Sustainable and integrated development of oceanic activities in a healthy ocean (...) → ocean economy to be a catalyst for long-term, inclusive and sustainable development
- Policies that determine whether the use of oceanic resources is sustainable
 - ◉ Traditional ocean uses – fisheries, tourism, maritime transport, undersea cables
 - ◉ New and emerging activities – offshore renewable energy, aquaculture, bioprospecting, desalination, green hydrogen
 - ◉ Yet not marketable activities - carbon sequestration, waste disposal, coastal protection, existence of biodiversity
- Collaboration across nation-states and across the public-private sectors, and on a scale that has not previously been achieved

“Use of ocean resources for economic growth, improved livelihoods, and jobs while preserving the health of ocean ecosystem”

Quest for Ocean Economy

The United States' ocean economy



Notes: "Construction" includes activity related to marine infrastructure, including renovation. "Living resources" includes fishing and aquaculture. Minerals activities. "Ship and boat building" includes construction and manufacturing and recreation" includes restaurants, hotels, and activities such as surfing and passenger transportation, as well as manufacturing of search and navigation.

Source: Judith T. Kildow and others, "State of the U.S. Ocean and Coastal Economic Program, 2014", available at http://cbe.mils.edu/noep_publications/.

Past and projected crude oil output in selected offshore producing areas

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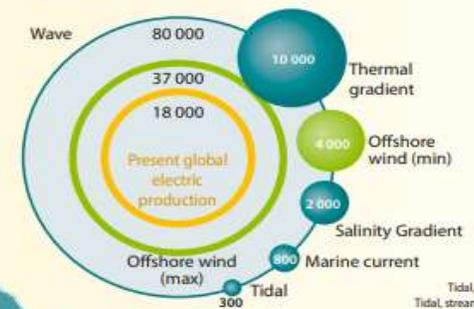
Producing energy from the oceans



Sources: Owen, A., D., Renewable energy: Extremity costs at market barrier, Energy Policy, Elsevier, 2009; EEA online database; International Energy Agency-DES, Annual report, 2008; ISEC, Specialist Committee V4 Ocean, Wind And Wave Energy Utilization, 2009; IPCC, Wind Energy, in IPCC Special Report on Renewable Energy Sources and Climate Change Mitigation, in press.

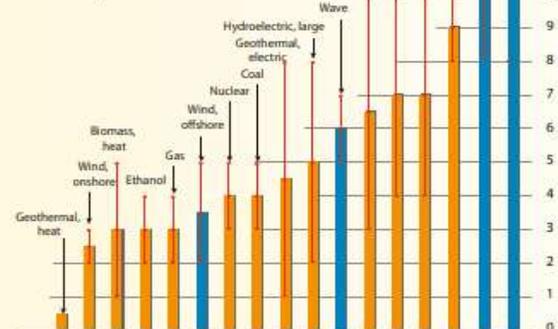
Ocean energy potential

Terawatt-hour per year



Energy production costs

Euro cent per Kilowatt-hour



Note: Energy production costs are averages estimates in the European Union and refers to the cost of traditional and available energy technologies projected to 2020 assuming technology improvement for newer energy sources.

Table 1 EU Blue Economy of main indicators

Indicator
Turnover
Gross value added
Gross profit
Employment
Net investment in tangible goods
Net investment ratio
Average annual salary

Notes: Turnover is calculated as the sum of the to double counting along the value chain. Net investment excludes maritime transport and is defined as net investment to GVA.

Source: Eurostat (SBS), DCF and Commission S

The Acceleration of the Quest

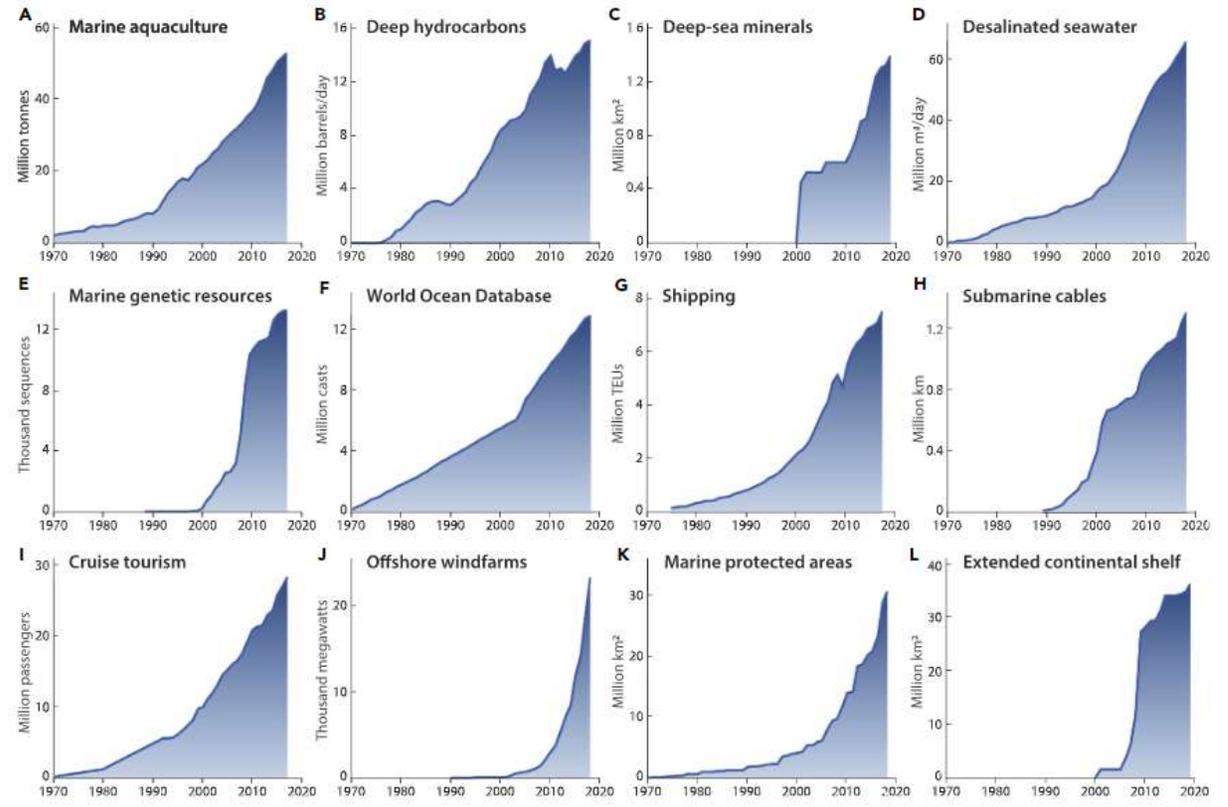


Figure 2. The Blue Acceleration
 Global trends in (A) marine aquaculture production; (B) deep offshore hydrocarbon production, including gas, crude oil, and natural gas liquids below 125 m; (C) total area of seabed under mining contract in areas beyond national jurisdiction; (D) cumulative contracted seawater desalination capacity; (E) accumulated number of marine genetic sequences associated with a patent with international protection; (F) accumulated number of casts added to the World Ocean Database; (G) container port traffic measured in Twenty-Foot Equivalent Units (TEU); (H) total length of submarine fiber optic cables; (I) number of cruise passengers; (J) cumulative offshore wind energy capacity installed; (K) total marine area protected; (L) total area of claimed extended continental shelf. See Note S1 for details and data sources.

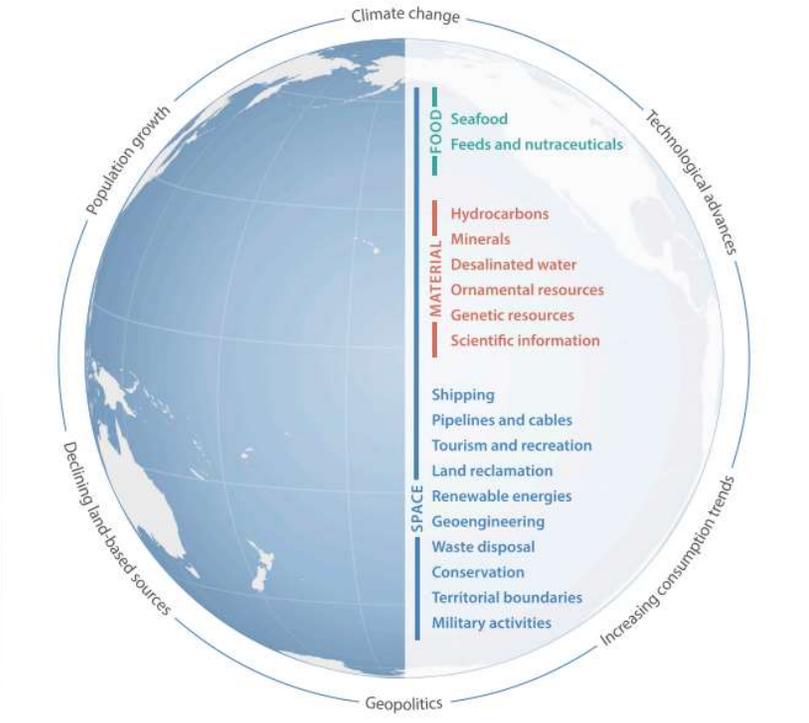


Figure 1. Ocean Claims
 The ocean is increasingly regarded as an engine of present and future human needs for food, material, and space. Claims were identified and categorized through an iterative process aimed at understanding ocean uses of direct relevance for ecosystem sustainability, human well-being, and economic growth. Around the globe are some of the key distal drivers shaping this new global ocean context. See Note S1 for methodology and details on each claim.

“Additional Growth is possible” – a conviction in the background

- ❑ **Traditional ocean uses** – fisheries, tourism, maritime transport-ports & shipping, undersea cables, marine biotechnology, hydrocarbon and mineral extraction
 - **Improve Apparent Pollution Performance (and Continue)**
 - **Improve Governance and regulatory oversight (and Continue)**
 - **Establish management plans (and Continue)**

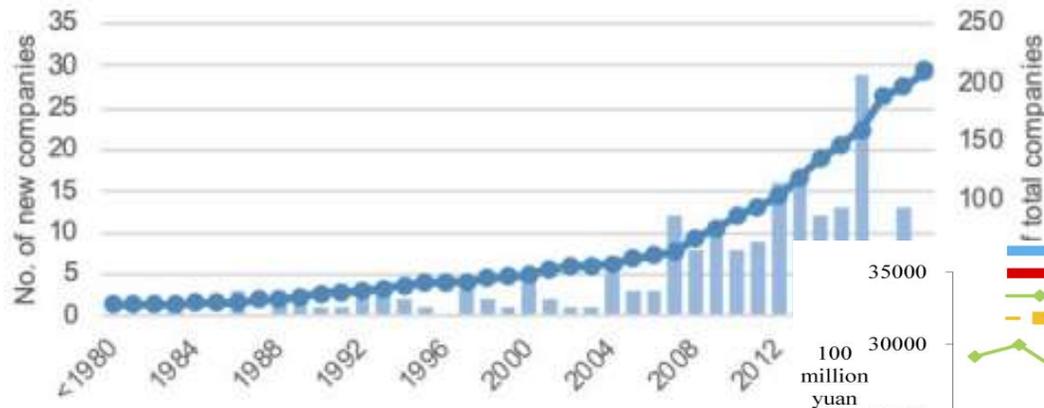
- ❑ **New and emerging activities** – offshore renewable energy, aquaculture, bioprospecting, desalination, green hydrogen, seabed mining
 - **Expect industry standards to ensure that the new and emerging activities are “cleaner” compared to traditional uses of the ocean**
 - **Replace some traditional uses locally (once new activities are established)**

- ❑ **Yet not marketable activities** - carbon sequestration, waste disposal, coastal protection, existence of biodiversity
 - **Invest in research, encourage public investment**

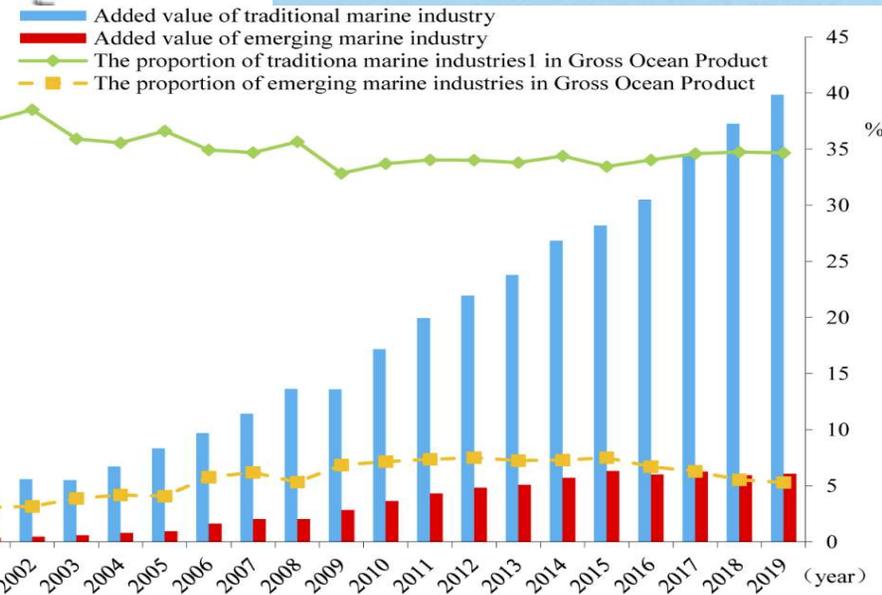
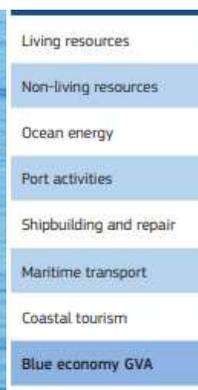


Accounting as Performance

Figure 5.8 Number of algae producing companies currently operating in Europe (starting activity since 1926)



Tonga	3.4	6.5
Federated States of Micronesia	0.7	3.4
Kiribati	0.7	4.9
Marshall Islands	-0.6	-1.0
Palau	1.6	4.6
Nauru	-	-
Tuvalu	0.9	8.6



ADB, 2020

Source(s): China Marine Statistics Yearbook (2002-2017); China Marine Economic Statistics Bulletin (2017-2019)

Basis to compare Performance is slowly emerging

Figure 5.14 Desalination capacity and technologies in the EU

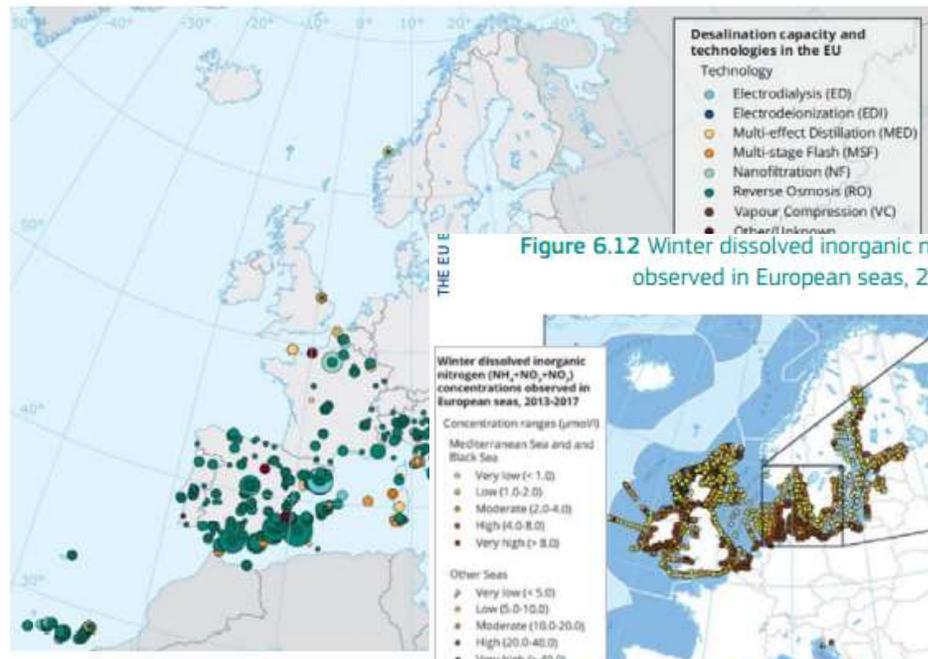


Figure 6.12 Winter dissolved inorganic nitrogen concentration observed in European seas, 2013-2017

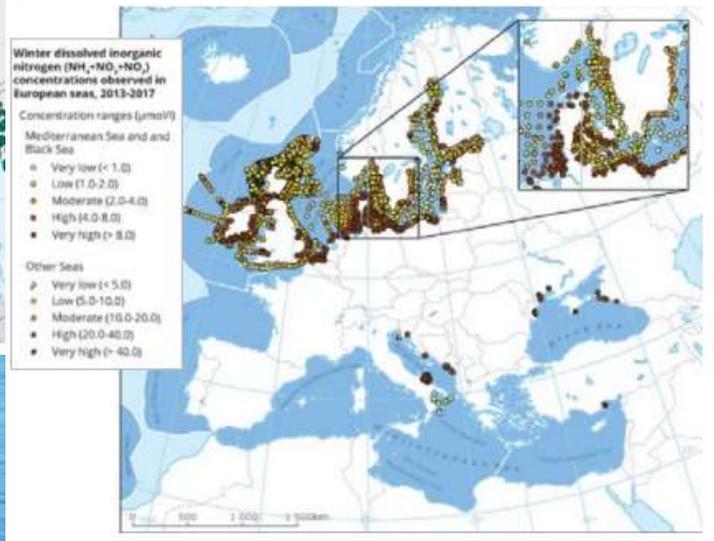
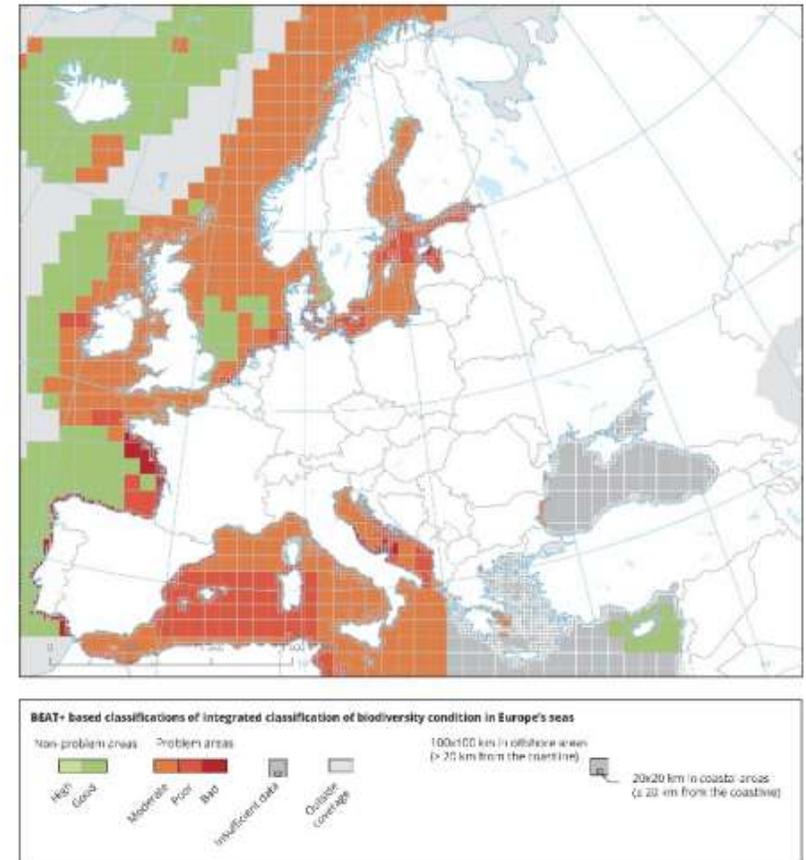


Figure 6.5 Integrated classification of biodiversity condition in Europe's seas



World Bank's Evolving Commitment to Blue Economy



World Bank Blue Economy Financing



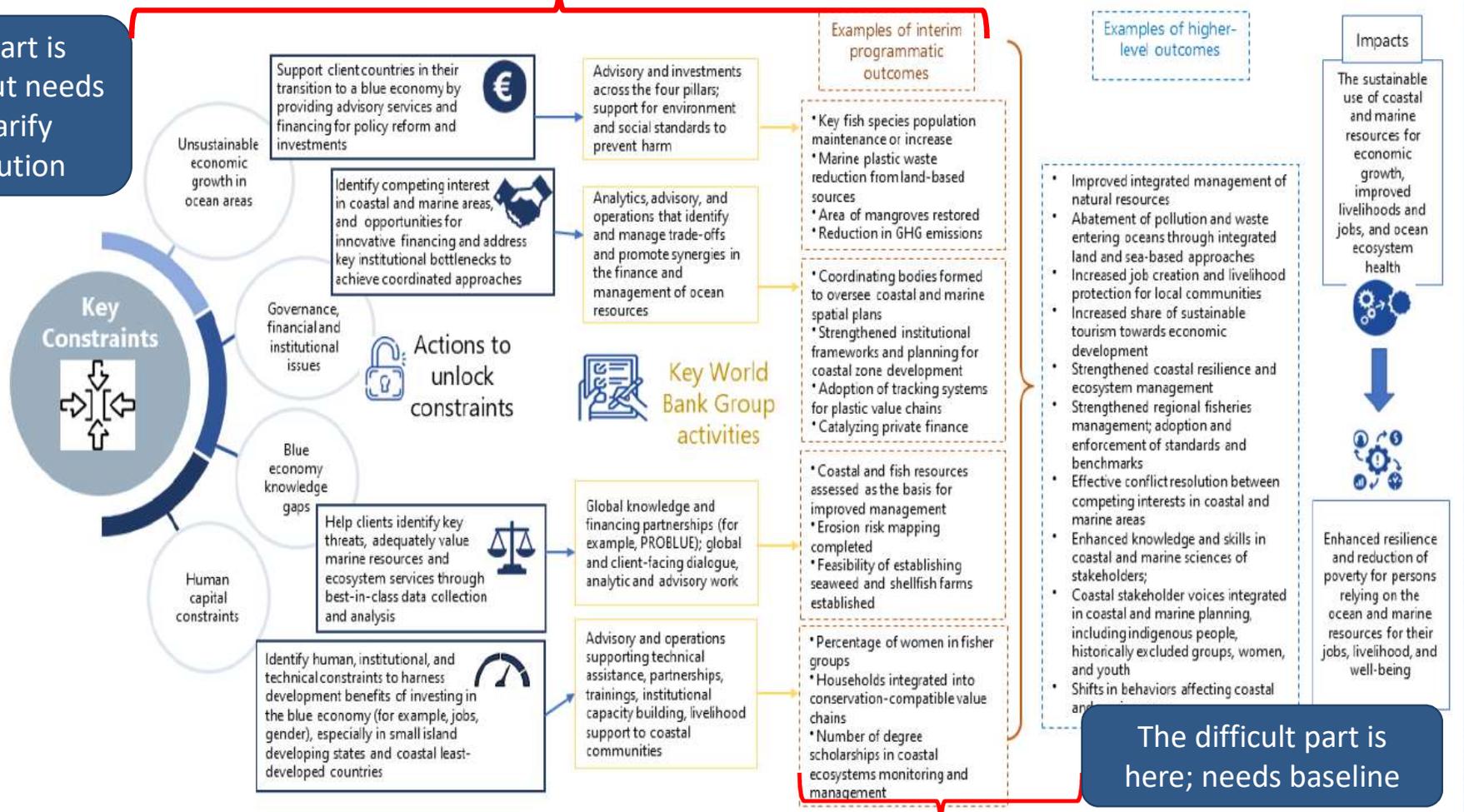
Sustainable & integrated development of oceanic sectors, *in healthy oceans*

Both **traditional** but also **new & emerging** activities

Portfolio of **603** project in **77** countries (\$37 billion) + **417** knowledge products or analytics

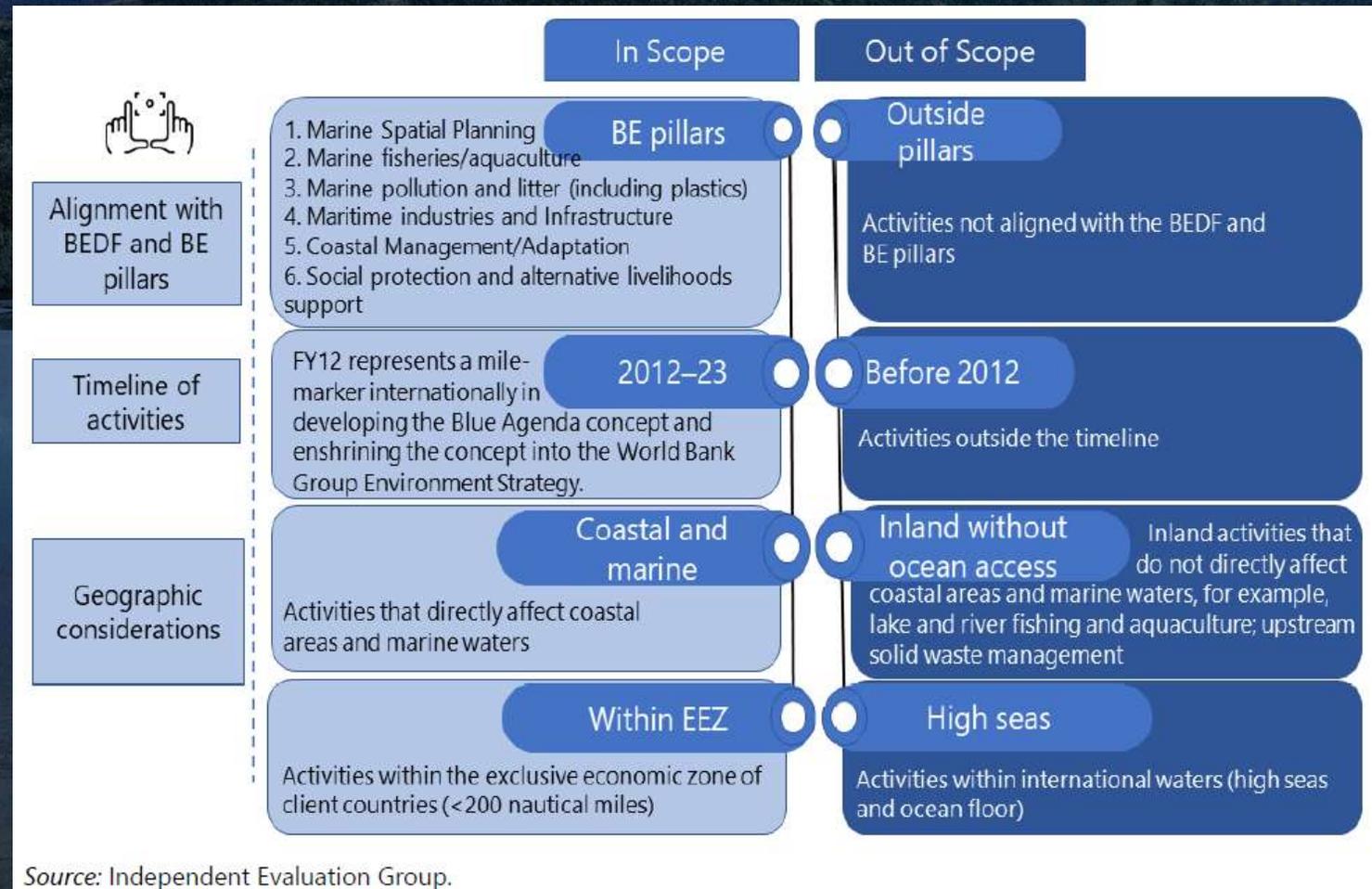
The Theory of Action used in Evaluation

This part is easier but needs to clarify attribution



The difficult part is here; needs baseline

Scoping of the World Bank Blue Economy Actions



Thank you.

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