Set of indicators
for the Blue Economy

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Agenda

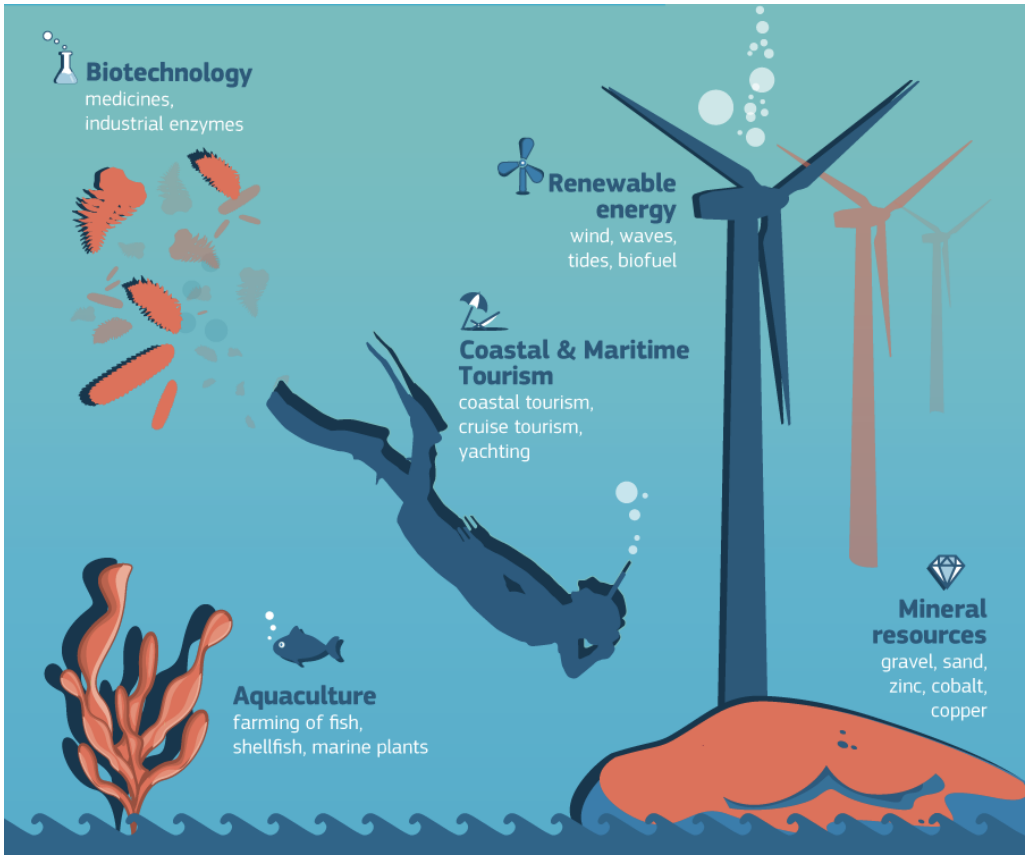
- Project objectives and methodology
- Proposed Blue Economy Indicators by sector
- Conclusions and recommendations

Methodology for indicators

- **Objective**: Defining a set of key indicators for the Blue Economy in the Med.
- To reflect status and trends of all **three sustainibility pillars**:
  - Economy, Society and Environment
- Maximum of **6 key indicators** per sector
- **Two main indicators** for all sectors reflecting economic and social sphere:
  - Number of jobs
  - Economic value-add of the sector / GDP contribution
- **Consistency** with MSSD, SCP, SDG etc.
- The **RACER** method has been applied
  - Relevant (for sustainable development)
  - Accepted (by stakeholders)
  - Credible (transparent)
  - Easy (available)
  - Robust (reliable)

The Blue Economy consists of five sectors

- Fisheries / Aquaculture
- Tourism
- Maritime transport
- Offshore Energy
- Bio-prospecting



Agenda

- Project objectives
- Proposed Blue Economy Indicators by sector
- Next steps

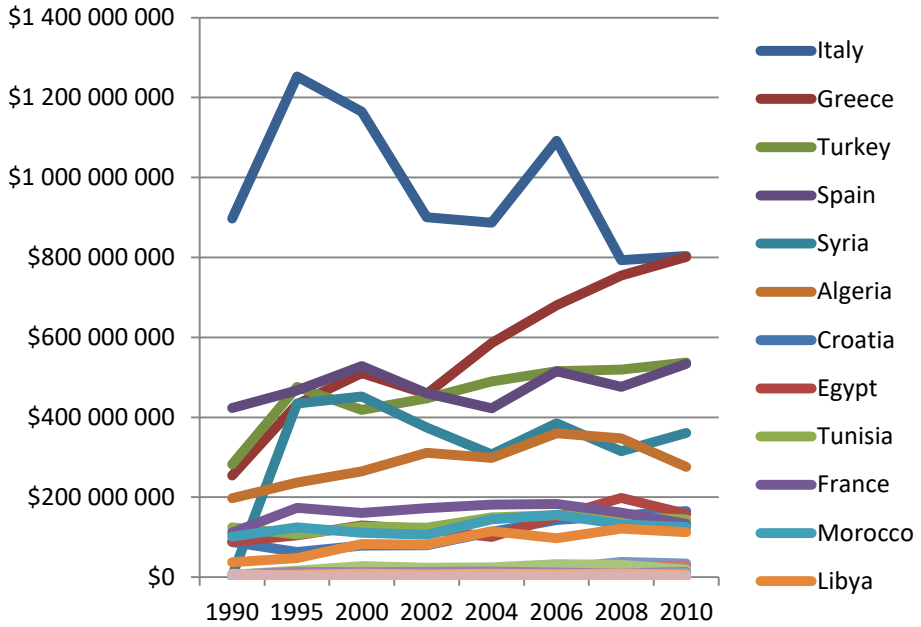
Fisheries and Aquaculture – Indicators

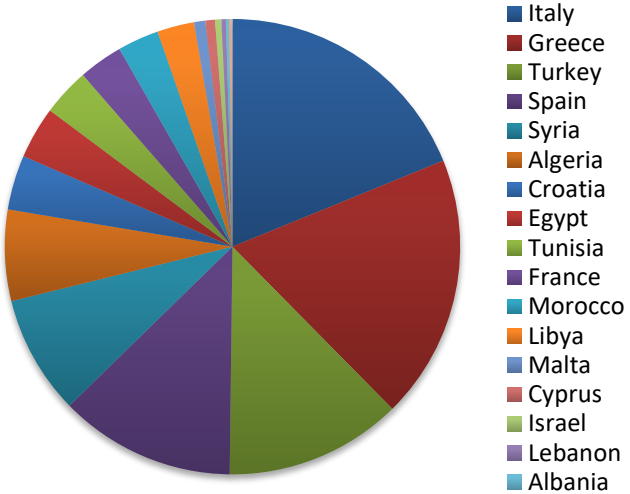
1. Economic value of fisheries and aquaculture (GDP contribution)
2. Employment in fisheries sector
3. Jobs in artisanal fisheries
4. Amount of fish caught
5. Number of Small Scale Fisheries vessels
6. Percentage of Fish Stock exploited over-sustainable levels
7. Number/production/ratio of certified organic aquaculture farms

Comments:

- Data availability on catches is reasonable
- Info on organic farming or artisanal fisheries is rather poor

What is the value of Med. Fisheries?





Med. fisheries economic value, 2010

Definition :

Value of landings and aquaculture production in 2005 USD.

- Landed value: Total landed catch multiplied by the estimated ex-vessel price (the price at first point of sale a fisher realizes upon sale of their catch)
- Aquaculture value: Value of marine aquaculture

Precautions / Notes :

The contribution of the sector to national GDP is not available as such and is aggregated with the total agriculture sector. Eurostat publishes landing value of EU countries. The value from Seaaroundus.org—estimated from FAO data—accounts for the landed value so researchers can better determine the economic and social impacts that manegement policies have on the core actors of the industry.
Source data on Turkey aggregates Med. and Black Sea data, we have estimated that Med. catch of being one third of total catch.

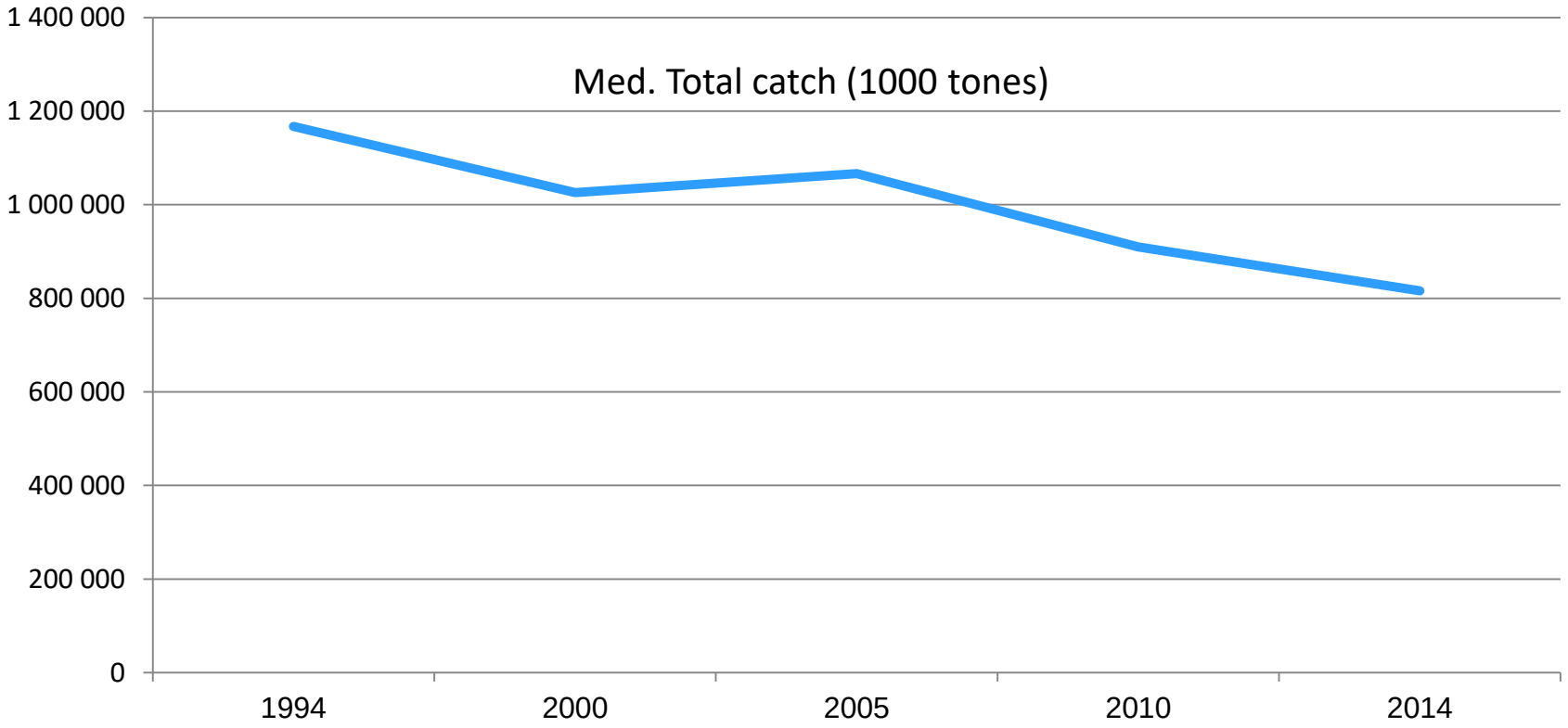
Sources / References :
http://www.seaaroundus.org/fisheries-economics/
http://www.fao.org/fishery/statistics/global-aquaculture-production/en

From 1990 to 2010 the total value of Med. fisheries have risen 160 %

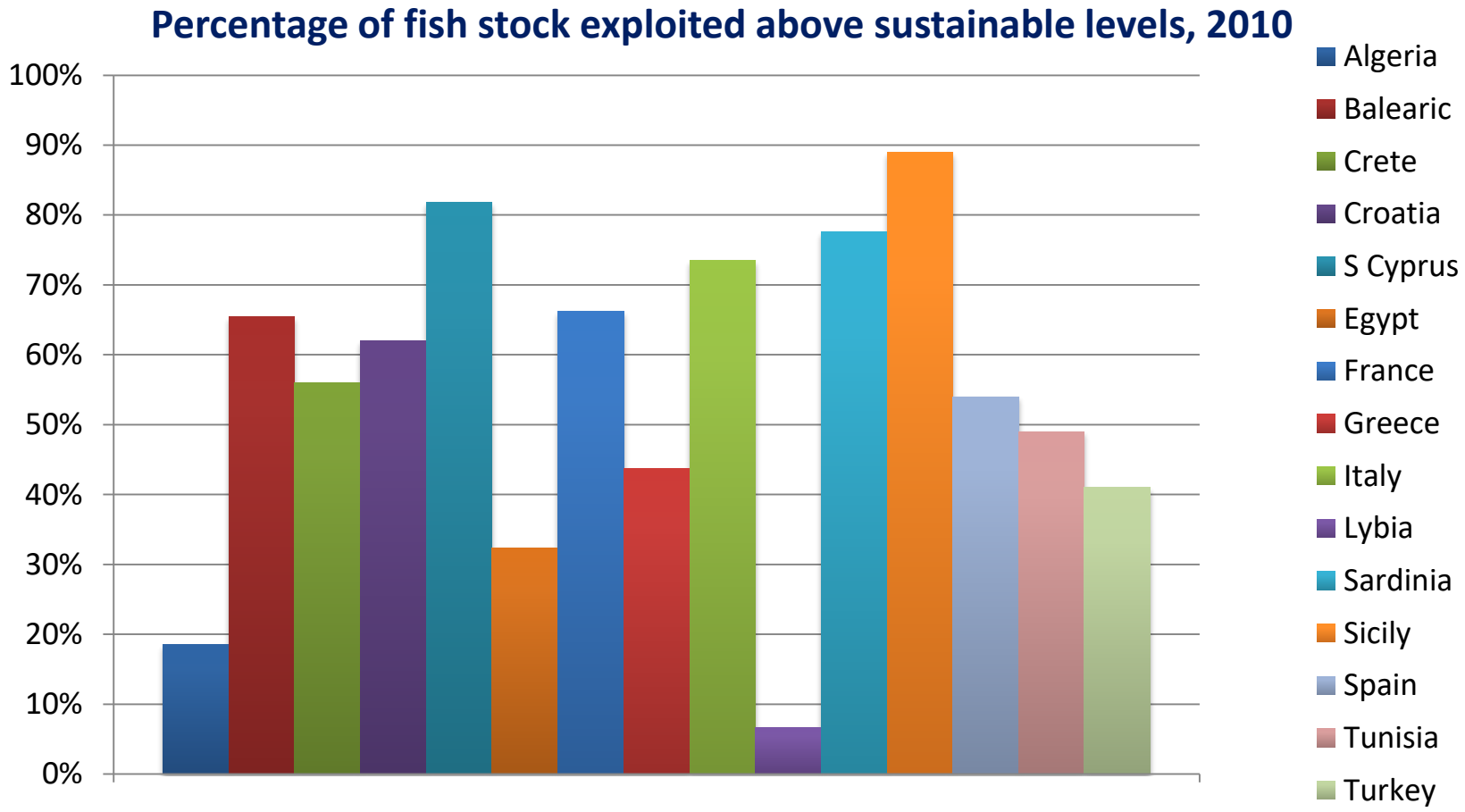
- The top performers since 1990 have been Italy, Greece, Turkey and Spain while the bottom performers have been Slovenia, Montenegro, Palestine and Albania
- In 2010 the top four performers nearly outperform the value of the remaining countries put together by 168 per cent
- Countries with the highest growth of value from 1990 to 2010 have been Syria (×95), Malta (×24), Albania (×16) and Cyprus (×4.8), while the countries with the lowest growth were Montenegro (×1), Gaza (×0.93), Italy (×0.89) and Slovenia (×0.17)
- In 2010, Malta with only 414,500 people, stands out among small countries with a value almost 34 Mio$

From 1994 to 2014 Mediterranean capture has decreased by 31% due to increase in aquaculture and declining stocks

Percentage of fish stock exploited above sustainable levels, 2010



Over-fishing is threatening the Mediterranean ecosystem and food security in the region



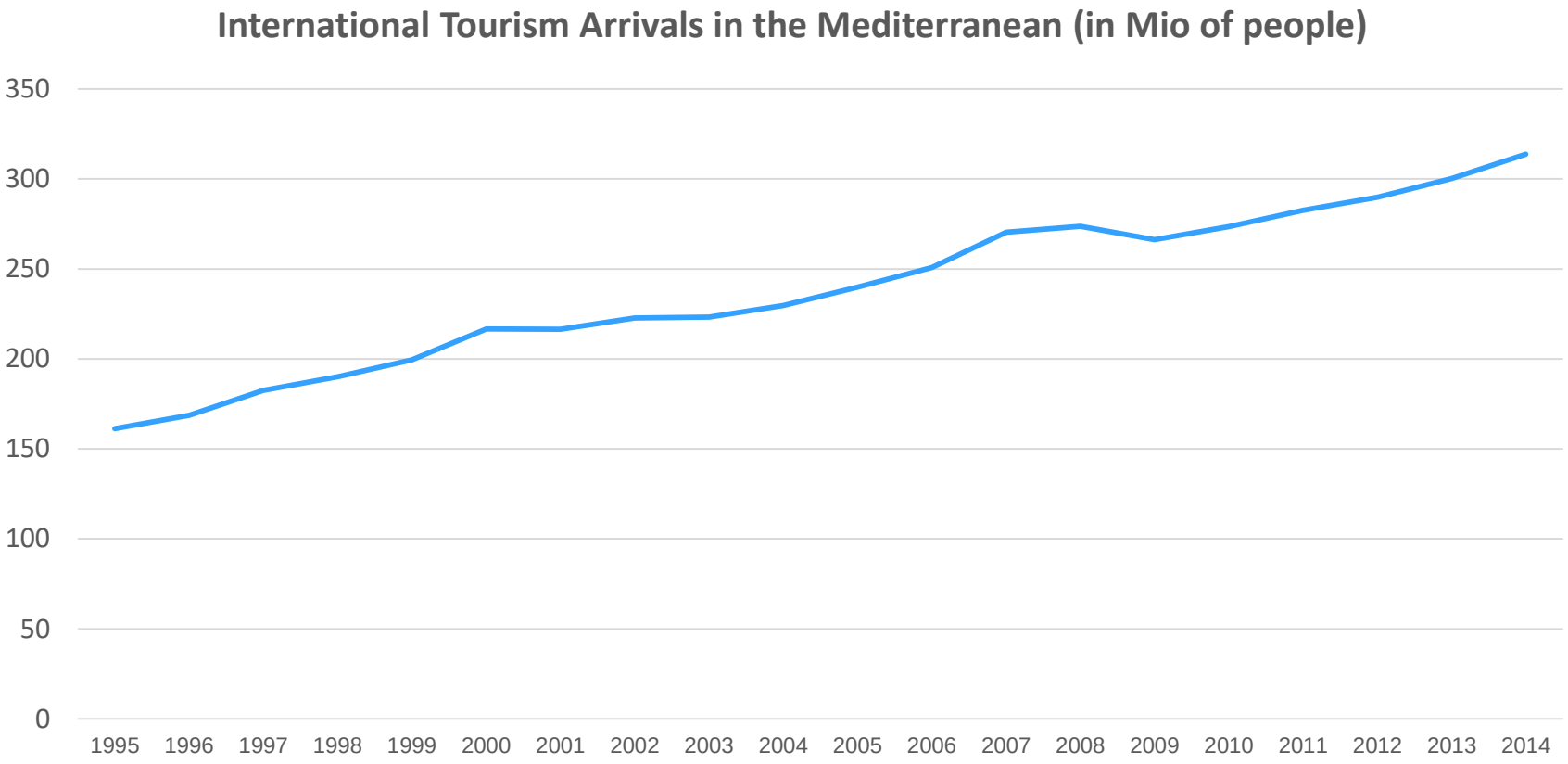
Tourism - Indicators

1. Economic value of tourism sector (GDP contribution)
2. Employment in tourism sector
3. International Tourism Arrivals
4. Coastal and marine areas conserved

Comments:

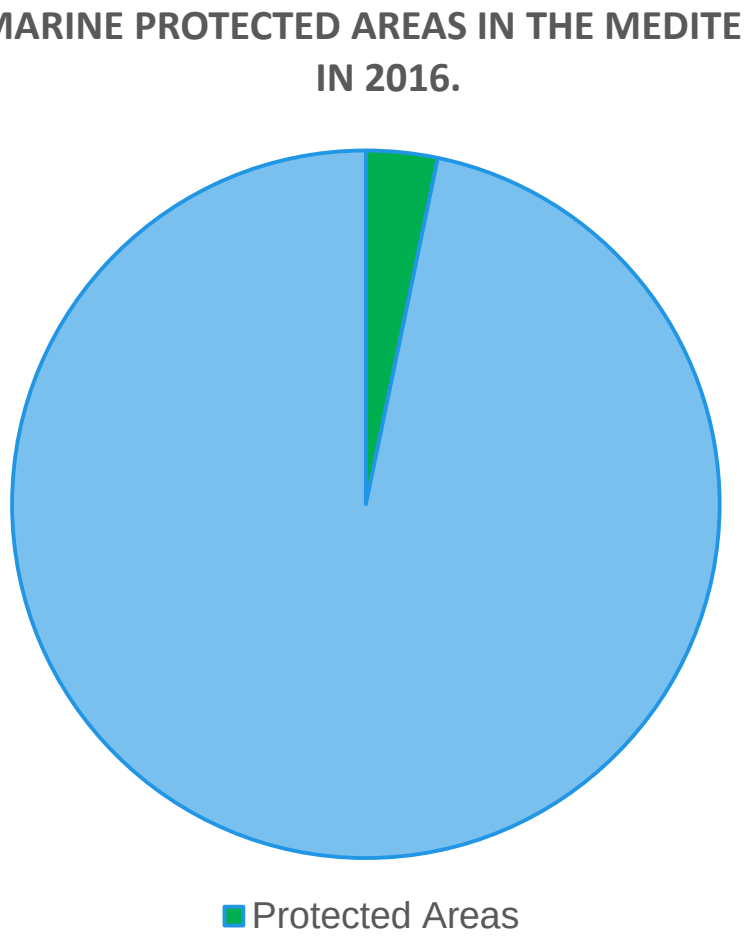
- Data availability is in general quite good
- But for countries like France or Spain unclear distinction between tourism activities in the Mediterranean coast and elsewhere in the countries.
- Not sufficient data: “Number of tourist beds holding eco-label” and “Quality of beaches”

In 2014, more than 300 millions people have travelled to the Mediterranean region



Sources / Referenes : World Tourism Organization (2016), Compendium of Tourism Statistics dataset, UNWTO, Madrid, data updated on 12/01/2016.

In 2016, only 3 % of the Mediterranean Sea is protected



Target of 10% protection from CBD convention is far from being achieved.

Sources / Referenes : MedPAN, MAPAMED , May 2016
http://www.medpan.org/mapamed

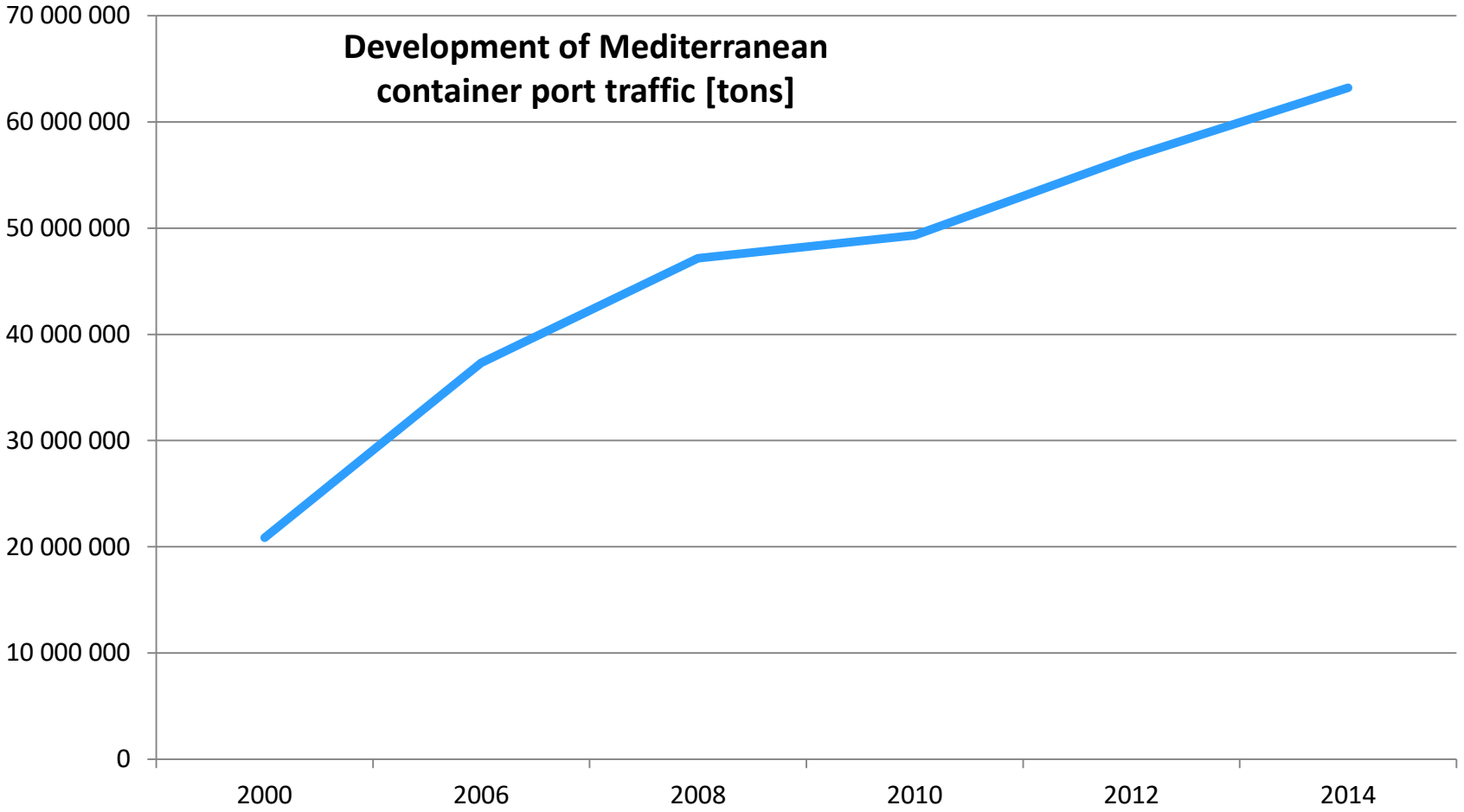
Maritime Transport - Indicators

1. Economic value of the maritime transport
2. Employment in maritime transport
3. Volume of passenger traffic
4. Volume of port/freight traffic
5. Carbon emissions (based on bunker fuel)

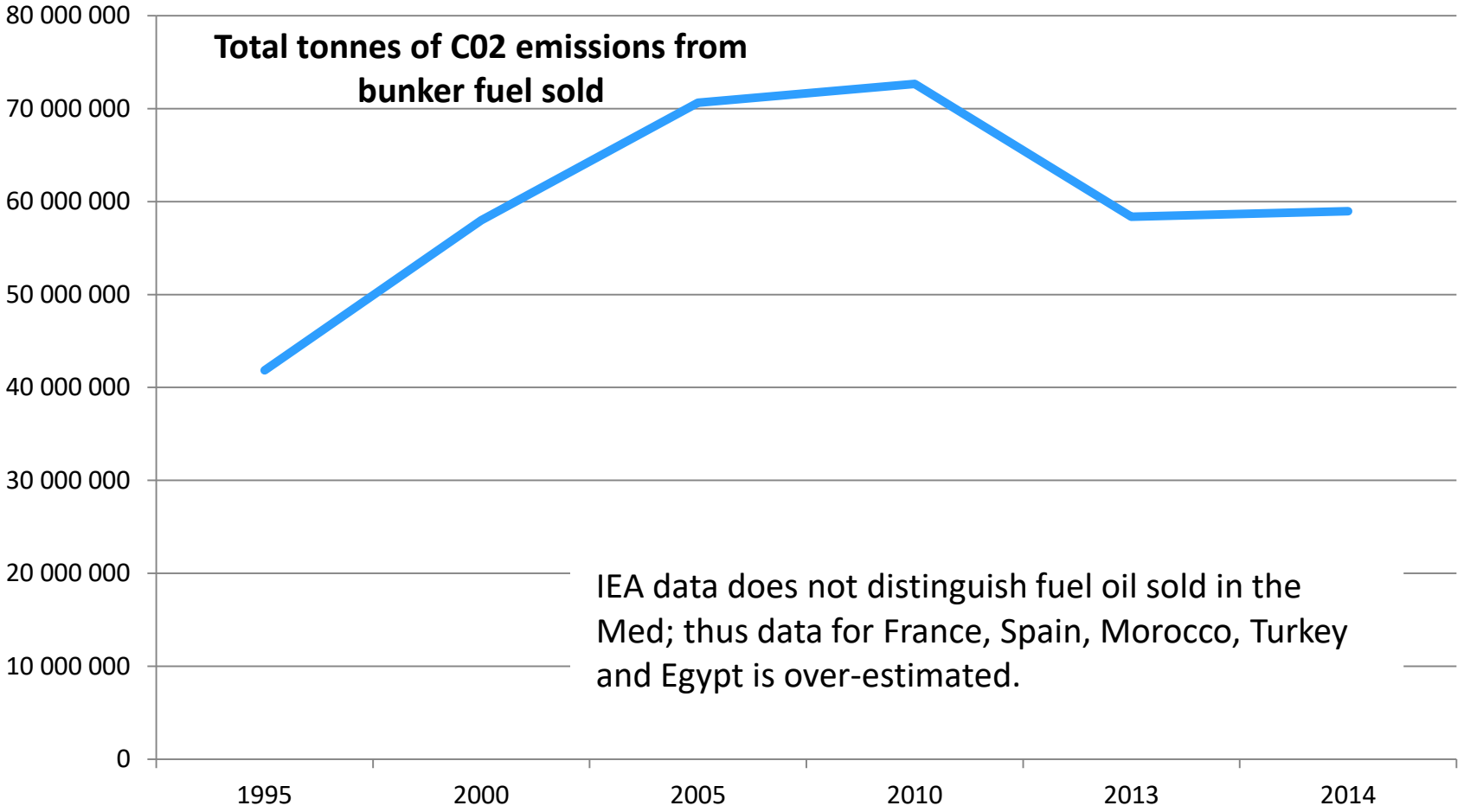
Comments:

- At the moment there are no fully sustainable transport alternatives (no commercial ships powered by renewables)
- More environmental indicators required

Mediterranean container port traffic has tripled since 2000



Carbon emissions difficult to monitor for the Med



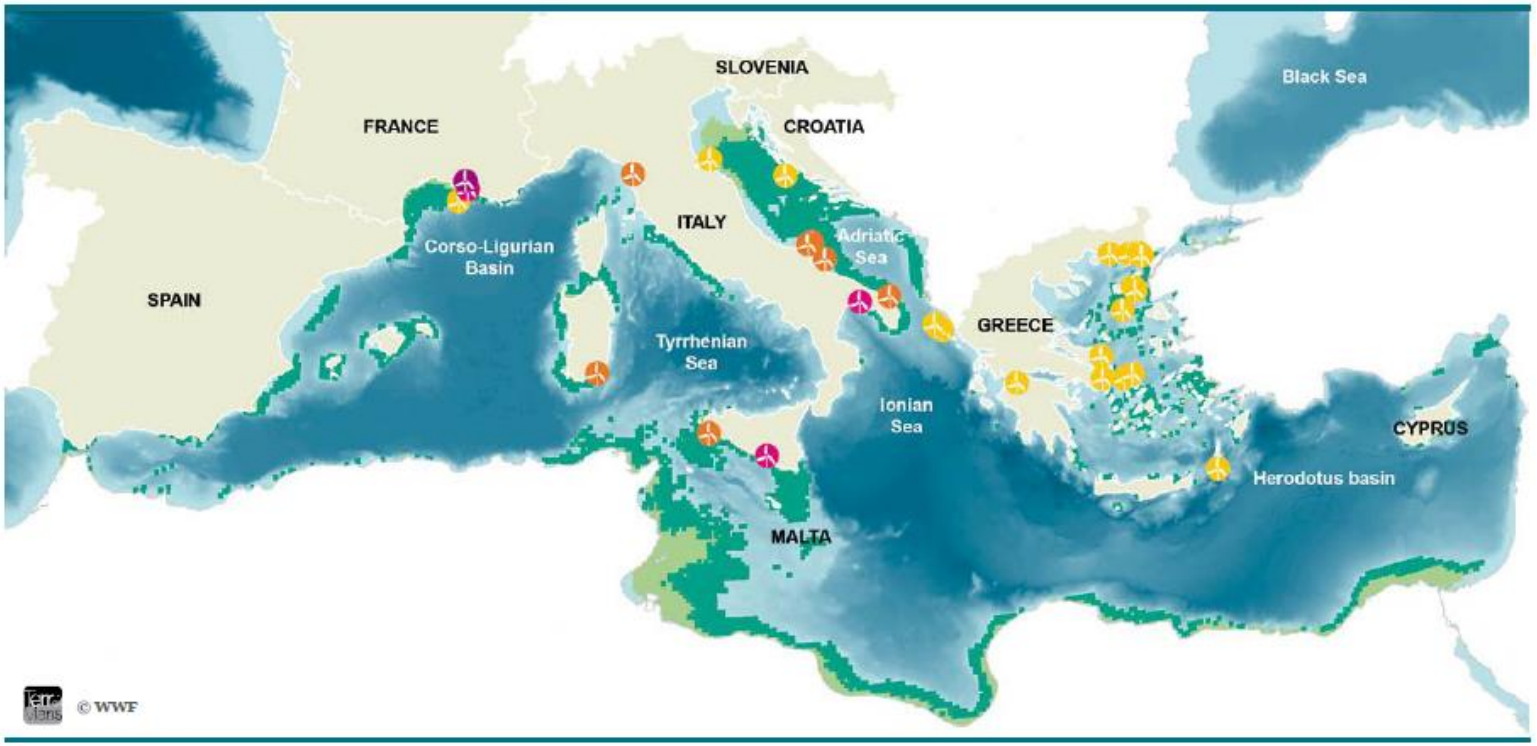
Energy - Indicators

1. Employment in oil and gas sector (on and offshore)
2. Economic value oil and gas sector (GDP contribution, on and offshore)
3. Production of oil and gas (on and offshore)
4. Number of exploration drills for offshore oil and gas (MED Trends)
5. Installed capacity of offshore wind energy
6. Total amount of oil spilled (from drilling)

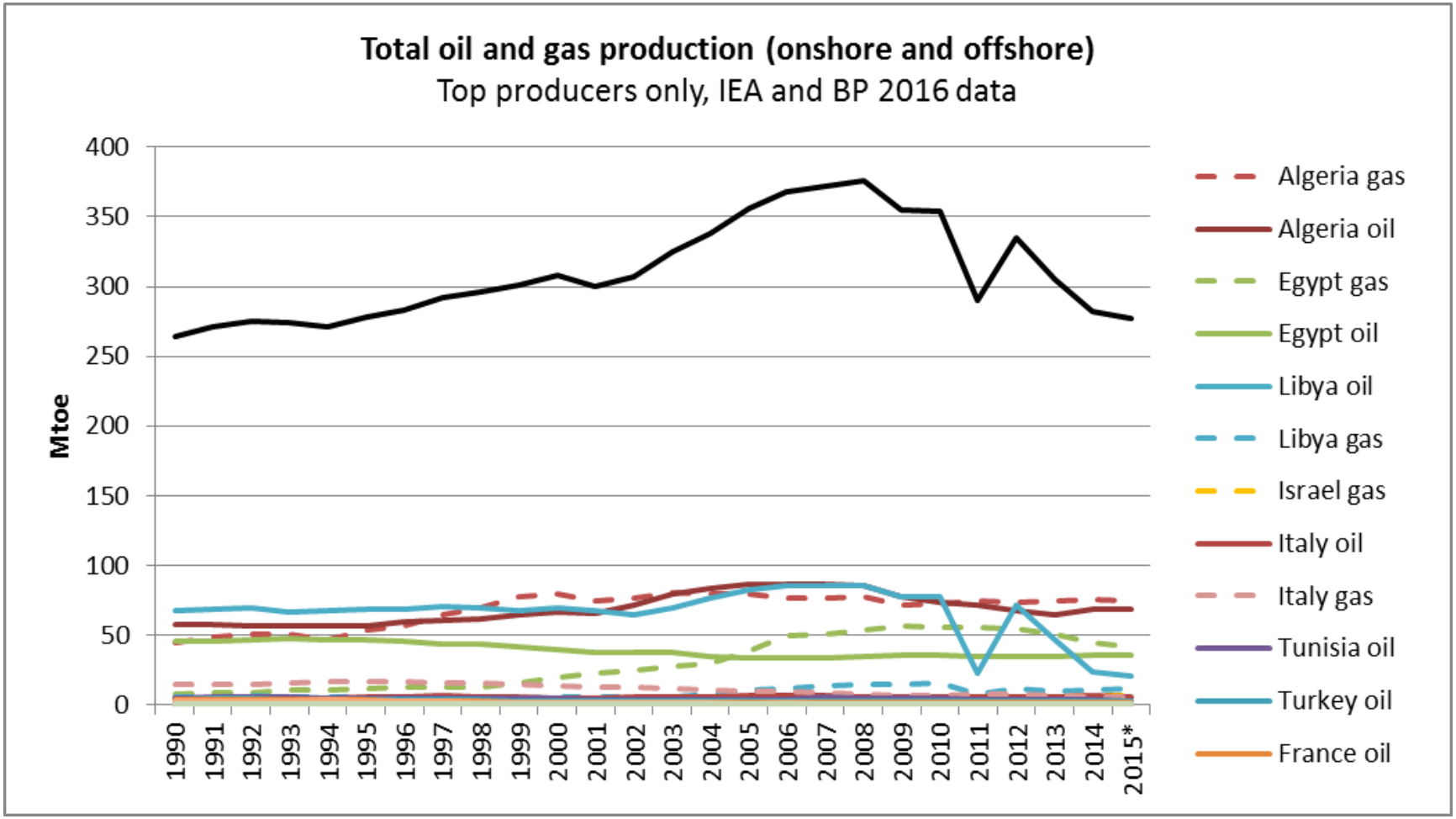
Comments:

- There are no commercial offshore wind farms in the Mediterranean
- Data on offshore gas and oil are extremely difficult to get, countries only provide aggregated data (onshore plus offshore). Exception: Italy.

There are no commercial offshore wind projects in the Med yet



Unclear development of offshore oil and gas activities (not separate from onshore)



Bioprospecting – Indicators

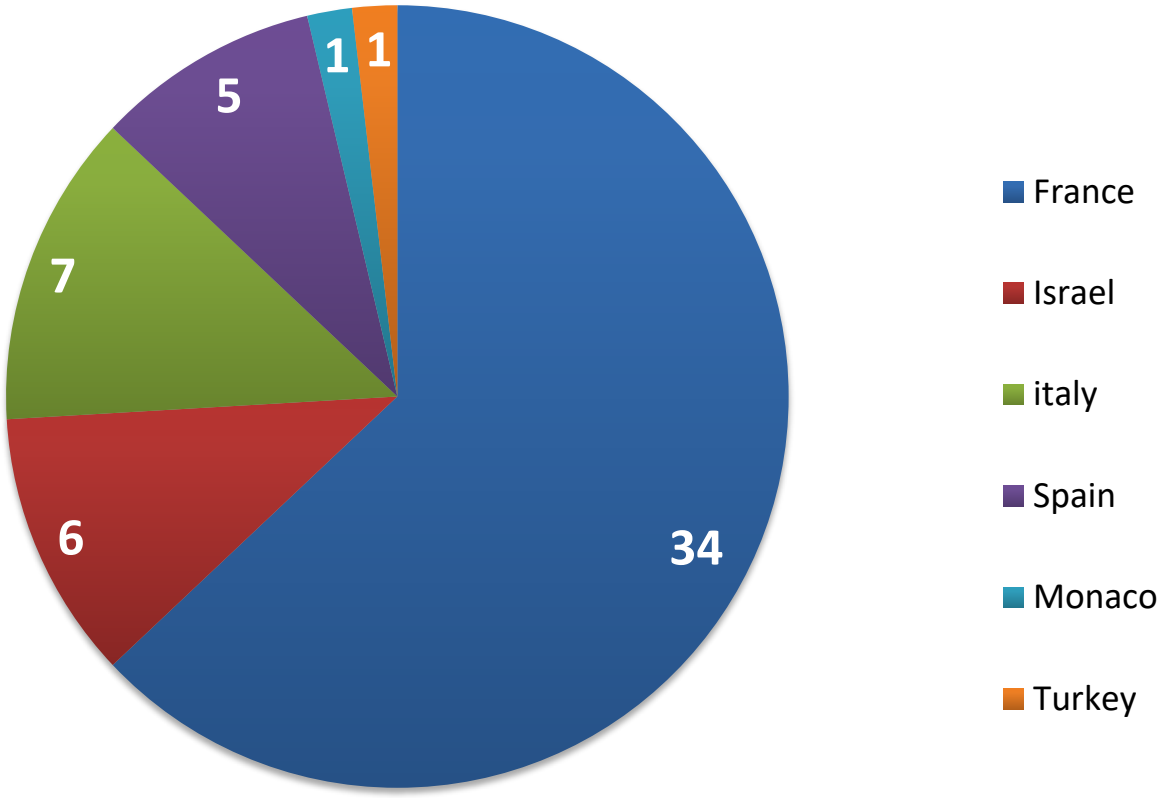
1. Patents – applications and granted, share of worldwide patents

Comments:

- The sector is so new (in the Med.) that hardly any data exist. The impact of this sector seems to stay negligible for the next years.
- No data found on “Economic value of Blue Biotechnology market (GDP contribution)” and “Governmental/public (R&D) funding/expenses”

Bioprospecting – Indicators

Patent claims on marine organisms in Med countries, 1991-2009



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Overall, lack of coherent and consistent data at national, sub-regional and regional level

- **Lack of data** makes detailed assessment of Blue Economy difficult
  - **Data are not specifically available for Med coastal areas:** Spain, France, Egypt, etc. have large areas (also coastal) outside of Med basin, distorting the picture.
  - **National Data are crucial:** Extracted according to common standards to capture real, aggregated status of Blue Economy in Med region.

- **"Blue Economy" is not per se a "Green Economy in the maritime context":** "Blue Economy" suggests a positive connotation but different definitions.
  - Some indicators (particularly in energy sector) cover **performance of "brown" economy** as sustainable alternatives are not viable yet (in Med context).
  - Reduce the scope of economic activities to the really sustainable ones? Not easy, e.g. sustainable vs. unsustainable tourism; sustainable vs. unsustainable transport.

Continuous improvement necessary

- **Indicators should implicitly provide policy messages:** It is important to first track the real base data.

- **Considering other cross-sectorial issues:** A Blue Economy must improve human wellbeing, indicators on migration may be included.

- **List of indicators should be reviewed and improved overtime:** Selected indicators are appropriate for measuring the state of the Blue Economy today. However, as new data appear, they need to be adjusted.

Thank you very much for your attention

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Offshore oil production increase by 60% between 2010 and 2020 is unlikely

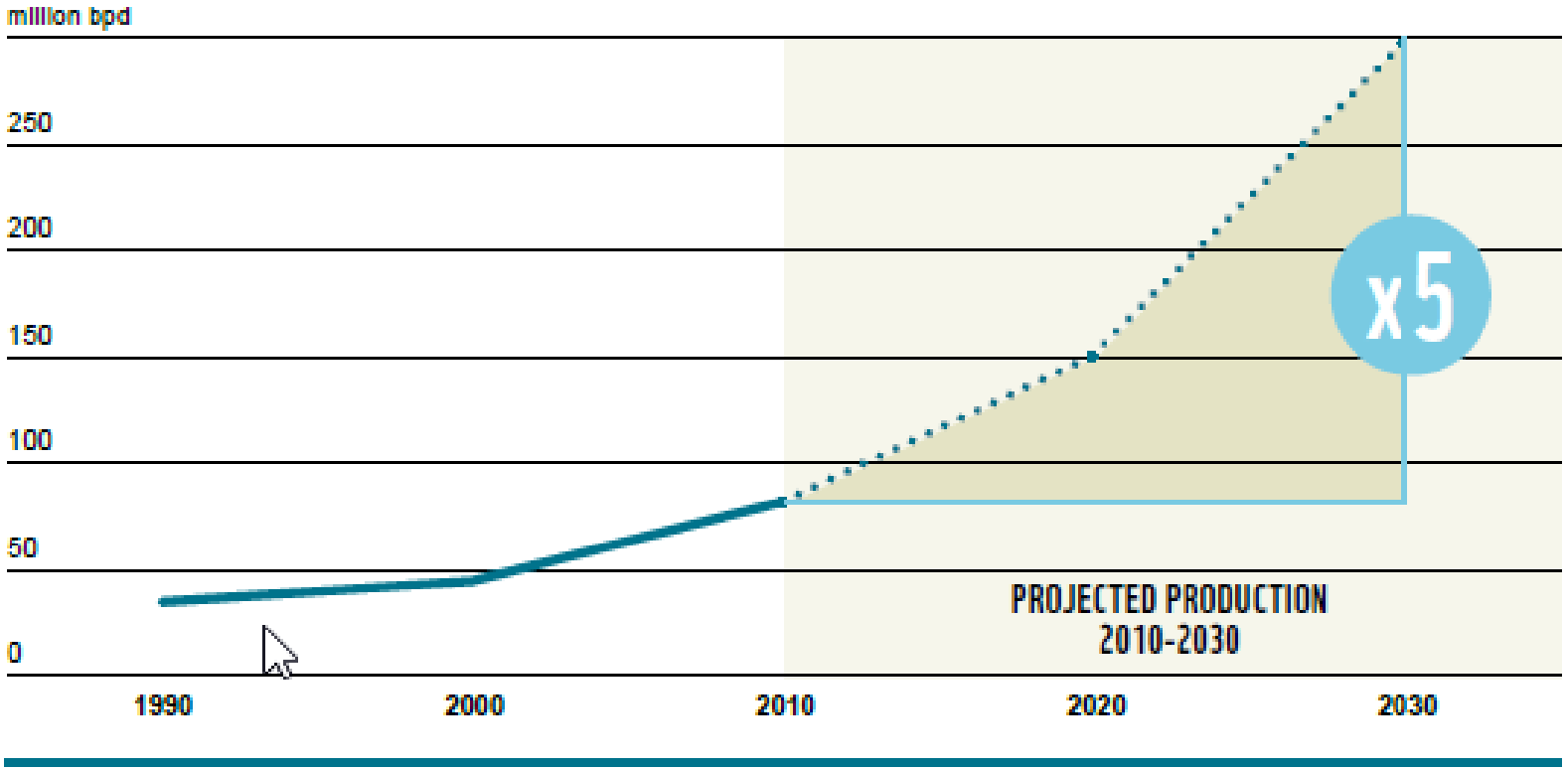

Figure 5. Gas production forecast in the Mediterranean Sea, based on past trends (in Million tonnes of oil equivalent). Projection of past trends[3]

Getting an idea of the importance of the sectors (today vs. 2030 globally)

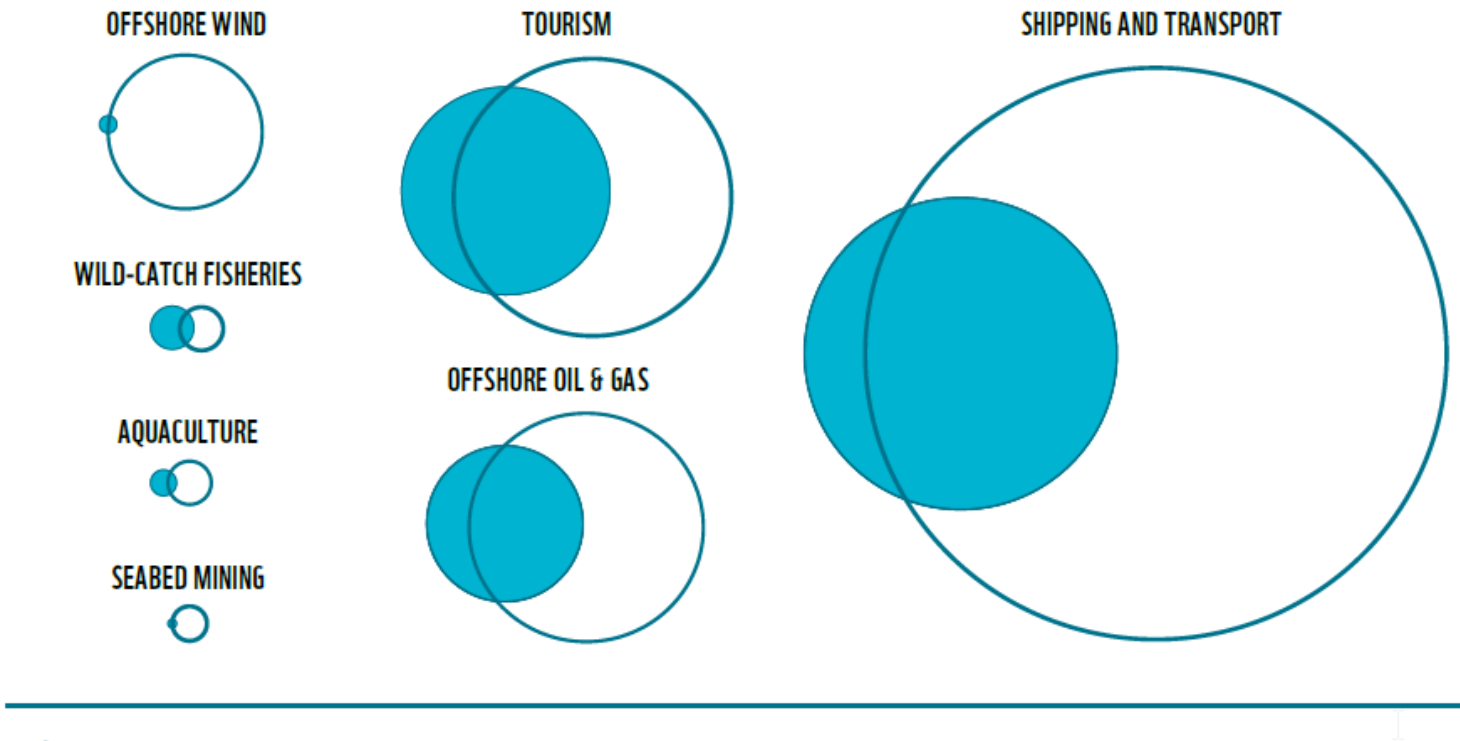

Figure 1. Rough estimates of the relative sizes of maritime sectors at the global scale based on Gross Domestic Products (GDP) figures from 2005[1] and their expected growth to 2030 (projections made by WWF)