



SHIPBUILDING AND SHIP RECYCLING IN THE MEDITERRANEAN REGION

Project Conference on a blue economy for a sustainable
development of the Mediterranean region

Marseilles, 30-31 May 2017

Contacts: Structural Policy Division,
Mr. Laurent DANIEL, LaurentC.DANIEL@oecd.org



Outline

- 1. OECD Shipbuilding group**
- 2. Shipbuilding**
- 3. Ship Recycling**
- 4. OECD Ocean week – 20-24 November 2017**



The OECD Council Working Party on Shipbuilding (WP6)

- WP6 - **created in 1966**
- Mandate of the group: Establish normal competitive conditions
- Extensive participation by emerging economies that are large shipbuilding and by industry stakeholders.



Main work areas of the WP6

- Monitoring of government support measures and their distortive effects on the markets
- Excess capacity and structural challenges facing the industries;
- Viability of the industries;
- Environmental challenges;
- Market analyses; and
- Enhancement of the **links with Partner economies.**



Why are we focusing so much on excess capacity and market distortions?

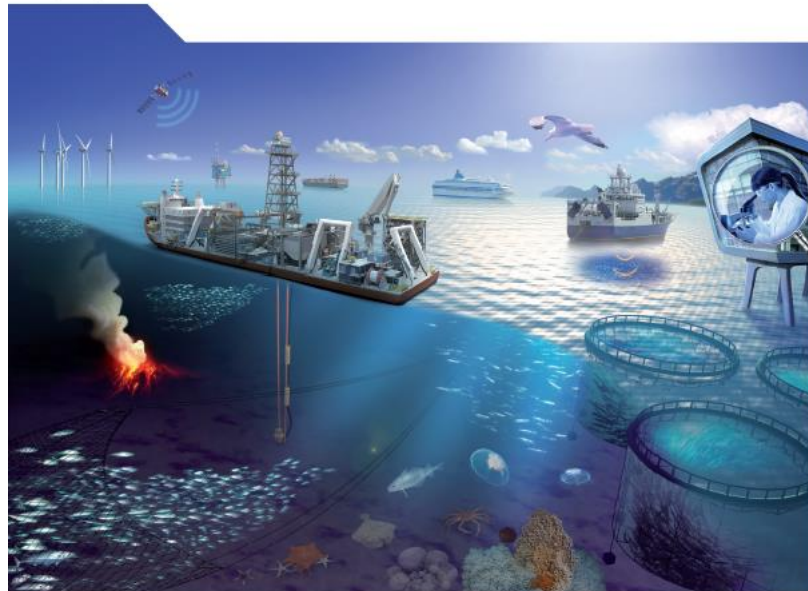
- Surge in excess capacity in recent years
 - The problem is likely to remain over the longer term unless addressed urgently
- Profitability of the industries is unsustainably weak and the economic viability of the industries is being threatened
- Excess capacity causes wasteful energy use and has negative environmental impacts
- Government subsidies and other support measures contribute to excess capacity



Report on the ocean economy



The Ocean Economy in 2030





Report on the ocean economy

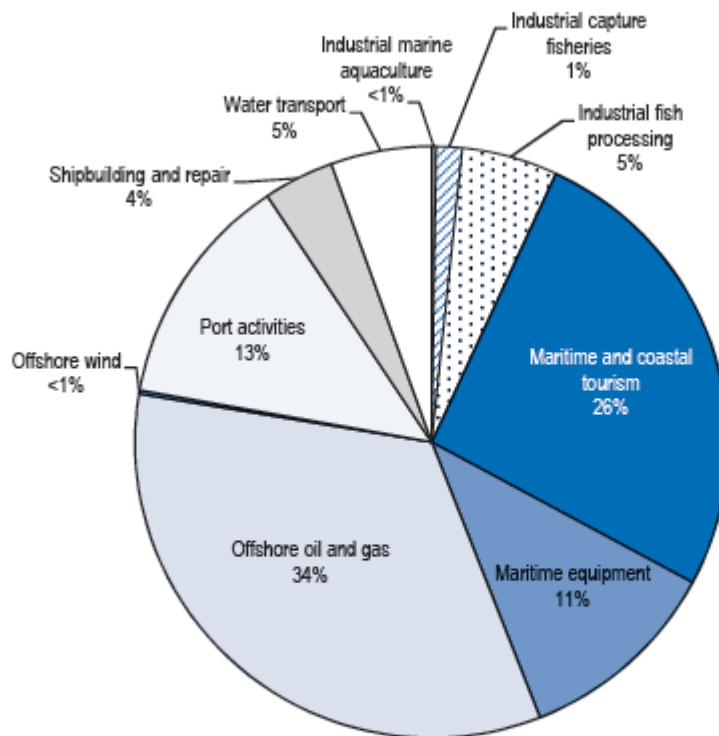
Table 1.1. Established and emerging ocean-based industries

Established	Emerging
Capture fisheries	Marine aquaculture
Seafood processing	Deep- and ultra-deep water oil and gas
Shipping	Offshore wind energy
Ports	Ocean renewable energy
Shipbuilding and repair	Marine and seabed mining
Offshore oil and gas (shallow water)	Maritime safety and surveillance
Marine manufacturing and construction	Marine biotechnology
Maritime and coastal tourism	High-tech marine products and services
Marine business services	Others
Marine R&D and education	
Dredging	



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Figure 1.2. Value added of ocean-based industries in 2010 by industry



StatLink  <http://dx.doi.org/10.1787/888933334614>

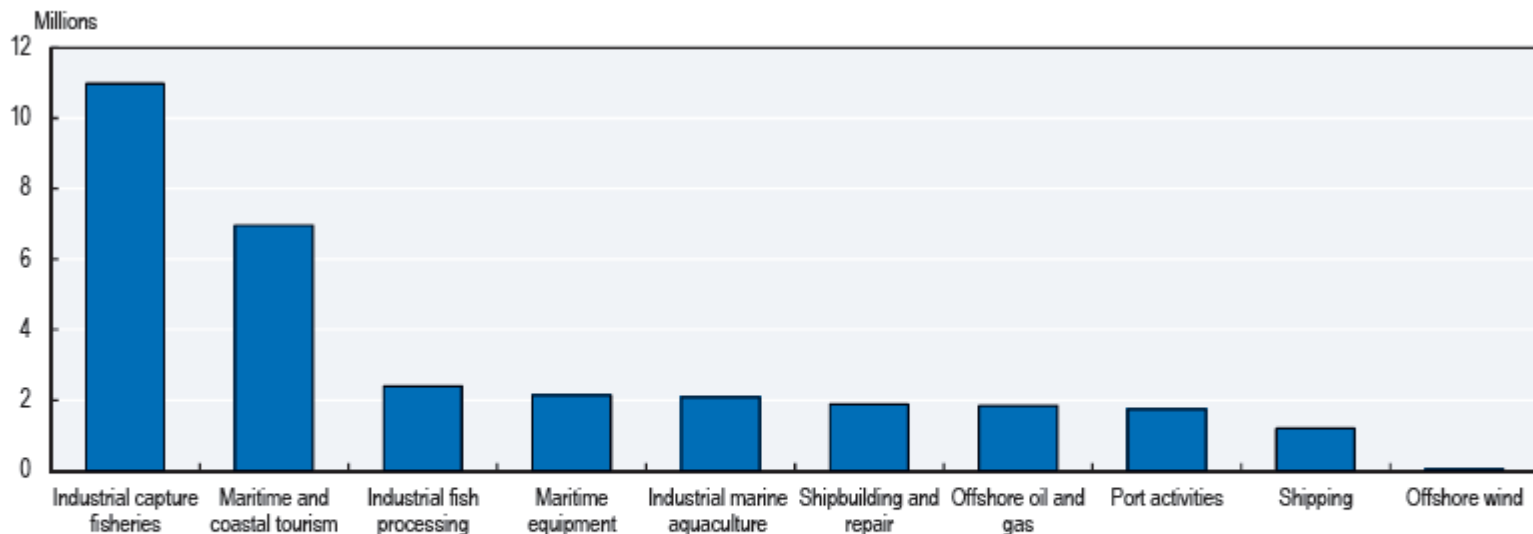
Note: Artisanal fisheries are not included in this overview.

Source: Authors' calculations based on OECD STAN, UNIDO INDSTAT, UNSD, World Bank (2013); IEA (2014); OECD (2014); and various industry reports.



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Figure 1.3. Employment in the ocean-based industries in 2010 by industry



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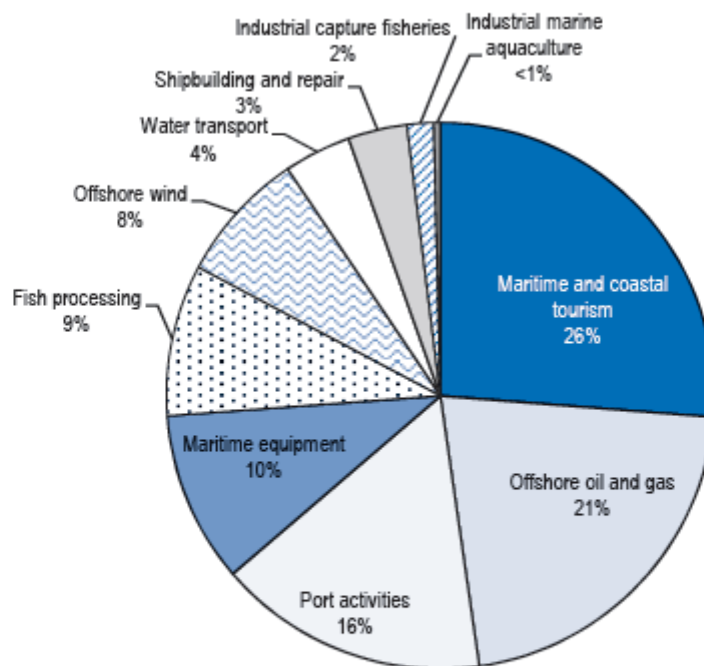
Note: Artisanal fisheries are not included in this overview.

Source: Authors' calculations based on OECD STAN, UNIDO INDSTAT, UNSD, World Bank (2013); IEA (2014); OECD (2014); and various industry reports.



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Figure 1.6. Value added of the ocean economy in 2030 in the business-as-usual scenario



StatLink  <http://dx.doi.org/10.1787/888933334632>

Note: Artisanal fisheries are not included in this overview.

Source: Authors' calculations based on OECD STAN, UNIDO INDSTAT, UNSD; Lloyd's Register (2014; 2013); World Bank (2013); IEA (2014).



Report on the ocean economy

Table 1.2. Overview of estimates of industry-specific growth rates in value added and employment between 2010 and 2030

Industry	Compound annual growth rate for GVA between 2010 and 2030	Total change in GVA between 2010 and 2030	Total change in employment between 2010 and 2030
Industrial marine aquaculture	5.69%	303%	152%
Industrial capture fisheries	4.10%	223%	94%
Fish processing	6.26%	337%	206%
Maritime and coastal tourism	3.51%	199%	122%
Offshore oil and gas	1.17%	126%	126%
Offshore wind	24.52%	8 037%	1 257%
Port activities	4.58%	245%	245%
Shipbuilding and repair	2.93%	178%	124%
Maritime equipment	2.93%	178%	124%
Shipping	1.80%	143%	130%
Average of the total ocean-based industries	3.45%	197%	130%
Global economy between 2010 and 2030	3.64%	204%	120% ¹

1. Based on projections of the global workforce, extrapolated with the UN medium fertility rate.

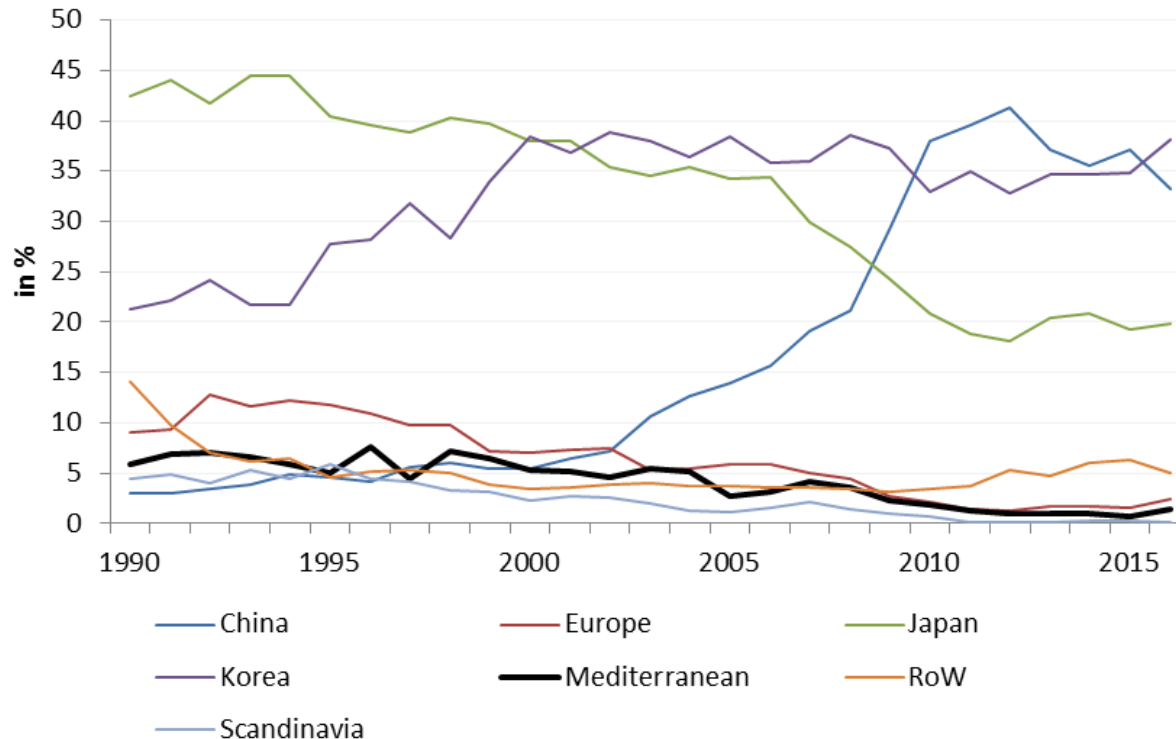
Source: Authors' calculations based on OECD STAN, UNIDO INDSTAT, UNSD; Lloyd's Register (2014; 2013); World Bank (2013); IEA (2014); FAO (2015).



Mediterranean countries' market share decreased to 1.4% in 2016

2. Shipbuilding

Market share in global vessel production, 1990 – 2016
In % of gt



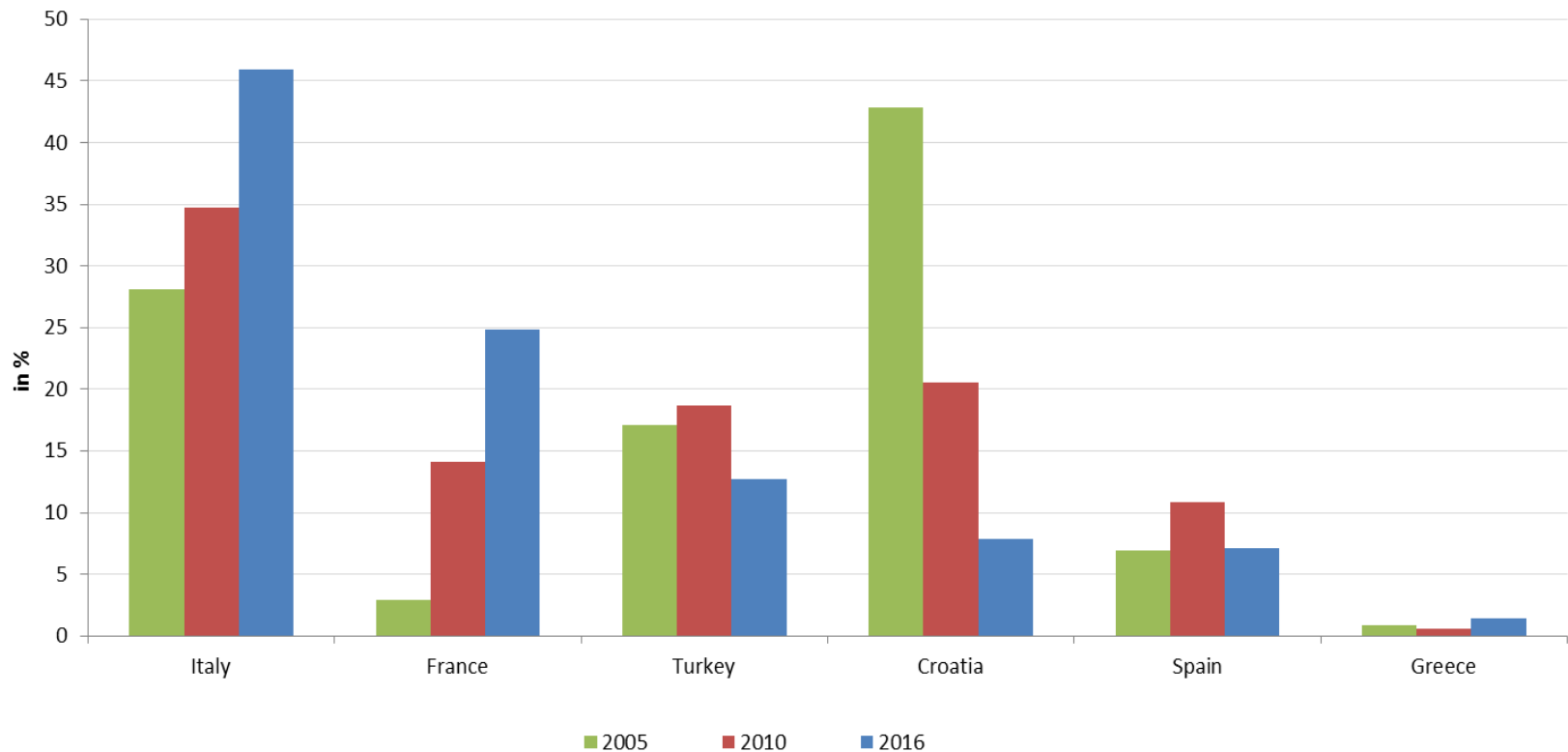
Note: **Europe** includes Azerbaijan, Belarus, Belgium, Estonia, Germany, Latvia, Lithuania, Netherlands, Poland, Portugal, Romania, Russia, Serbia, Slovakia, United Kingdom, Ukraine [excluding Mediterranean countries]; **Scandinavia** includes Denmark, Finland, Norway and Sweden; **Mediterranean** includes Spain, France, Italy, Slovenia, Croatia, Montenegro, Greece, Turkey, Cyprus, Syria, Lebanon, Israel, Egypt, Malta, Tunisia, Morocco.

Source: IHS Seaweb 2017.



Increase in market share for Italy and France

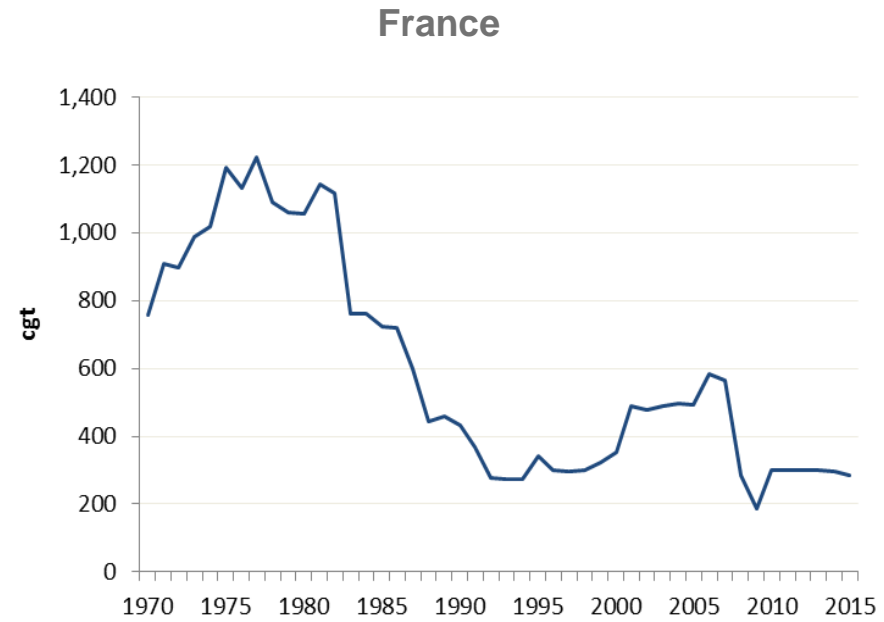
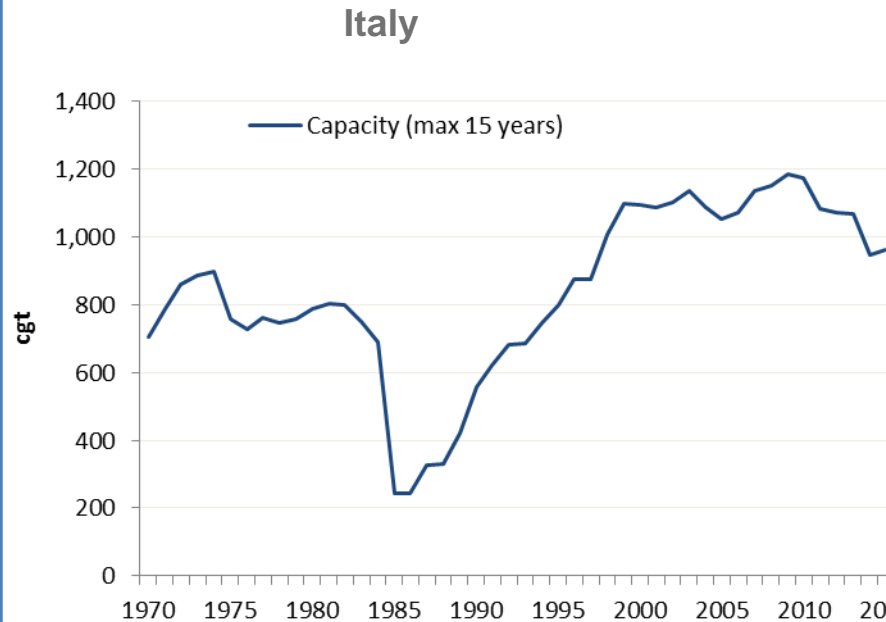
Market share in vessel production of Mediterranean region
TOP 7 countries
In % of gt



Source: IHS Seaweb 2017.



Estimated capacity by selected Mediterranean countries (1/2)



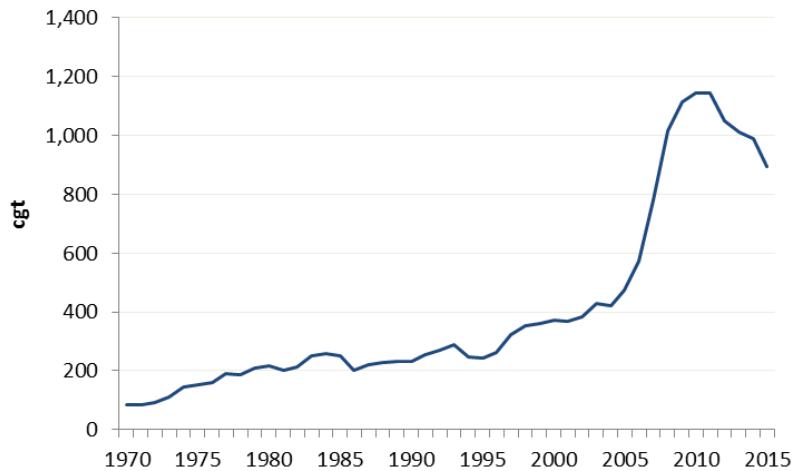
In thousands of cgt

Source: IHS Seaweb 2017.

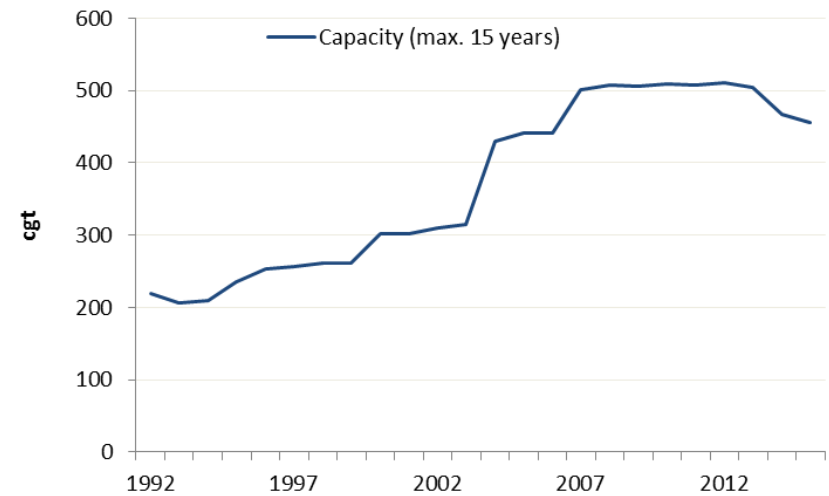


Estimated capacity by selected Mediterranean countries (2/2)

Turkey



Croatia

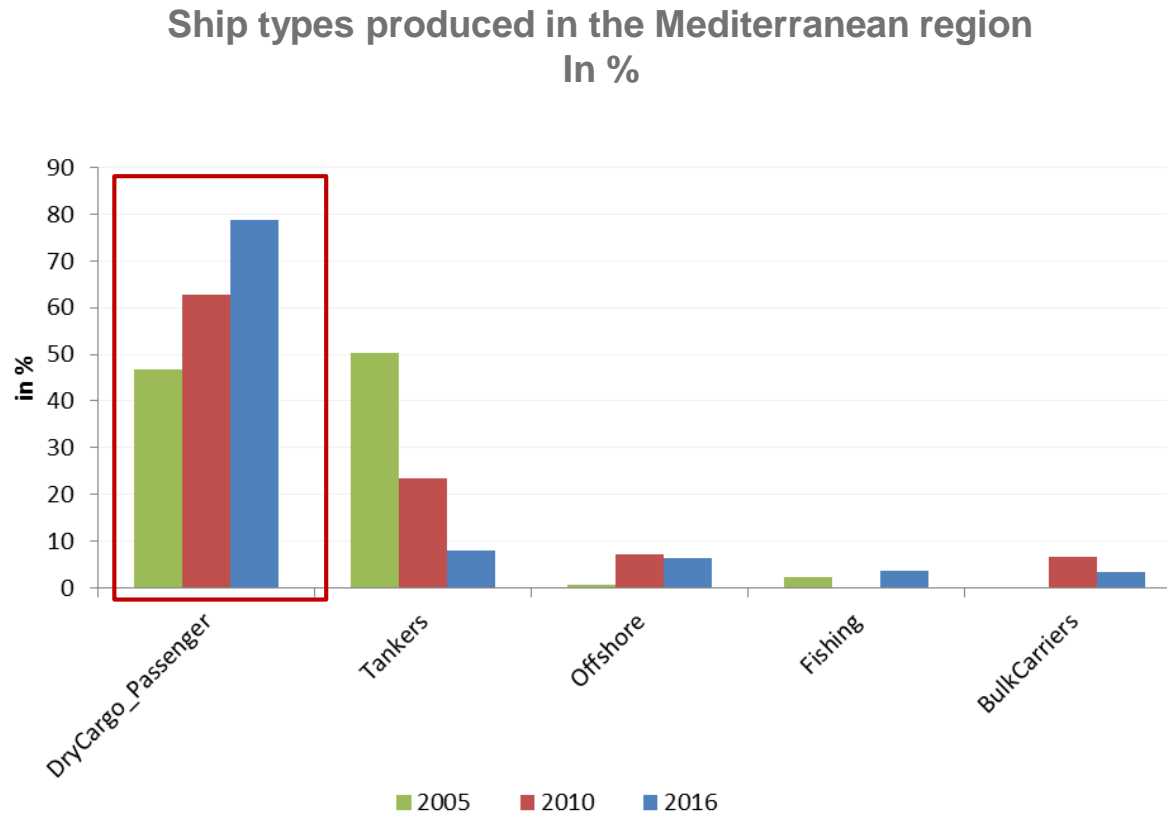


In thousands of cgt

Source: IHS Seaweb 2017.



Shift away from tankers into dry cargo/passenger vessels



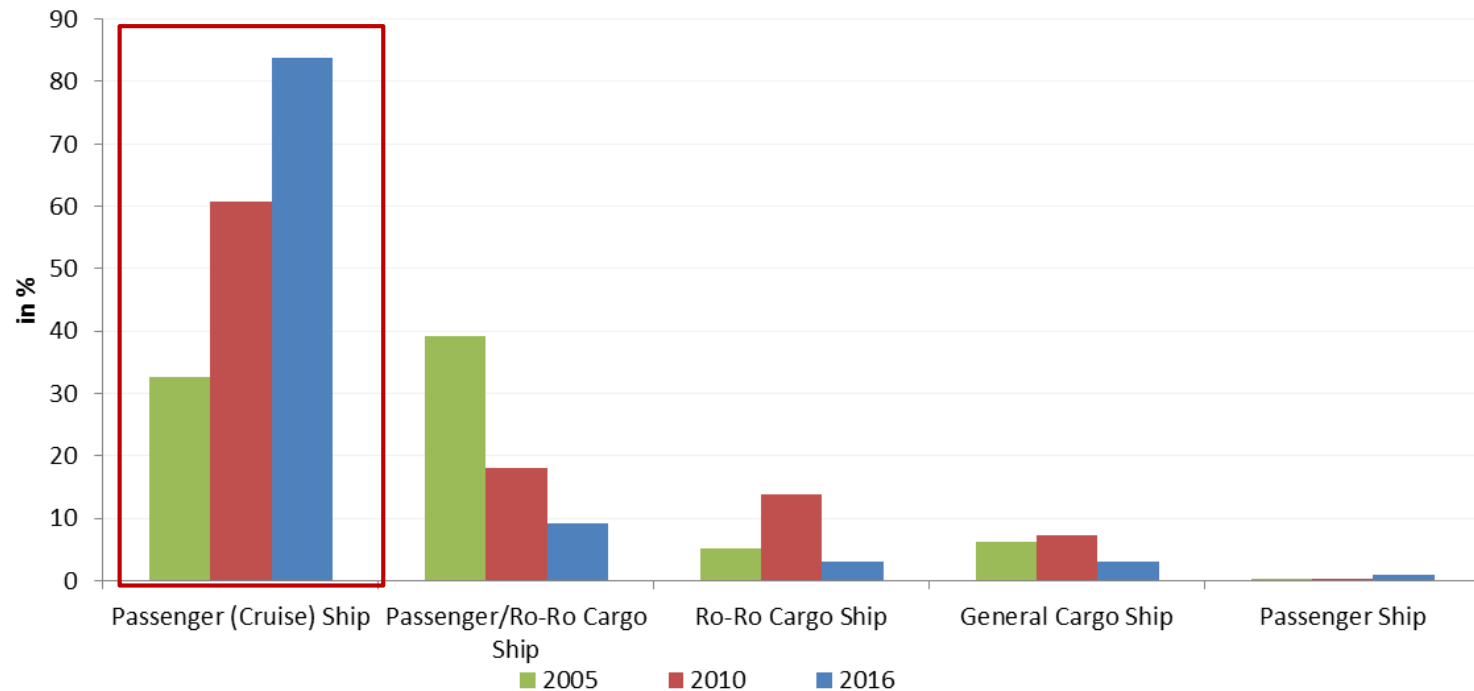
Source: IHS Seaweb 2017.



Focus on cruise ships

2. Shipbuilding

Ship types produced in the Mediterranean region
In %

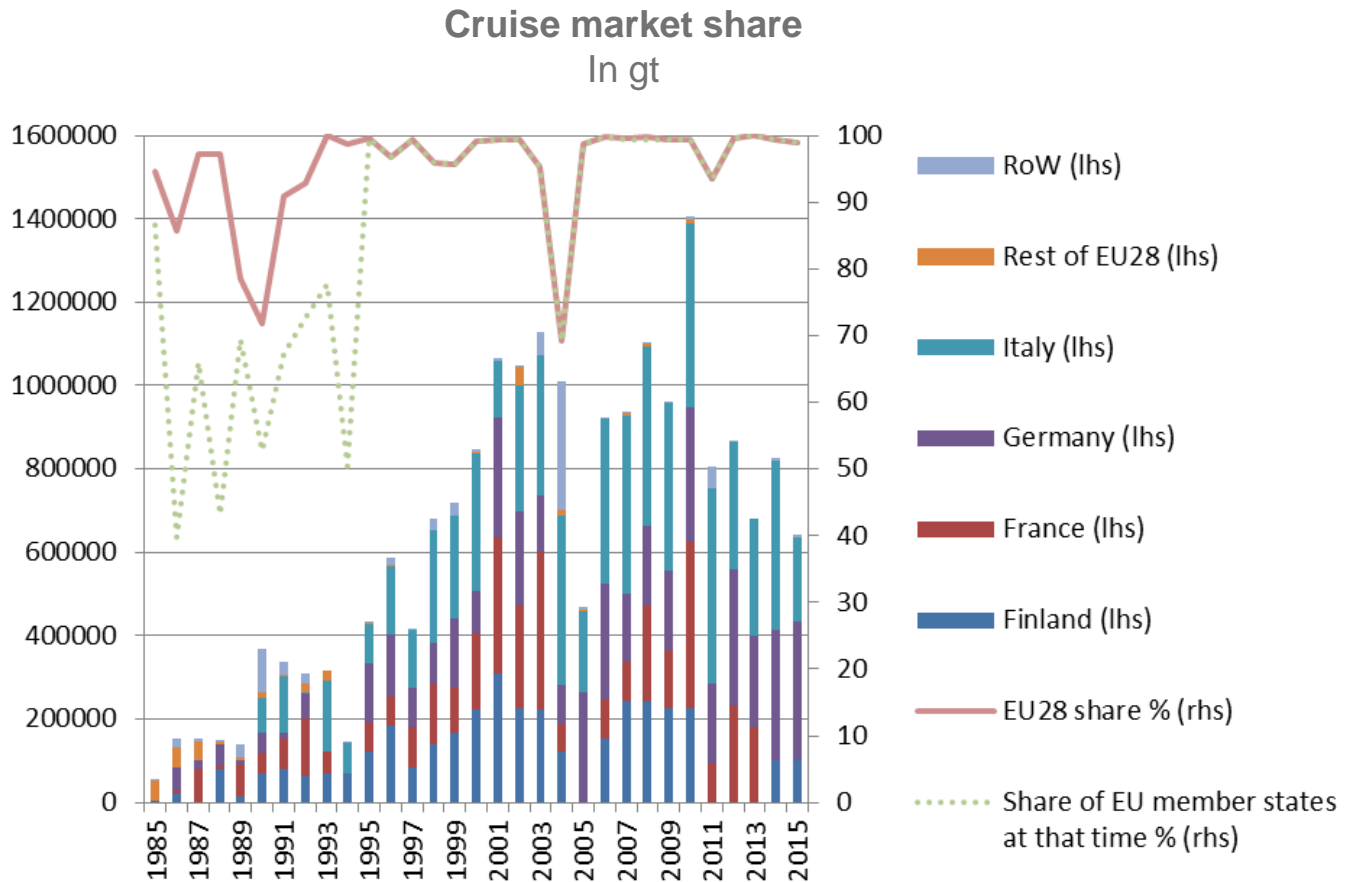


Source: IHS Seaweb 2017.



Cruise market shares

2. Shipbuilding



Source: IHS Seaweb 2017.



Industry concerns

Conversion of end-of life ships into steel & other recyclable items as important part of the ship life cycle.

Concerns about health, safety and environmental (HSE) standards in major ship breaking countries:

- Vessels as large and complex structures containing many toxic substances (e.g. mercury, lead, asbestos, PVCs etc.)
- More than 2/3 of ship breaking conducted on tidal beaches which often do not support heavy lifting machinery
- Often informal workers, i.e. no clear contractual relations
- Weak regulations on labour safety: workers often lack necessary equipment, expertise & training
- Limited access to health services, sanitary facilities & welfare
- Limited environmental enforcement, e.g. no waste management systems

High number of fatalities, injuries, work-related diseases.

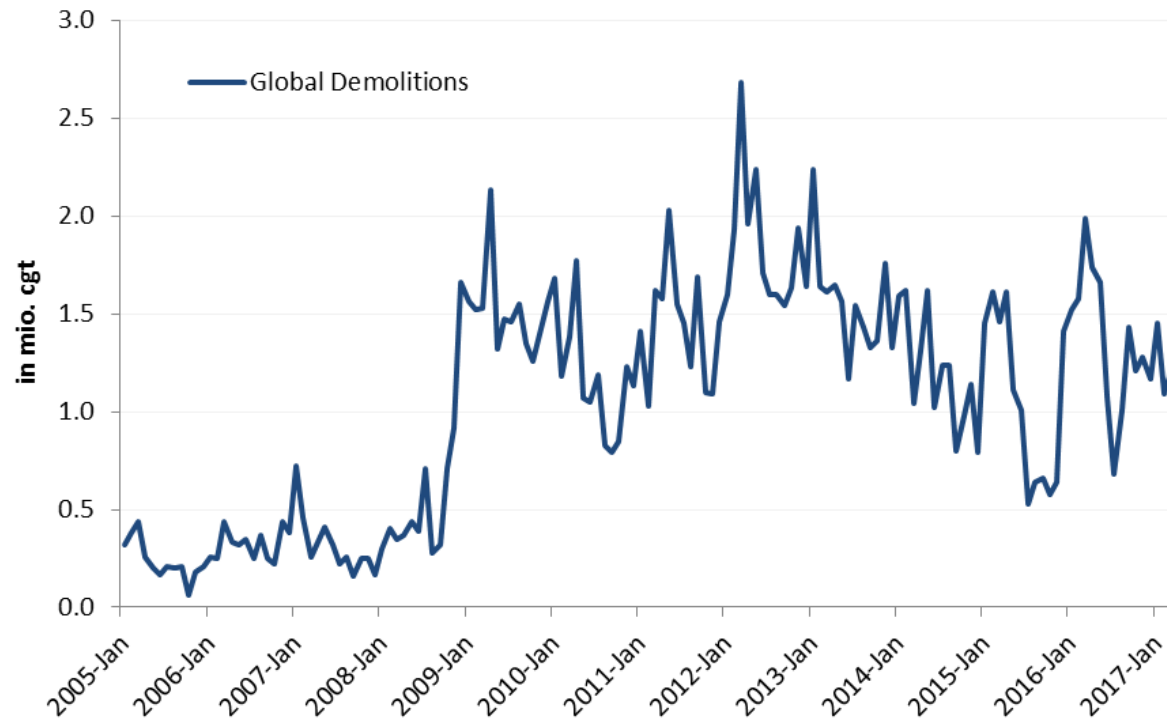
Toxic substances often dumped into soil and coastal waters.



Increase in demolitions after crisis (end of 2008)

3. Ship recycling

Global demolitions, 2005 – 2017
In mio. cgt

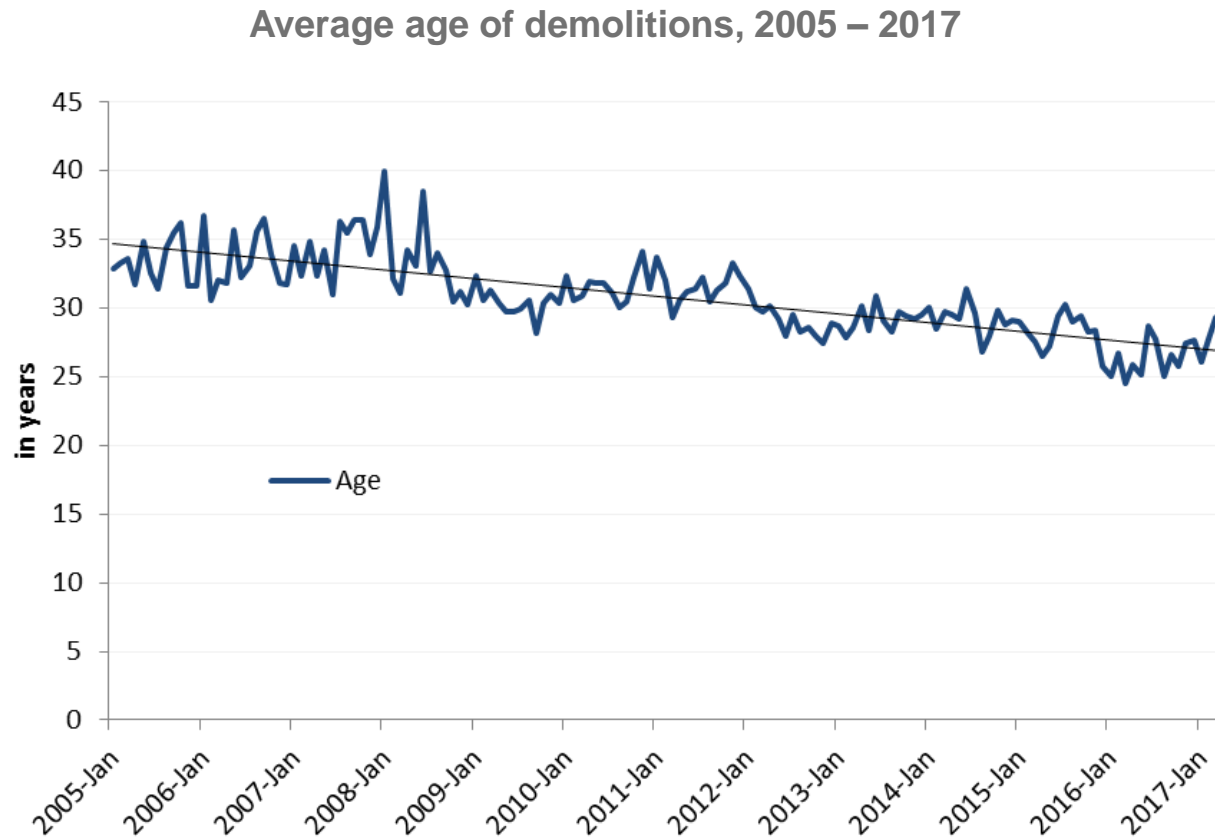


Source Clarkson World Fleet Register.



Decrease in average demolition age

3. Ship recycling



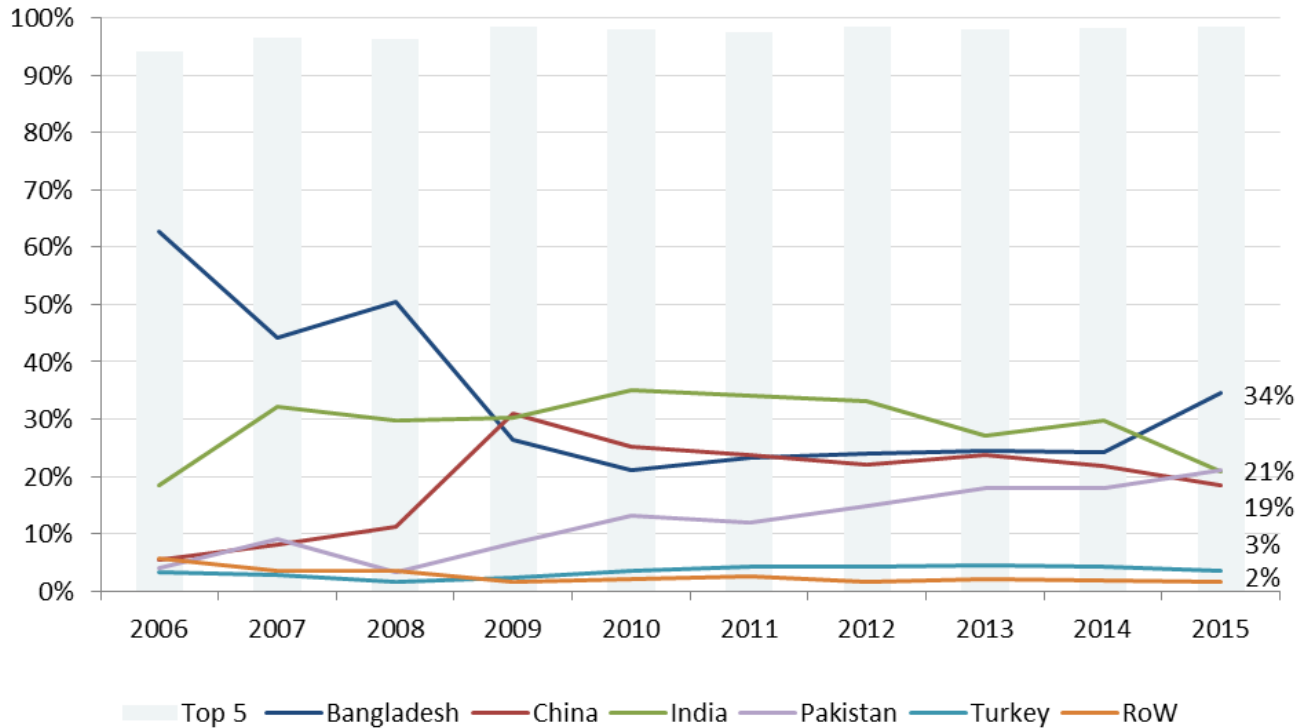
Source Clarkson World Fleet Register.



Since 2009: Top 5 recycling countries account for 98% of global demolition volume

3. Ship recycling

Annual demolition volume by ship recycling country, 2006 - 2015



Source: IHS Maritime & Trade

- Ship breaking on **tidal beaches** mostly in Bangladesh, India and Pakistan (2/3 of ship breaking volume).



The Mediterranean perspective

Annual demolition volume by Mediterranean recycling state, 2006 - 2015

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
Turkey	148,448	117,817	141,351	557,251	658,473	1,067,425	1,540,800	1,369,955	977,695	751,759	7,330,974
Spain	6,871	1,041	6,165	14,206	11,709	8,285	16,656	7,468	7,517	11,422	91,340
Greece	2,307	10,815		487			1,102		1,448		16,159
Portugal		1,409	249	3,466	2,933			3,095	1,862		13,014
France			373	3,395	182	331	5,102	3,115			12,498
Egypt				2,143					9,085		11,228
Croatia	403		242		492	738	2,814	855	463	219	6,226
Morocco								3,025			3,025
Albania					889			1,511			2,400
Italy	125	597			1,433				106		2,261
Malta	745					947		141			1,833
Slovenia							312				312
Cyprus								121	122		243
Montenegro		120									120
Mediterranean	158,899	131,799	148,380	580,948	676,111	1,077,726	1,566,786	1,389,286	998,298	763,400	7,491,633
% of world	3.5%	3.2%	1.8%	2.3%	3.6%	4.3%	4.3%	4.7%	4.4%	3.5%	
World Total	4,591,645	4,152,847	8,279,787	24,958,520	18,674,032	25,016,373	36,819,398	29,833,768	22,764,630	21,796,597	196,887,597

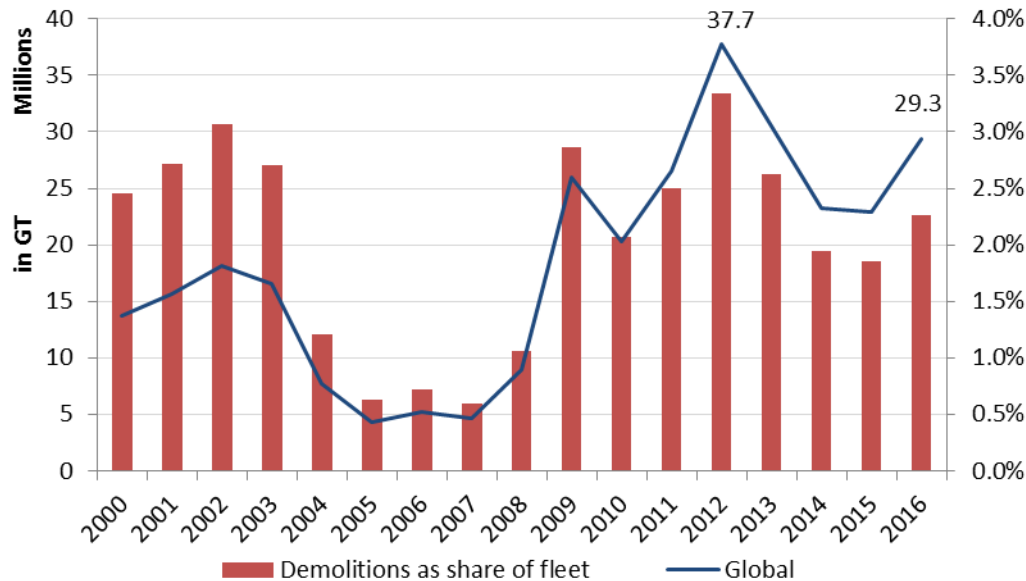
Source: IHS Maritime & Trade

- Turkey accounts for 98% of demolition volume in the Mediterranean region between 2006 and 2015, followed by Spain (1.22%), Greece (0.22%), Portugal and France (each 0.17%) and Egypt (0.15%).



Over the last 5 years ~7,000 vessels scrapped

Annual demolition volume and demolitions as share of fleet, 2006 - 2015



Source: IHS Seaweb.

Number of vessels scrapped, 2000 - 2016

year	# of vessels
2000	904
2001	935
2002	1,010
2003	1,138
2004	911
2005	640
2006	746
2007	645
2008	870
2009	1,631
2010	1,523
2011	1,769
2012	1,816
2013	1,618
2014	1,338
2015	1,092
2016	1,066

Source: IHS Seaweb.

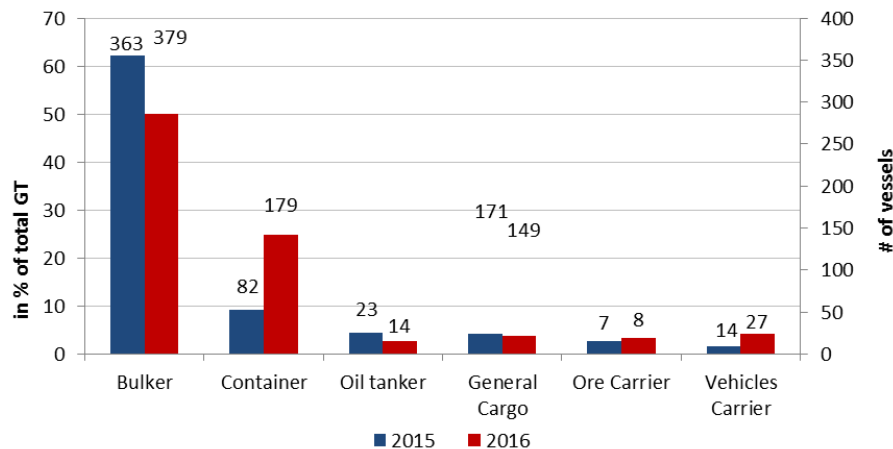
- **In 2016:** scrap volume of 29.3 million GT ~ 2.3% of global fleet.
- In the same year, a total of **1,066 vessels scrapped**
- In the peak year 2012 this number was **70% higher** (1,816 vessels).



Huge ocean-going vessels of up to 250,000 GT

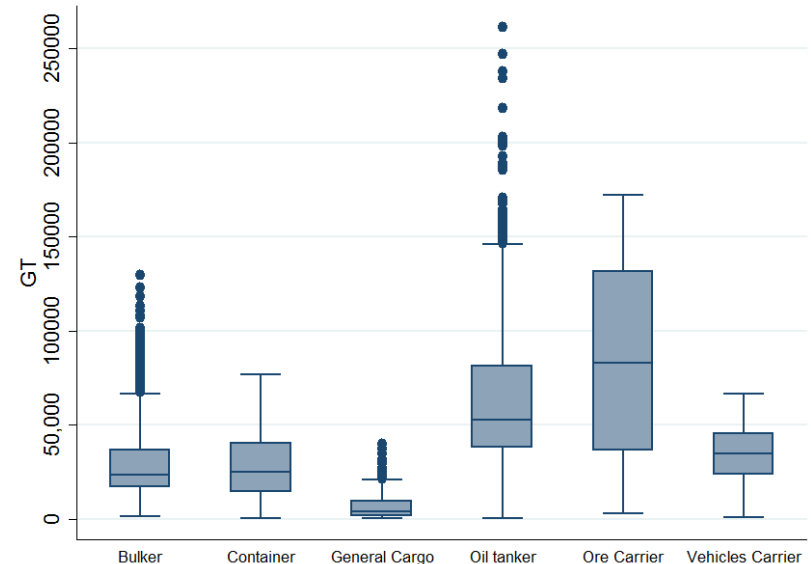
3. Ship recycling

Demolitions by ship type in % of total GT and # of vessels, 2015 and 2016



Source: IHS Seaweb.

Size of major ship types demolished, 2000 - 2016



Source: IHS Seaweb.

- **Major ship types demolished in 2015 & 2016 by gt:** bulker, container, oil tankers, general cargo, ore carrier and vehicles carrier.
- A low number of oil tankers and ore carriers due to their huge size.
- **Example:** ore carrier of 150,000 GT equals the same square metres as of two soccer fields.



International & regional conventions, regulations and guidelines (1/3)

1. **Basel Convention (1989):** Controlling transboundary movements of hazardous wastes and their disposals.
 - Difficulties to determine the exact moment when a ship becomes a waste hinder the application of the Basel Convention to shipbreaking.
2. **ILO “Safety and health in shipbreaking: Guidelines for Asian countries and Turkey” (2004):** Assisting shipbreakers and competent authorities to implement relevant provisions of ILO standards, codes of practice and other guidelines on occupational safety and health and working conditions.
3. **EU regulation on waste shipments (2006):** establishes procedures and control regimes for the shipment of waste, depending on the origin, destination and route of the shipment, the type of waste shipped and the type of treatment to be applied to the waste at its destination.



International & regional conventions, regulations and guidelines (2/3)

- 3. IMO Hong Kong Convention for the Safe and Environmentally Sound Recycling of Ships (2009):** a control system with obligations for flag States, ship owners, recycling States and recycling facilities.
- Parties to the Convention have an obligation to **prohibit and/or restrict the installation/use of hazardous materials**;
 - All ships are required to have on board **a ship specific inventory of hazardous materials** (updated throughout the ship's life)
 - **Authorized ship-recycling facilities** under the Convention, i.e. are able to undertake all the recycling activities, prepare a recycling plan, outline plans detailing how to prevent hazardous conditions (e.g. explosions, fire, accidents, spills, emissions etc.) that can harm human health and/or the environment, waste management, emergency preparedness and response, worker safety and training, reporting on incidents/accidents/occupational diseases etc.
 - **Countries having ratified HKC** (as of 21 March 2017): Belgium, France, Norway, Panama and the Republic of Congo accounting for ~ **56,000 gt** in annual recycling volume (**Goal: 15 million gt** which would be reached with the ratification of the 5 biggest recycling states)



International & regional conventions, regulations and guidelines (3/3)

4. EU regulation on ship recycling (2013) & European List of ship recycling facilities (2016)

- Is based on HKC and HKC guidelines with an addition on HSE requirements, downstream waste management, control mechanisms and European list of yards complying with the Regulation's requirements (i.e. Inventory of Hazardous Material, prohibition/restriction of installation/use of certain hazardous materials, proper waste management, international labour rights etc.).
- Sets standards for the recycling of EU-flagged ships
 - Study by Ecorys/DNV/Rotterdam University introducing concept of **Ship Recycling Licence**, a financial incentive to to avoid changing vessel flag before demolition to circumvent regulation
- Global list of ship recycling facilities as of February 2017: 18 EU facilities accepted on the list and 22 non-EU applications.



OECD Ocean week

- **20 November : WP6 workshop on green growth of maritime industries**
 - Sessions on International, regional, national, private sector efforts for greening maritime industries
- **21-22 November : Green Growth and Sustainable Development Forum (GGSD) on Greening the ocean economy**
 - A session on “Greening” of Ocean-Based Industries: Case of sectors (including *shipbuilding*) based on non-living marine resources and infrastructure
- **22-23 November – Expert Workshop on New Approaches to Evaluating The Ocean Economy:**
 - 3rd International Symposium on the Oceans in National Income Accounts (OECD STI Ocean Economy Group)



Thank you

laurentc.daniel@oecd.org, kei.ito@oecd.org

<http://www.oecd.org/sti/ind/shipbuilding.htm>

