

Regional and National State of Oceans and Coasts Reports

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Outline of the SOC Reports



Ocean economy and ocean health

- Role of oceans and LMEs
- The people of EAS region (demographic, socioeconomic)
- Coastal and marine ecosystems and biodiversity
- Ocean economy
- Ecosystem services
- Fisheries and food security from coastal and marine resources
- Tourism, heritage and cultural sites
- Shipping and ports
- Risks and threats



Blue economy development

- Drivers of transformational change and sustainability
- Innovative and sustainable economic activities
- Best practices & innovations in environmental and resource mgt.



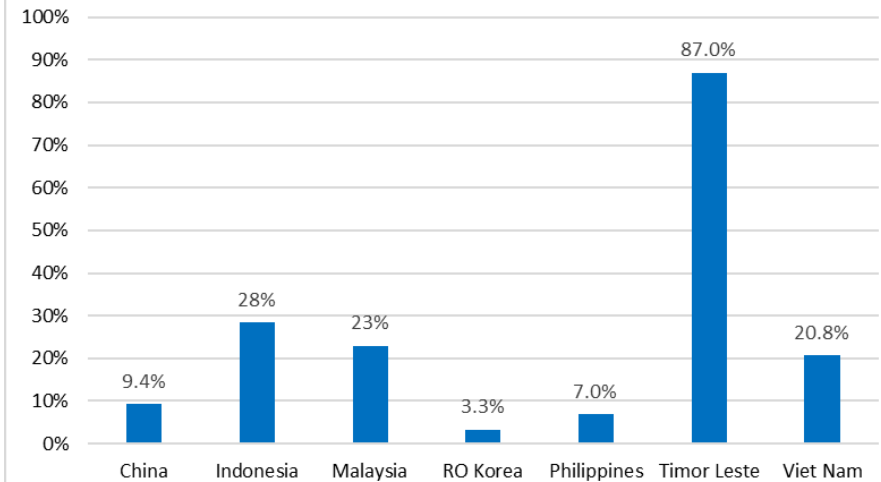
Innovations in blue economy governance and investment opportunities

- Enabling conditions, access to technologies and financing
- Co-management, stakeholder participation and partnerships
- Business and investment opportunities in blue economy

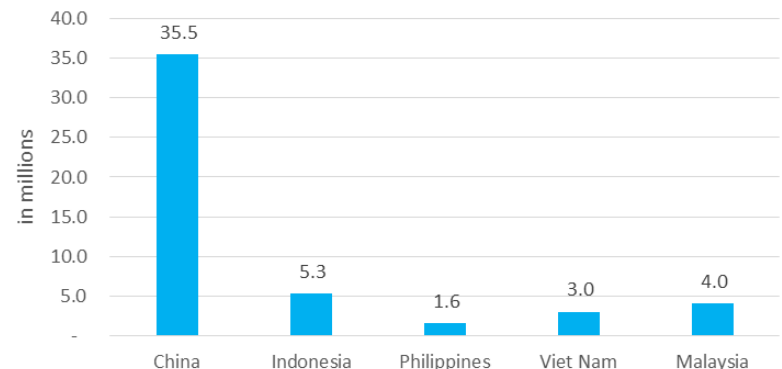
Ocean economy

- Fisheries & Aquaculture
- Oil and Gas
- Mining (Minerals)
- Energy/electric supply (ocean energy)
- Water (desalination)
- Manufacturing:
 - seafood processing,
 - marine biotechnology & pharmaceuticals, salt,
 - ship building and repair,
 - marine transport equipment
- Marine Construction
- Shipping and Ports
- Marine tourism and recreation
- Public/Government
- Marine communications (submarine cables)
- Marine education and research
- Marine services (mapping, monitoring, consulting, insurance, etc.)

% Share of Ocean Economy to GDP



Employment in the Ocean Economy (in millions)



Ocean as natural capital

Provisioning

- Fish and seafood
- Medicines
- Timber; fuelwood

Supporting

- Nutrient cycling
- Habitat for species
- Genetic diversity

Regulating

- Climate regulation
- Carbon sequestration
- Shoreline protection
- Waste assimilation

Cultural

- Recreational
- Educational
- Spiritual
- Aesthetic



DPSIR analysis

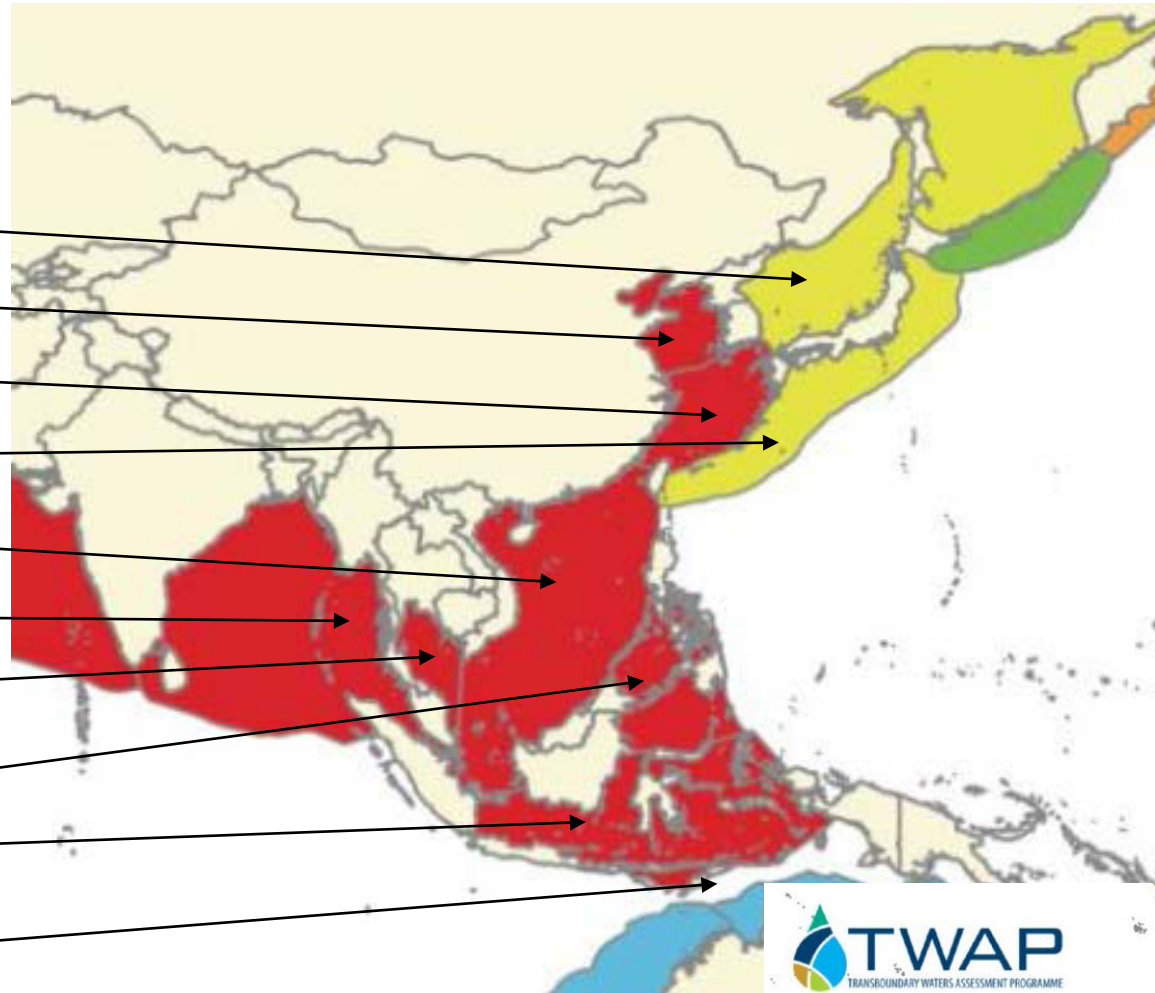
Country	Value of ecosystem services (US\$)
Cambodia	83.4 M
Indonesia	77 B
Malaysia	17.7 B
Philippines	17 B
RO Korea	40.5 B - 42.6 B
Thailand	36 B
Timor Leste	5.25 B

Blue carbon value (est):
Mangroves: \$111 B
Seagrass: \$77-95 B



LMEs: Risk levels

- Sea of Japan
- Yellow Sea
- East China Sea
- Kuroshio Current
- South China Sea
- Bay of Bengal
- Gulf of Thailand
- Sulu - Sulawesi Seas
- Indonesian Seas
- Arafura - Timor Seas



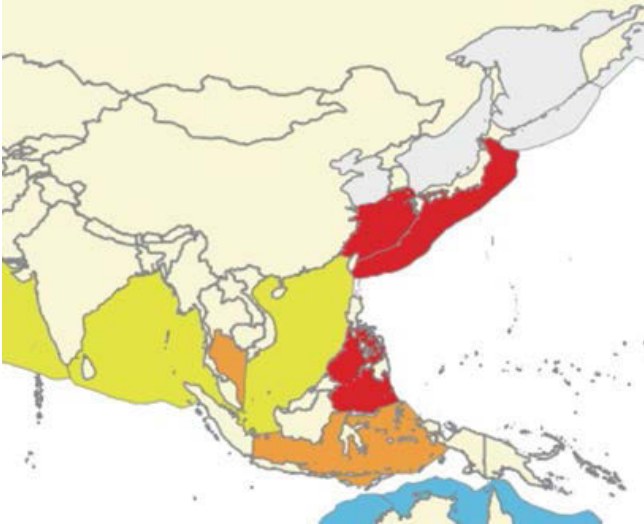
Overall TWAP LME risk factor

- Very low
- Low
- Medium
- High
- Very high
- No Results



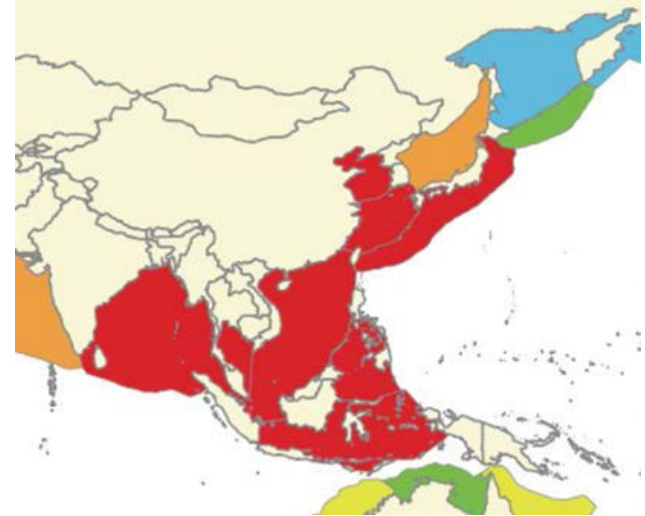
LMEs: Threats

Coral reefs at risk

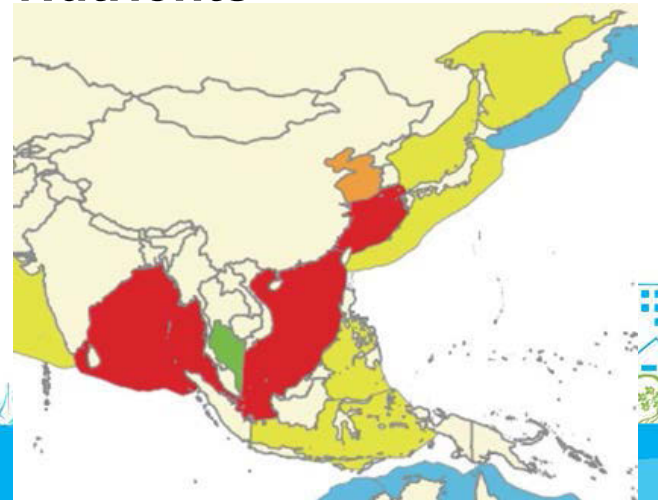


- Overfishing, destructive fishing
- Watershed-based and marine-based pollution
- Habitat conversion

Plastic waste



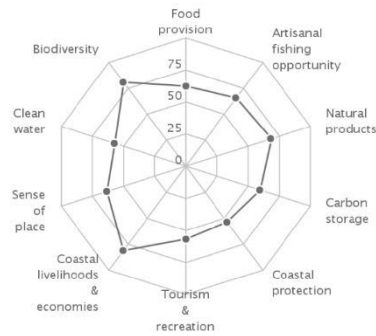
Nutrients



Ocean health index

LOW to VERY LOW

Ocean Health Index (Gulf Of Thailand)

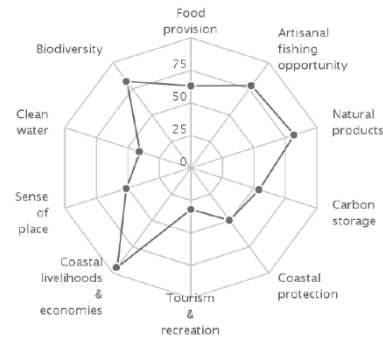


OHI: 64.89

Very low Low Medium High Very high



Ocean Health Index (Yellow Sea)

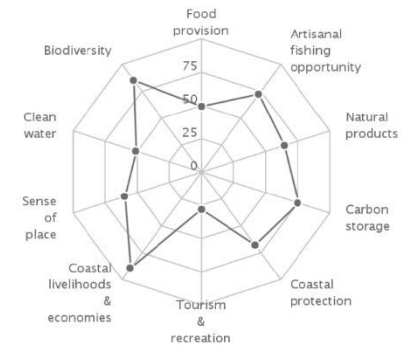


OHI: 63.9

Very low Low Medium High Very high



Ocean Health Index (East China Sea)

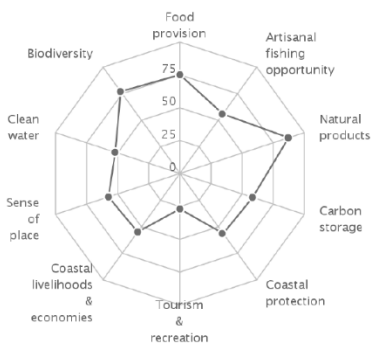


OHI: 64.23

Very low Low Medium High Very high



Ocean Health Index (Sulu Celebes Sea)

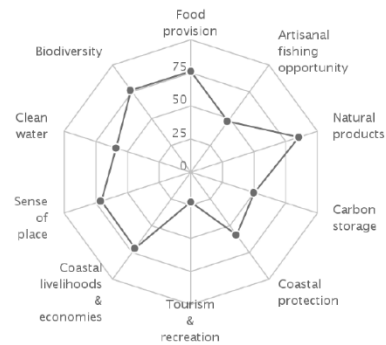


OHI: 60.13

Very low Low Medium High Very high



Ocean Health Index (Indonesian Sea)

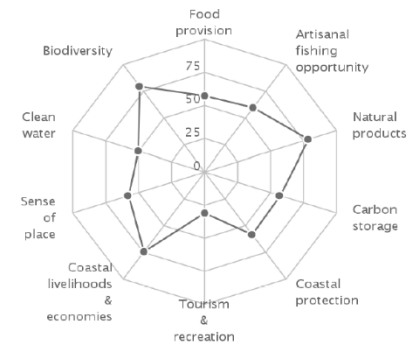


OHI: 61.75

Very low Low Medium High Very high



Ocean Health Index (South China Sea)



OHI: 60.4

Very low Low Medium High Very high



Blue economy initiatives: Contributing to the SDGs and economy



Fisheries and aquaculture

- Viet Nam: climate-smart aquaculture
- electronic catch documentation and traceability for tuna

SDGs 14,
2, 1



Ports and shipping

- Malaysia and Singapore: green ports
- shore reception facilities; PSHEMS

SDGs 14,
8, 9, 12,
13



Tourism

- Thailand: hotels and mangrove conservation financing
- Philippines: ecotourism; zero carbon resorts

SDGs 14,
8, 12, 1



Energy

- RO Korea: ocean energy
- coastal and offshore wind power and solar farms

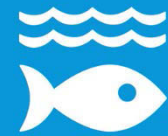
SDGs 14,
13, 9, 11



Emerging industries

- Singapore; China: desalination
- Philippines: marine biotechnology

SDGs 14,
3, 9



Blue economy initiatives and SDG 14



1. Reduce pollution

- Wastewater reuse: Singapore; Japan; China
- Septage management: Philippines; Malaysia



2. Protect ecosystems

- Marine protected areas (MPAs)



3. End overfishing and IUU fishing

- WCPFC (Indonesia, PHL, Viet Nam): sustainable tuna fisheries
- Philippines: closed fishing areas and for certain species



4. Help fishing communities

- COREMAP (IND): coral reef restoration and alternative livelihood
- IUCN-MFF: co-management of mangroves and livelihood



5. Scientific cooperation

- IOC-WESTPAC: micro plastic waste



6. Make and implement international laws

UNCLOS; Aichi; Ramsar; CITES, MARPOL, etc.

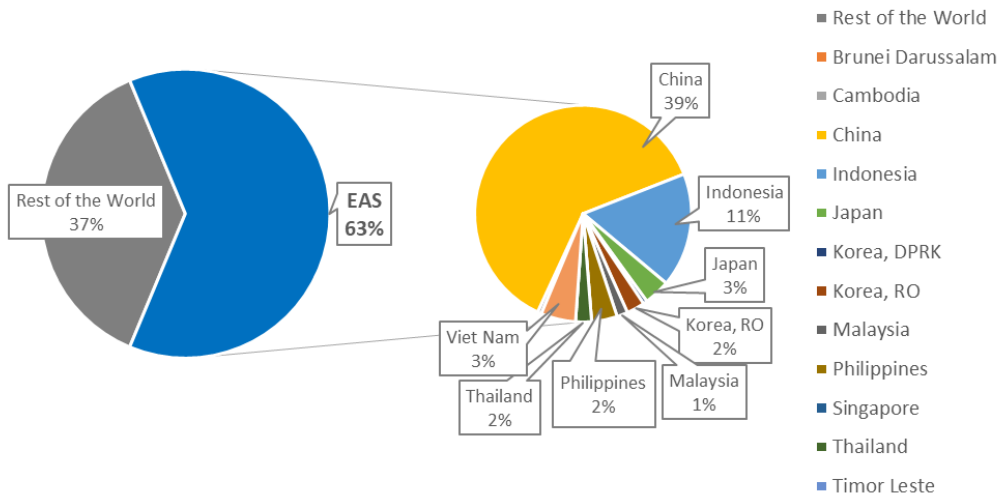


Ocean economy: Fisheries

**Countries in EAS Region account for:
63% of global fisheries**

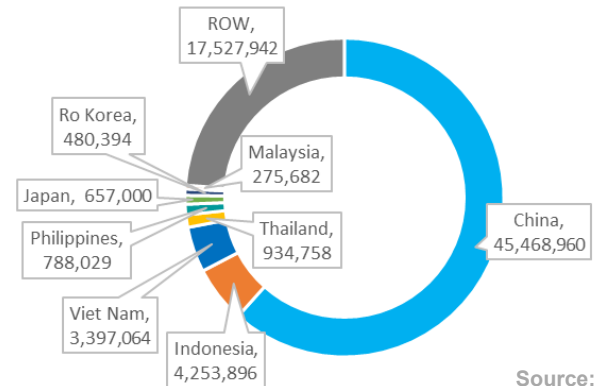
- 80% of global aquaculture = **\$100B**
- 40% of capture fisheries = **\$35B**

Total fisheries production in 2014
(% Share in World Production)



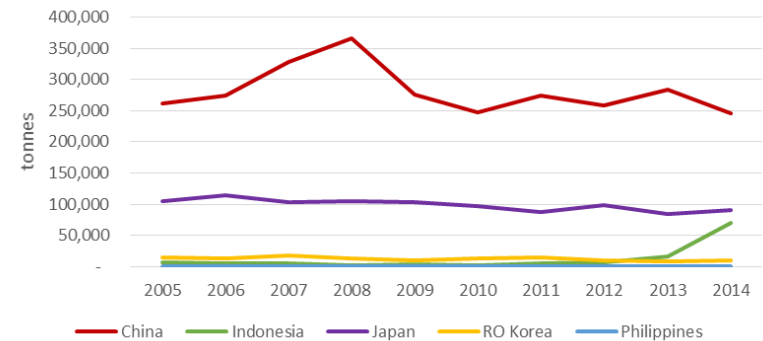
Source: World Bank 2016.

Aquaculture Production (in 2014, in tonnes)



Source: FAO 2016

Capture Production of Seaweeds and Aquatic Plants,
2005-2014



Source: FAO 2016



Transforming to blue economy: Fisheries

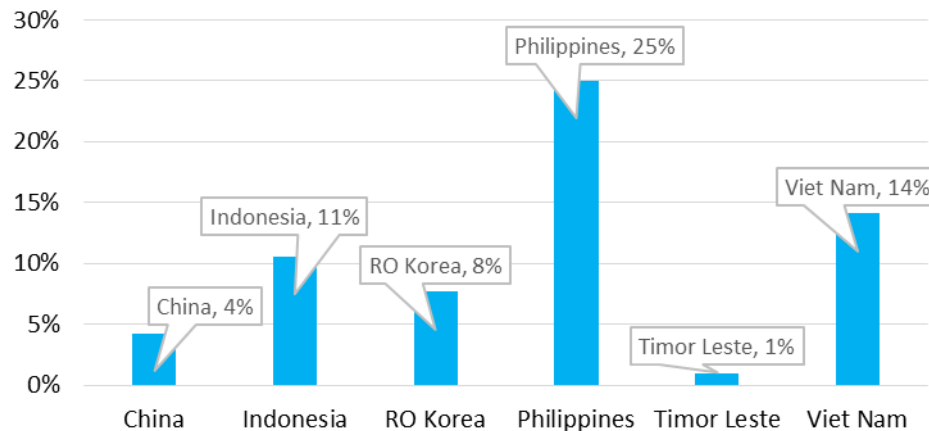
- SE Asia: technically robust and financially sustainable **electronic Catch Documentation and Traceability System (CDTS)** to help combat IUU fishing
 - Complementary work in Ecosystems Approach to Fisheries Management (EAFM), and Public-Private Partnerships (PPP)
- Viet Nam: Climate-smart aquaculture
- Fish sanctuaries and MPAs



Ocean economy: Tourism

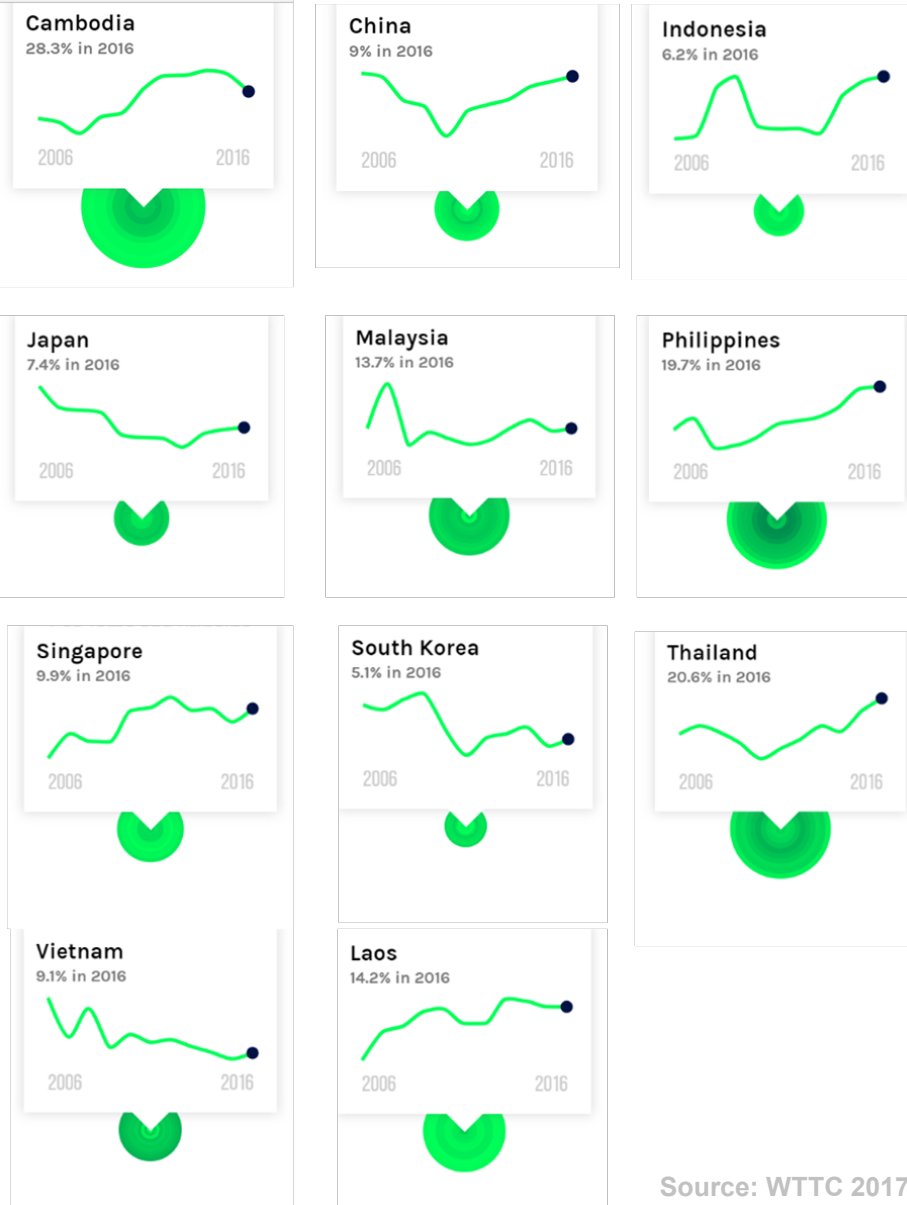
Marine tourism

Share of Coastal and Marine Tourism in the Ocean Economy



~ \$200 billion
(gross value added of tourism)

% Contribution of Travel and Tourism to GDP



Transforming to blue economy: Tourism

- Malaysia: Ecotourism and national marine parks
- Philippines: Ecotourism Strategy; Zero Carbon Resorts
- Thailand; Philippines: Green Fins
- Cambodia: Beach management, and coastal use planning
- Financing
 - Conservation charge (Malaysia)
 - Environmental user fees (Philippines; China)
- Cruise tourism: benefits vs impacts



Ocean economy Ports and shipping

- The EAS serve as conduit of 90% of world's trade through shipping.
- China's seven ports are in the global top 10 ports, with Ningbo-Zhoushan port ranked first in terms of cargo handled while Shanghai port ranked first in terms of containers handled.
- Port of Singapore: world's busiest transshipment port; second busiest port in terms of total shipping tonnage
- Malaysia: Port Klang is ranked 12th. Bintulu Port is the world's largest export terminal for liquefied natural gas (LNG). Johor Port is the world's largest palm oil export terminal.



Transforming to blue economy: Ports and shipping

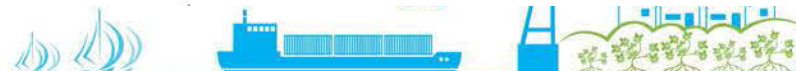
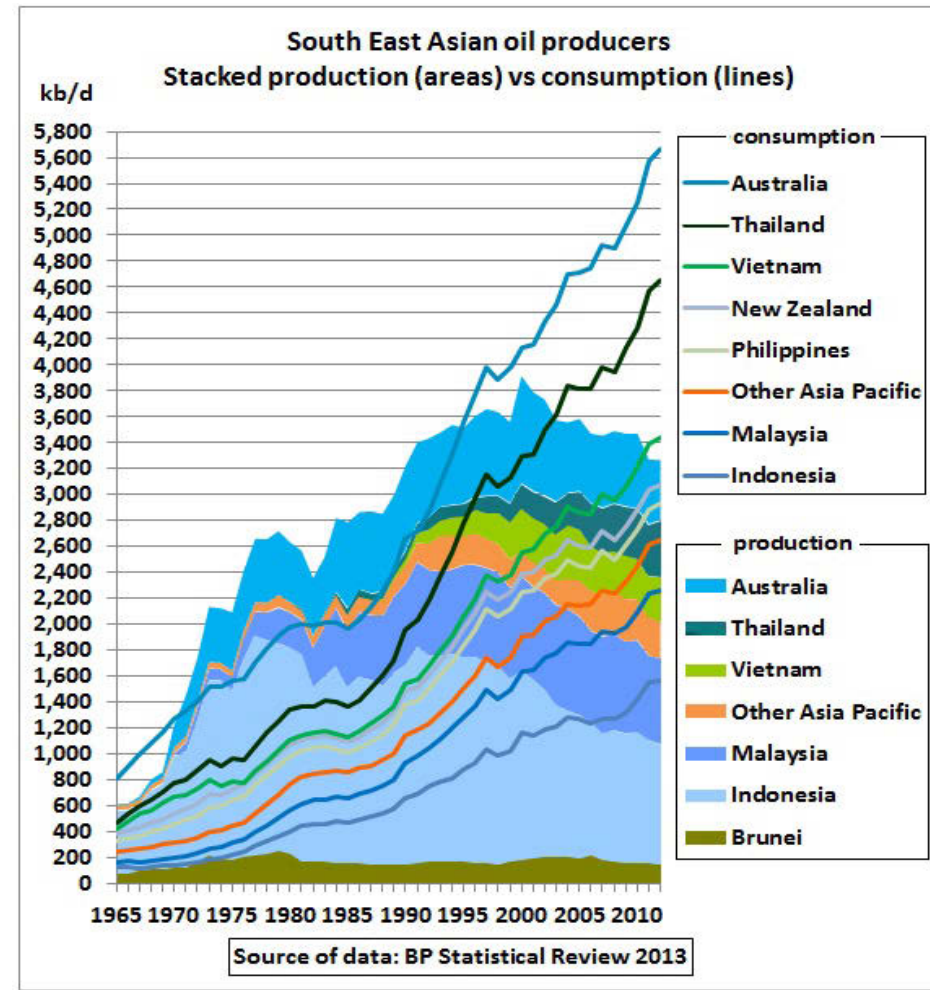
- Green ports
 - Green port index
 - World Ports Climate Initiative (WCPI)
 - Green Port Award System (APEC)
 - Shore reception facilities
 - Shore-based power supply using renewable energy
- Clean Ships
- PSHEMS



Ocean economy

Offshore oil and gas

- Estimated oil reserves: 11-28 billion barrels
- Proven oil reserves: 1.2 km³ (7.7 billion barrels)
- Natural gas reserves: 7,500 km³

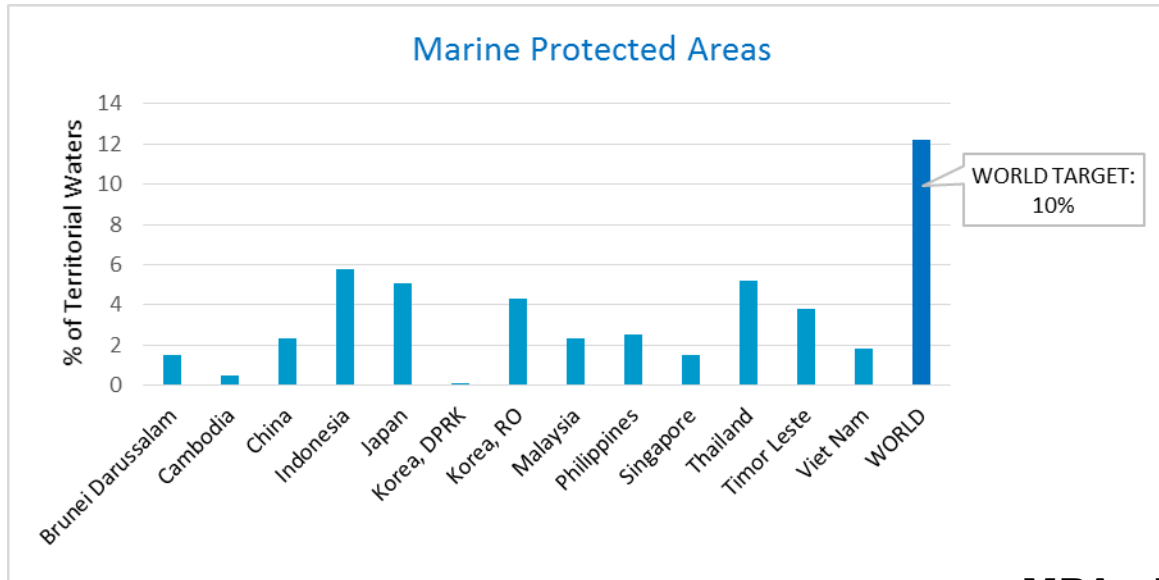


Transforming to blue economy: Emerging industries

- Marine renewable energy
 - Ocean energy
 - Offshore and coastal wind power
 - Solar energy
- Desalination and water security
- Marine biotechnology

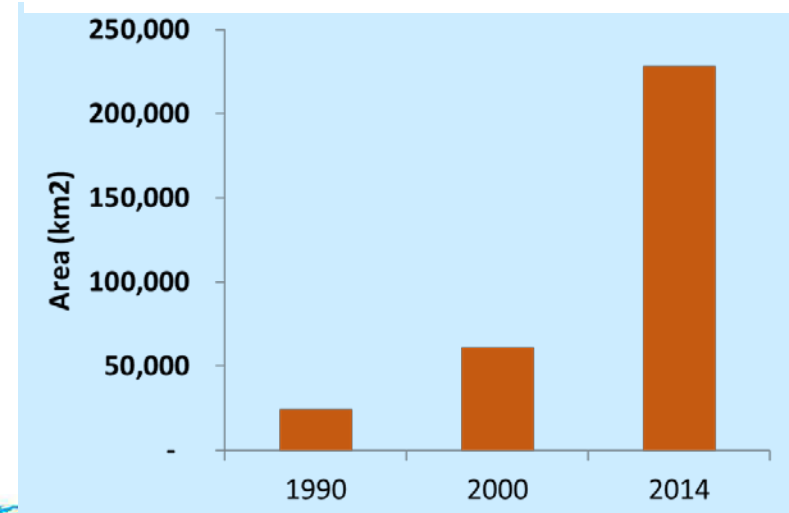


Response: Conserving ecosystems and biodiversity



Source : World Bank
2016.

MPAs in the ASEAN, 1990 – 2014



Source : ACB.2017

