European Commission

Studies to support the development of sea basin cooperation in the Mediterranean, Adriatic and Ionian, and Black Sea

CONTRACT NUMBER

MARE/2012/07 - REF. NO 2

REPORT 1 - ANNEX 2.12

COUNTRY FICHE

TURKEY

JANUARY 2014

EUNETMAR
European Networking Group for Integrated Maritime Policy

COGEA
Consulenti per la Gestione Aziendale

POSEIDON
Aquatic Resource Management Ltd

AND International

azti tecnalia

ALMA MATER STUDIORUM UNIVERSITÀ DI BOLOGNA

Eurofish
International Organisation

CENTRO TECNOLÓGICO DEL MAR
FUNDACIÓN CETMAR

Contents

0. General overview ... 3

1. Marine and maritime activities ... 5

2. Breakdown of maritime and maritime activities at regional level (NUTS 2) and selection of most relevant regions ... 8

2.1 Selection of most relevant regions ... 8
2.2 Breakdown of activities between Black Sea and Mediterranean Sea ... 8

3. List of the 7 largest, fastest growing and with most future potential marine and maritime activities ... 13

3.1 Ranking order of the 7 largest marine and maritime activities ... 13
3.2 Ranking order of the 7 fastest growing marine and maritime economic activities over 3 past years 13
3.3 Ranking order of the 7 marine and maritime activities with most future potential ... 15

4. Growth scenarios for the 6 most relevant and promising marine and maritime activities ... 19

4.1 Overview of the 6 most relevant and promising marine and maritime activities ... 19
4.2 Description of the nature of each of the 6 marine and maritime activities and their value chains 21
4.3 Description of economic and infrastructural scenario ... 24
4.4 Regulatory environment ... 27

5. Growth drivers and barriers to growth for the 6 most promising marine and maritime economic activities ... 29

6. Analysis of maritime strategies at regional and national level, as well as those under preparation and their links with Smart Specialisation Strategies ... 35

0. General overview

Morphological structure of the coastline

- Turkey's total coastline is 8.483 km, out of which 1.067 km are island shores.
- The distribution of the coastline according to the four seas rimming Turkey is:
  - Black Sea 1 719 km (20,3%)
  - Sea of Marmara 1 474 km (17,4%)
  - Aegean Sea 3 265 km (38,5%)
  - Mediterranean 2 025 km (23,9%)
- Due to the presence of the Turkish Straits, connecting the Mediterranean and the Black Sea, maritime traffic is intense in Turkey's internal waters and territorial sea. The strait is considered a waterway of strategic and economic importance.

Population and related social condition for maritime areas

A little more than half of the population (50,8%) lives in coastal areas in 2011, i.e. 37,965 million out of 74,724 million. And more than half of this coastal population lives along the Sea of Marmara.

Sea basin	Coastal population (1000)	%
Black Sea	4 995	13,2
Marmara	19 873	52,3
Aegean	5 803	15,3
Mediterranean	7 294	19,2
Total	37 965	100,0

Source : TÜIK

Between 2008 and 2011 the growth of the costal population has been bigger than the growth of the total Turkish population: 5,2% vs. 4,5%.

Within the coastal zone, the growth rate has been much smaller in the Black Sea area (+2,3%) than in the rest of the coastal provinces (NUTS-3 level) (+6,0%).

The main two coastal NUTS-3 areas are Istanbul (13,62 million), which gathers 35,9% of total coastal population, and Izmir (3,97 million).

Economic role of maritime areas over the national total

Maritime economic activities form a strong sector in Turkey offering 280.000 jobs and reaching a total GVA of more than 4,39 billion EUR, with four activities (coastal tourism, short-sea shipping, shipbuilding and fisheries) representing 82% of the jobs and 74% of the total GVA generated by the blue economy.
Istanbul is the main maritime hub.
After Istanbul (13,5 million inhabitants in 2012), main port cities are:

- Izmir (2,8 million inhabitants), third largest city in Turkey and largest city in the Aegean Region,
- Antalya (1,0), eighth largest city in Turkey, on the Mediterranean coast,
- Mersin (0,9), on the Mediterranean coast,
- Samsun (0,5), thirteenth largest city in Turkey and largest city in the Black Sea.

The main maritime organisation is the Turkish Chamber of Shipping. Established in 1982 its first aim was to develop shipping in accordance with the national transportation and shipping policy and public interest. Governed by the Law n°5174 on the Union of Chambers and Commodity Exchanges, the Turkish Chamber of Shipping has now a wider scope and covers most maritime activities (shipping, ship brokerage, pilotage, dredging, shipbuilding, fishing, aquaculture, marinas, ports, yacht building, sand extraction) as well as four Turkey’s seas. The Turkish Chamber of Shipping publishes an annual “Maritime sector Report”, which is the most comprehensive source of information on maritime activities.

Other major organisations include:

- Turkish Shipbuilders’ Association (GISBIR), professional association of the ship and yacht building, repairing and maintaining companies, established by shipyard owners in 1971 and
- Ship Recyclers’ Association (GEMISANDER)
- Muğla Fish Farmers’ Association, regional association of fish farming companies based in the main farming area on the Aegean coast.

At the public level the main responsible institution is the Ministry of Transport, Maritime Affairs and Communications.

1. Marine and maritime activities

Table 1 - Indicators of relevant marine and maritime activities in Turkey

Function/activity		GVA (EUR, billion)	Employment (*1000)	Number of enterprises	Further indicators	Source & Reference year
0. Other sectors						
0.1	Shipbuilding and ship repair	0,490	34,491	1.802	----	EUROSTAT (2009)
0.2	Water projects	0,290	15,530	304	----	EUROSTAT (2009)
1. Maritime transport						
1.1	Deep-sea shipping	0,168	8,919	----	----	EUROSTAT (2009)
1.2	Short-sea shipping (incl. Ro-Ro)	0,578	30,723	----	----	EUROSTAT (2009)
1.3	Passenger ferry services	0,377	11,210	----	----	EUROSTAT (2009)
1.4	Inland waterway transport	0	0	----	----	EUROSTAT (2009)
2. Food, nutrition, health and eco-system services						
2.1	Fishing for human consumption	0,593	37,750	----	----	TUIK (2011)
2.2	Fishing for animal feeding	----	Not separately available	----	----	----
2.3	Marine aquaculture	0,126	8,000	----	----	TUIK (2011)
2.4	Blue biotechnology	n.a.	n.a.	----	----	----
2.5	Agriculture on saline soils	-	-	----	----	----
3. Energy and raw materials						
3.1	Offshore oil and gas	0	0	0	----	Testing phase
3.2	Offshore wind	0	0	0	----	Not applicable
3.3	Ocean renewable energy	0	0	0	----	Not applicable
3.4	Carbon capture and storage	0	0	0	----	Not applicable
3.5	Aggregates mining (sand, gravel, etc.)	0	0	0	----	Not applicable
3.6	Marine minerals mining	0	0	0	----	Not applicable
3.7	Securing fresh water supply (desalination)	0	0	0	----	Not applicable
4. Leisure, working and living						
4.1	Coastal tourism	1,599	125,182	8.830	----	EUROSTAT (2009)
4.2	Yachting and marinas	n.a.	n.a.	----	----	----
4.3	Cruise tourism	0,089	2,647	----	----	EUROSTAT (2009)
5. Coastal protection						
5.1	Protection against flooding and erosion	n.a	n.a	----	----	Not applicable
5.2	Preventing salt water intrusion	n.a	n.a	----	----	Not applicable
5.3	Protection of habitats	n.a.	n.a.	----	----	----
6. Maritime monitoring and surveillance						
6.1	Traceability and security of goods supply chains	n.a.	n.a.	----	----	----
6.2	Prevent and protect against illegal movement of people and goods	0,08	5,00	----	----	----
6.3	Environmental monitoring	----	----	----	----	----

Note: EUROSTAT data on GVA and employment do not exist for all maritime activities. We have calculated the average GVA per job for the 7 activities for which we have Eurostat data for both GVA and employment: 15.700 EUR. Then we applied it to the other MEAs for which we could collect employment data from other international or national sources.

Example : Activity 2.1 “Fishing for human consumption”

Employment 37.750 (source : TÜİK – Turkish Statistical Institute)

GVA: 37,75 x 15,7 = 593 million EUR = 0,593 billion EUR

Table 2 - Overview of relevant marine and maritime activities in Turkey

Function/activity		Activity overview	Socio economic indicators	Source & Reference year
0. Other sectors				
0.1	Shipbuilding and ship repair	- 71 shipyards in operation in 2012 - 594 ships (DWT 4,3 million) delivered between 2002 and 2011 - Yacht building: 25 super yachts (> 30 m) delivered in 2010 (total length : 968 m)	Employment : 20 516 in 2011 (peak in 2007 : 33 480)	- Turkish Chamber of Shipping - Turkish Shipbuilders' Association (GISBIR)
0.2	Water projects	- 175 ports - Capacity : 11,1 million TEU 277 million t general cargo + dry bulk cargo 149 million t liquid bulk cargo 3,7 million Pcs wheeled cargo	22 ports operated by the Government 27 ports operated by municipalities 126 private ports Main freight ports 2011 : Botaş 65,5 million t Kocaeli 55,0 Aliağa 34,4 Ambarlı 37,6	Turkish Chamber of Shipping
1. Maritime transport				
1.1	Deep-sea shipping	363,3 million t of cargo at Turkish ports in 2011 : 22,5% export 47,8% import 12,0% cabotage 17,7% transit	- 90% of goods (import-export) have been maritime transported in 2011 - Merchant fleet December 2011: 1561 ships (DWT 8,9 million), out of which 408 dry cargo 139 tugboats 133 oil tankers 103 bulk carriers 77 chemical tankers 48 Ro-Ro	Turkish Chamber of Shipping
1.2	Short-sea shipping (incl. Ro-Ro)			
1.3	Passenger ferry services	157 million passengers transported in 2011	----	Turkish Chamber of Shipping
1.4	Inland waterway transport	----	----	----
2. Food, nutrition, health and eco-system services				
2.1	Fishing for human consumption	Catches (sea) : 477 858 t (value : 440 million EUR) Main species = small pelagics (anchovy 228.500 t, sprat 87.100 t, sardine 34.709 t)	14.300 vessels > 5 m (out of which 11 805 < 10 m) : Black Sea 4.993 Marmara 2.632 Aegean 4.709 Mediterranean 1.966 37.747 fishery workers (Black Sea 16 486)	TUIK 2011
2.2	Fishing for animal feeding	Included in 2.1 (228 709 t sold to fish meal and oil factories in 2011)	The Black Sea region buys 96,6% of the fish sold to meal and oil factories	TUIK 2011
2.3	Marine aquaculture	Marine aquaculture production : 88.344 t (value 342 million EUR) Main species: seabass 47.000 t, seabream 32.200 t, trout 7.700 t)	2 main regions (NUTS-3) : Izmir and Muğla (98% of seabream and 96%of seabass production)	TUIK 2011
2.4	Blue biotechnology	----	----	----
2.5	Agriculture on saline soils	----	----	----
3. Energy and raw materials				
3.1	Offshore oil and gas	Currently no offshore production. Some reserves under the Aegean Sea (territorial dispute with Greece)	Turkey has a big importance in the energy market both as a transit hub and as a consumer	----

Function/activity		Activity overview	Socio economic indicators	Source & Reference year
		and in the Black Sea		
3.2	Offshore wind	No producti	- Highest feasible wind-power generation capacity estimated at 48 GW (out of which 10 GW for offshore wind) - Offshore wind power not economically viable under present conditions	----
3.3	Ocean renewable energy	No production	Wave energy potential estimated at 10 TWh/year with an annual wave power between 3 and 17 kW/m	Journal of Naval Science and Engineering 2010
3.4	Carbon capture and storage	----		----
3.5	Aggregates mining (sand, gravel, etc.)	Sand mining in parts of the Black Sea coast close not far from Istanbul	- In decrease in the last 10 years. - In Istanbul the demand for sand is 10 million m3 per year with about 10% of this dredged from offshore	Turkish Chamber of Shipping EMSAGG
3.6	Marine minerals mining	----	----	----
3.7	Securing fresh water supply (desalination)	----	Desalination capacity : 68,3 million m3 (2010)	Global Water Intelligence
4. Leisure, working and living				
4.1	Coastal tourism	Marine tourism revenue is 20% of general tourism revenues	Total tourism : 43,0 million visitors (31,5 foreigners and 11,6 citizens) – Total receipts : 16,5 billion EUR	Turkish Chamber of Shipping TUIK 2011
4.2	Yachting and marinas	- 42 yacht marinas registered by the Ministry of Tourism-	- Most marinas located on the Aegean and Mediterranean coasts - Total capacity: 13.527	Turkish Chamber of Shipping 2011
4.3	Cruise tourism	- 1.623 cruise ships arrived at Turkish ports - 2.191.000 passengers - Main ports : Istanbul, Kuşadası, Izmir, Marmaris, Antalya	GVA/Employment calculated through ECORYS methodology seems underestimated : 265.000 cruise passengers in 2009 (vs. 1.484.000 transit passengers coming by cruise ships for the Under secretariat of Maritime Affairs)	Turkish Chamber of Shipping 2011
5. Coastal protection				
5.1	Protection against flooding and erosion	----	----	----
5.2	Preventing salt water intrusion	----	----	----
5.3	Protection of habitats	----	----	----
6. Maritime monitoring and surveillance				
6.1	Traceability and security of goods supply chains	----	----	----
6.2	Prevent and protect against illegal movement of people and goods	----	----	----
6.3	Environmental monitoring	----	----	----

2. Breakdown of maritime and maritime activities at regional level (NUTS 2) and selection of most relevant regions

2.1 Selection of most relevant regions

Turkey has 12 regions at NUTS-1 level and 26 sub-regions at NUTS-2 level, out of which 14 coastal sub-regions.

Information at NUTS-2 level exists for population or unemployment data but is scarce for economic activities. Among maritime activities data exist for only marine aquaculture, in terms of production (volume in tonnes), not in GVA or employment.

Table 3 – Marine aquaculture production by coastal sub-region (NUTS-2 level) in 2011 (tonnes)

NUTS-2 coastal sub-region	Production
İstanbul	0
Tekirdağ	18
Balıkesir	17
İzmir	23 273
Aydın	54 494
Bursa	0
Kocaeli	0
Antalya	0
Adana	335
Hatay	950
Zonguldak	0
Kastamonu	0
Samsun	582
Trabzon	8 675
TOTAL	88 344

Source : TurkStat

Some loading/unloading data by port also exist, but neither in GVA nor for employment.

2.2 Breakdown of activities between Black Sea and Mediterranean Sea

Of particular interest for Turkey is the breakdown of activities between the Black Sea and the Mediterranean Sea.

Catching fish

National statistics allow to breakdown seafish catches by sea region.

Table 4 - Seafish catches by coastal sea region in 2011

Sea	Catches (tonnes)	Fishery workers (number)
Black Sea	372 180	16 486
Marmara	39 185	8 240
Aegean	33 185	8 678
Mediterranean	33 109	4 343
Total	477 659	37 747

Source : TurkStat

Table 4 exemplifies the dominant position of the Black Sea in sea fisheries (78% of total Turkish catches, 44% of fishery workers).

Fishing for animal feeding

The Black Sea has an important production of small pelagics (anchovy, sprat, horse mackerel, scad), which primarily supply the fish meal and oil factories.

Table 5 - Quantity of catch of sea products sold to fish meal and oil factories in 2011

Sea	Catches (tonnes)	%
Black Sea	221 032	96,6
Marmara	5 150	
Aegean	2 396	3,4
Mediterranean	131	
Total	228 709	100,0

Source : TurkStat

Fishing for human consumption

The Black Sea also dominates the production of fish for human consumption : sardine and other small pelagics, striped venus, whiting, Atlantic bonito, sea snail, ….

Table 6 - Quantity of catch of sea products destined for human consumption in 2011

Sea	Catches (tonnes)	%
Black Sea	146 554	60,3
Marmara	33 745	
Aegean	30 545	39,7
Mediterranean	32 350	
Total	243 194	100,0

Source : TurkStat

Marine aquaculture

Table 5 shows the importance of the Aegean Sea for marine aquaculture (88% of national production). The Aegean coastline houses more than 96% of Turkish farming of seabass and seabream.

The farms on the Mediterranean coast specialize in these two species, while Black Sea farms primarily produce trout.

Table 5 - Marine aquaculture production by sea basin in 2011 (tonnes)

Sea	Catches (tonnes)	%
Black Sea	9 257	10,5
Marmara	35	89,5
Aegean	77 767	
Mediterranean	1 285	
Total	88 344	100,0

Source : TurkStat

Shipbuilding

The shipbuilding activity is highly concentrated in the Sea of Marmara, particularly in the Eastern part around Tuzla and Yalova.

Table 6 - Shipyards geographical distribution 2012

Coastal sub-region	Sea basin	Shipyards under operation	Shipyards under construction
Sakarya	Black Sea	1	-
Zonguldak		8	3
Kastamonu		1	3
Sinop		-	1
Samsun		1	8
Ordu		1	1
Trabzon		1	1
İstanbul	Marmara Sea	27	4
İzmit		6	-
Yalova		21	20
Çannakale		2	6
Balikesir		-	2
	Aegean Sea	-	-
Mersin	Mediterranean	-	1
Adana		1	2
Hatay		1	
TOTAL		71	52

Source : Ministry of Transport, Maritime Affairs and Construction

Short-sea shipping

Shipping activities are located throughout the coast but are particularly developed in the Sea of Marmara (Izmit, Ambarli, Gemlik, Tuzla, Istanbul) and in the Mediterranean (Mersin, Iskenderun).

Table 7 - Freight handled in 2011 in the Turkish ports (in the top 20 port headships)

Sea basin	Freight handled (1000 t)	%
Black Sea	23 297	6,6
Marmara	155 284	93,4
Aegean	49 335	
Mediterranean	122 599	
Total	350 515	100,0

Source : Ministry of Transport

Costal tourism

Istanbul alone captures 37% of all overnights spent in the coastal areas. Other main areas are the Antalya area on the Mediterranean and the Aegean coast.

Coastal tourism remains very limited in the Black Sea.

Table 8 - Number of overnights of departing visitors in coastal regions in 2012

NUTS-2 coastal region	Number of overnights (foreign visitors)	Number of overnights (citizen visitors)	Total overnights	Sea basin		%
TR 10	96 176 777	18 722 132	114 898 909	Marmara	138 354 537	44,7
TR 21	1 829 906	1 936 514	3 766 420			
TR 22	2 663 152	3 602 517	6 265 669			
TR 41	3 689 651	3 693 768	7 383 419			
TR 42	2 685 336	3 354 784	6 040 120			
TR 31	11 304 798	6 085 511	17 390 309	Aegean	52 946 529	17,1
TR 32	28 765 766	6 790 454	35 556 220			
TR 61	74 100 926	6 279 307	80 380 233	Mediterranean	96 388 633	31,2
TR 62	2 591 727	3 866 677	6 458 404			
TR 63	1 899 537	7 650 459	9 549 996			
TR 81	939 952	2 135 531	3 075 483	Black Sea	21 219 714	6,9
TR 82	339 251	1 109 579	1 448 830			
TR 83	1 759 985	4 259 062	6 019 047			
TR 90	6 215 449	4 460 905	10 676 354			
Total	234 962 213	73 947 200	308 909 413		308 909 413	100,0

Source : TurkStat, Tourism Statistics

Cruise tourism

Cruise tourism is almost non-existent in the Black Sea. It is mainly developed in the Aegean Sea (Izmir, Kuşadası) and in the Sea of Marmara (Istanbul).

Table 9 - Number of transit passengers coming by cruise ships in 2012

Sea basin	Ships (number)	Passengers (number)	Passengers %
Black Sea	44	13 795	0,7
Marmara	425	601 016	99,3
Aegean	1 044	1 293 930	
Mediterranean	91	187 737	
Total	1 604	2 096 478	100,0

Source : Ministry of Transport

Yachting and marinas

The yachting and marinas activity concerns firstly the Aegean Sea and secondly the Sea of Marmara. There are no marinas in the Black Sea coast until now, but some projects exist.

Table 10 - Capacity of marinas in 2012

Sea basin	Capacity (number)	%
Black Sea	0	0,0
Marmara	2 918	
Aegean	9 742	100,0
Mediterranean	1 187	
Total	13 847	100,0

Source : Ministry of Culture and Tourism

Synthesis

The following table shows the breakdown of activities between the Black Sea and the Mediterranean Sea for the major marine and maritime economic activities (the activities concerned represent 90% of the total GVA of all maritime activities as presented in Table 1).

The Black Sea accounts for 17% of the total activity and the Mediterranean for 83%.

Table 11 - Breakdown of GVA of major marine and maritime activities between Black Sea and Mediterranean Sea

Function/activity		% Mediterranean	% Black Sea	GVA Mediterranean (EUR, billion)	GVA Black Sea (EUR, billion)
0. Other sectors					
0.1	Shipbuilding and ship repair	82	18	0,402	0,088
0.2	Water projects	86	14	0,249	0,041
1. Maritime transport					
1.1	Deep-sea shipping	93	7	0,156	0,012
1.2	Short-sea shipping (incl. Ro-Ro)	93	7	0,538	0,040
2. Food, nutrition, health and eco-system services					
2.1	Fishing for human consumption	40	60	0,237	0,356
2.3	Marine aquaculture	90	10	0,113	0,013
4. Leisure, working and living					
4.1	Coastal tourism	93	7	1,487	0,112
4.3	Cruise tourism	99	1	0,088	0,001
			TOTAL	3,270	0,663
			%	*83%*	*17%*

Source: elaboration EUNETMAR

3. List of the 7 largest, fastest growing and with most future potential marine and maritime activities

3.1 Ranking order of the 7 largest marine and maritime activities

Table 12 - Ranking order of the 7 largest marine and maritime activities in Turkey

Rank	Marine and maritime activities	GVA (million EUR)	Employment (*1000)	Score
1	Coastal tourism	1,599	125,182	70,59
2	Fishing for human consumption	0,593	37,750	21,84
3	Shipbuilding and ship repair	0,490	34,491	19,70
4	Short-sea shipping (incl. Ro-Ro)	0,578	30,723	18,25
5	Water projects	0,290	15,530	9,22
6	Passenger ferry services	0,377	11,210	7,49
7	Deep-sea shipping	0,168	8,919	5,30

Coastal tourism

Turkey cumulates a long tradition of beach-based mass tourism and the assets of coastal cities with huge cultural heritage. This double attraction has made coastal tourism the largest maritime activity.

Fishing for human consumption

The long coastline and the fishing tradition in a lot of villages, especially in the Black Sea where diversification possibilities are very limited, explain the economic importance of this activity.

Shipbuilding and ship repair

Shipbuilding is a very old traditional activity which upheld its economic importance in spite of being severely impacted by the world crisis.

Short-sea and deep-sea shipping

The strategic position of Turkey at the intersection of East-West and North-South international transport corridors has entailed the development of a significant deep-sea shipping sector.

Water projects

The economic importance of other maritime activities (shipping, ferry services) made it necessary to develop a strong port sector.

Passenger ferry services

The long coastline (more than 8.400 km) and the expansion of the main city (Istanbul) on the two sides of a strait led to the development of large passenger ferry services.

3.2 Ranking order of the 7 fastest growing marine and maritime economic activities over 3 past years

EUROSTAT data on GVA and employment exist only for one year (2009), when existing, and cannot be used to calculate the scores of the fastest growing activities. Therefore we used other indicators for which data were available for the period 2008-2010. As far as possible we tried to use one economic indicator

(indicator 1) and one social indicator (indicator 2). These indicators are presented in the table in Section 3 of the Annex.

According to the results of the latter table, it came out the ranking order of the 7 fastest growing marine and maritime activities reported in the table below:

Table 13 - Ranking order of the 7 fastest growing marine and maritime activities in Turkey

Rank	Marine and maritime activities	Indicator 1 (CAGR)	Indicator 2 (CAGR)	Score
1	Marine aquaculture	11,67	1,70	6,69
2	Cruise tourism	3,48	3,48	3,48
3	Water projects	5,28	1,12	3,20
4	Deep-sea shipping	3,60	-0,16	1,72
5	Passenger ferry services	0,84	0,00	0,42
6	Fishing for human consumption	-2,43	0,53	-0,95
7	Short-sea shipping	-1,37	-1,11	-1,24

Marine aquaculture

Marine fish farming increased a lot during the reference period (+25% in value). This growth continued since then, the production rising from 88.600 t in 2010 to 100.900 t in 2012.

Cruise tourism

This new industry has experienced a good development in the period 2008-2010 in spite of the world crisis. This growth gained momentum in 2011.

Water projects

90% of Turkey's international trade is transported by sea, which led the authorities to constantly adapt the capacity of ports to growing flows.

Deep-sea and short-sea shipping

The world financial crisis has significantly hurt the global shipping business but the total cargo handled in Turkish ports rose by 10,8 % between 2008 and 2010 and by 11,1% from 2010 to 2012.

Passenger ferry services

The economic growth experienced by Turkey has led to the development of passenger ferry services, operated at almost 90% in the Istanbul region.

Fishing for human consumption

In spite of a drop in volume (-12,5% between 2008 and 2012), the Turkish fisheries sector has maintained the level of catches in value (-0,2% in the same period).

3.3 Ranking order of the 7 marine and maritime activities with most future potential

The 7 most promising marine and maritime activities are listed in the table below:

Table 14 - Ranking order of the 7 marine and maritime activities with most future potential in Turkey

Rank	Marine and maritime activities	Score
1	Marine aquaculture	+++++
2	Shipbuilding and ship repair	++++
3	Coastal tourism	++++
4	Yachting and marinas	++++
5	Cruise tourism	++++
6	Water projects	++++
7	Offshore oil and gas	++

In spite of being ranked among the 7 most future potential marine and maritime activities, "Offshore oil and gas" has been excluded from the analyses below because it has no activity until now (unlike the other sectors) and because it is unlikely that operational activities start in short term.

<u>Marine aquaculture</u>

- **Innovativeness**: the Turkish marine aquaculture sector mainly focuses on two species, seabream and seabass, which are mass-produced. The capacity of processing and producing value added products is limited and the efforts made to diversify the production have not been successful yet. Anyhow initiatives towards product differentiation, improved packaging and branding could add value to the production. **Score assigned: 0**
- **Competitiveness**: Turkey has the first rank in the Mediterranean for seabass farming and the second one behind Greece for seabream. It has a 25% market share in seabass and seabream trade in Europe. **Score assigned: +**
- **Employment**: the aquaculture industry has experienced an impressive growth in the last decade. And ambitious targets have been set for the future, which should lead to a tripling of production and a doubling of exports by 2023. This development will entail the creation of new jobs. **Score assigned: +**
- **Policy relevance**: the Turkish government gives active support to the aquaculture industry, e.g. through export subsidies. The National Marine Aquaculture Development Plan provides stable ground for future growth of the sector and the new regulation on "Renting water and water areas for aquaculture production" aims at shortening the duration of the bureaucratic process and lengthening the lease periods. **Score assigned: +**
- **Spill-over effects**: significant support services (feed plant, equipment providers and distributors, technical advisers, transport and shipping, …) go along with the development of fish farming. **Score assigned: +**
- **Sustainability**: environmental monitoring of fish farms is advancing, even if not fully completed. Existing conflicts of users with coastal tourism and small-scale fishermen should find a solution with the implementation of coastal zone management. **Score assigned: +**

<u>Shipbuilding and ship repair</u>

- **Innovativeness:** Turkish shipbuilding has evolved in the last 20 years from an old traditional activity to an internationally recognized industry with modern quality-certified shipyards. But the sector has some difficulties to penetrate and innovate in the growth sectors such as LPG and LNG carriers and offshore platform vessels. Anyhow in the last years Turkey has increasingly tapped into niche markets and the participation of Turkish shipyards in the international trade of new ships has grown. **Score assigned: +**

- **Competitiveness**: Significantly impacted by the world crisis since 2008, the shipbuilding and ship repair industry is reacting well and is considered to be one of the most promising sectors in Turkey. Well-ranked at world level in the order book of new ships, Turkey is also the largest ship recycler outside of Asia. **Score assigned: +**
- **Employment**: the number of jobs offered by the sector has considerably decreased with the world crisis, falling from 33.480 in 2007 to 16.000 in 2012. **Score assigned: -**
- **Policy relevance**: Shipbuilding and ship repair is concerned by several strategies elaborated by the government which produces regular development plans on the sector. Considered as a strategic sector, it represents an important source of employment and is a pillar of the regional development. **Score assigned: +**
- **Spill-over effects:** the sector plays an important role in the economic development of the coastal regions and feeds an important sub-industry which employs more than 65 000 people (100 000 before the 2008 crisis). **Score assigned: +**
- **Sustainability:** shipbuilding and ship repair needs large coastal areas and the impact on the coastal environment is important and the ship breaking and recycling activity originates hazardous wastes. However, spread expertise in environment-friendly facilities for ship dismantling (Aliağa yard) and the leading position of Turkey in Europe for ship recycling activities may lead to think that the sector has a sustainable growth potential. **Score assigned: +**

<u>Coastal tourism</u>

- **Innovativeness:** strictly considered (i.e. without taking into account yachting and cruise tourism which are often considered as parts of coastal tourism in Turkey and are more innovative) coastal tourism is a rather traditional, little innovative and little diversified activity (mostly beach-based mass tourism). **Score assigned: 0**
- **Competitiveness**: Turkey's coastal tourism proposes a very competitive offer with low prices, valuable natural and cultural resources, historical towns and international airports in the coastal area. Compared to other low-cost touristic countries of the region (Tunisia, Egypt) Turkey also offers greater stability and higher safety. The planned investments and the public engagement though the national Tourism Strategy suggest that the touristic sector will strengthen its assets in the next years. **Score assigned: +**
- **Employment**: coastal tourism is by far the main source of employment among maritime economic activities (45% of all maritime jobs). Employment has continued to increase in the very last years in a favourable context for the development of tourism (the number of tourists rose from 25,5 million in 2010 to 36,8 million in 2012 and tourism income grew from 19,1 million $ to 29,4 million $ I the same period. This trend is likely to continue and the number of persons employed in the sector should keep on growing in the next few years. **Score assigned: +**
- **Policy relevance**: tourism is the subject of several policies and strategies elaborated by the government, especially the Tourism Strategy 2023, and is considered of great importance at the political level since it generates many jobs and high revenues. In policy documents coastal tourism is never addressed specifically, but always as part of tourism in general. Nonetheless most of sub-strategies developed in the national Tourism Strategy primarily affect coastal tourism. **Score assigned: +**
- **Spill-over effects**: multiplier effects of coastal tourism benefit a good number of related sectors, other MEAs (passenger ferry services, water projects) as well as non maritime-specific sectors (air

transport, food service, …) and contribute to creating prosperity in coastal regions. **Score assigned: +**

- **Sustainability**: Turkey is making significant efforts to making tourism sustainable and environment-friendly, as evidenced by the increasing number of beaches displaying the Blue Flag and by the political will to develop ecotourism zones. Anyhow infrastructure and environmental problems remain crucial in densely populated and fast growing tourism centres**. Score assigned: 0**

Yachting and marinas

- **Innovativeness**: Turkey has gained wide recognition for its expertise in mega-yacht building, for which it occupies the third rank in the world with a market share of 12%. . **Score assigned: +**
- **Competitiveness**: the competitive labor force is a major advantage for the Turkish boatbuilding industry. Both blue collar technical personnel and engineers of all kind are abundant. Labor costs are lower compared to other European countries and the USA. Customs union with EU and EFTA gives advantages for exporting. **Score assigned: +**
- **Employment**: the Ministry of Transport and Maritime Affairs plans a large development of marinas and foresees a doubling of the number of mooring berths by 2023. This development will be accompanied by the creation of jobs. **Score assigned: +**
- **Policy relevance**: Turkish authorities consider the development of marinas as vital for ensuring that Turkey will be able to compete with other Mediterranean destinations such as Italy and France but there is no specific policy or strategy focusing on yachting and marinas. **Score assigned: 0**
- **Spill-over effects**: restaurants, hotels, motels, shops, service stations and related other businesses. **Score assigned: +**
- **Sustainability**: no specific environmental impact has been identified, given the extensive coastline. **Score assigned: 0**

Cruise tourism

- **Innovativeness**: big efforts have been made in the last years and are planned for the coming years in order to transform cruise ports in recreation areas and to set up a platform bringing together institutions and companies interested in cruise tourism. **Score assigned: +**
- **Competitiveness**: the Eastern Mediterranean is getting more and more attention from global cruise lines since it provides alternative itinerary combinations to meet the global cruise market and offers an competitive answer to currently West Med congested cruise destinations. **Score assigned: +**
- **Employment**: the number of cruise passengers arriving at Turkish ports grew in the last years from 1.317.000 in 2006 to 2.095.673 in 2012 and is expected to keep on increasing in the next years. Therefore the sector is likely to generate more employment. Furthermore it has to be noted that jobs in the cruise tourism industry are batter paid that jobs in most MEAs, as evidenced by the ratio GVA/job which amounts to 33.600 €, compared to 12.800 € in the coastal tourism sector or 14.200 € in the shipbuilding industry. **Score assigned: +**
- **Policy relevance**: cruise tourism is not specifically mentioned in strategy and policy documents. Anyhow the national strategy (“Tourism Strategy 2023”) will entail further strengthening of cruise port infrastructures. **Score assigned: 0**
- **Spill-over effects**: several spill-over effects are connected to cruise tourism, mainly related to the multiplier effects of the expenditures of cruise companies and cruise tourists on the local economy (maintenance, transportation, food services, cultural attractions, …). **Score assigned: +**
- **Sustainability**: efforts are constantly being made on the boats and in the ports of call to reduce the environmental impact but the sector cannot be considered as sustainable yet. **Score assigned: 0**

Water projects

- **Innovativeness:** Ports (which form the core of water projects in Turkey) are in a dynamic development, growth and renewing trend. But this trend has come to a slowdown because of the economic crisis and led some port operators to suspend their modernization investments. **Score assigned: 0**
- **Competitiveness**: In spite of some weaknesses in container handling, Turkish ports can be considered as competitive. Additional capacity increase in the next years is likely to strengthen Turkey's position. **Score assigned: +**
- **Employment**: The 175 Turkish ports provide a good number of jobs. The level of employment should increase in the years to match the capacity increase. **Score assigned: +**
- **Policy relevance**: Water projects are in the centre of many policies and strategies which focus on transportation. Transportation infrastructure is one of the priorities of the 9th Development Plan. The Turkish Industrial Strategy Document 2011-2014 has an action focusing on the construction of container terminals. The Black Sea Basin Cross Border Cooperation Programme also promotes transport development. **Score assigned: +**
- **Spill-over effects**: Water projects play an essential role for the agriculture and the industry of both coastal area and hinterland and have a vital function in Turkish exports. **Score assigned: +**
- **Sustainability**: The dredging and deepening works necessary for the development of ports as well as the vast areas needed have a significant environmental impact. **Score assigned: 0**

4. Growth scenarios for the 6 most relevant and promising marine and maritime activities

Table 15 combines the three lists, by ranking order, of the 7 largest, 7 fastest growing and 7 most future potential marine and maritime activities.

Table 15 - Sets of top-7 activities ranking in order of size/growth/future potential

Top-7 current size	Top-7 recent growth	Top-7 future potential
Coastal tourism	Marine aquaculture	Marine aquaculture
Fishing for human consumption	Cruise tourism	Shipbuilding and ship repair
Shipbuilding and ship repair	Water projects	Coastal tourism
Short-sea shipping (incl. Ro-Ro)	Deep-sea shipping	Yachting and marinas
Water projects	Passenger ferry services	Cruise tourism
Passenger ferry services	Fishing for human consumption	Water projects
Deep-sea shipping	Short-sea shipping	Offshore oil and gas

The 6 most relevant and promising marine and maritime activities in Turkey are presented in the table below:

Table 16 - 6 most relevant and promising marine and maritime activities

6 most relevant and promising marine and maritime activities
Coastal tourism
Marine aquaculture
Shipbuilding and ship repair
Cruise tourism
Short-sea shipping
Yachting and marinas

4.1 Overview of the 6 most relevant and promising marine and maritime activities

Coastal tourism

Coastal tourism is the largest maritime activity and is ranked 3rd in the most future potential but is not among the 7 fastest growing activities (it is noticeable that only 3 of the 7 fastest growing activities are in the final selection). It has to be reminded that the reference period used for the analysis in the validated methodology was 2008-2010 and that some relevant activities have been severely impacted by the world crisis of 2008 and have suffered negative growths between 2008 and 2010, without thereby being necessarily condemned to long-term economic stagnation).

As main employment provider (45% of all maritime jobs) in a context of development of the tourism, this activity is naturally selected.

Table 17 – Coastal tourism: estimated breakdown of the activity between sea basins

Mediterranean Sea	Black Sea
93%	7%

Marine aquaculture

Marine aquaculture is ranked first in the two categories of the fastest growing and of the most future potential activities and is therefore included in our selection, although it holds only the eighth position in the size ranking.

Aquaculture is one of the 5 Blue Growth focus areas and Turkish marine aquaculture is the second one in the whole Mediterranean basin.

Table 18 – Marine aquaculture: estimated breakdown of the activity between sea basins

Mediterranean Sea	Black Sea
90%	10%

Shipbuilding and ship repair

Shipbuilding and ship repair is the third largest maritime activity and is ranked 2nd in the list of the most future potential activities. Even if it is not among the 7 fastest growing because of a very negative score linked to the strong impact of the world crisis on the sector, this activity has been included among the 6 most promising and relevant maritime activities.

The sector is of strategic importance for the government and considered as one of the most promising sectors in Turkey and as a pillar of the regional development.

The government has planned the construction of a “technology and R&D centre for the shipping industry” in order to increase the competitiveness of the sector.

Table 19 – Shipbuilding and ship repair: estimated breakdown of the activity between sea basins

Mediterranean Sea	Black Sea
82%	18%

Cruise tourism

2nd fastest growing activity and ranked 5th (in reality 3rd equal) in the most future potential marine and maritime activities, cruise tourism is selected.

As it is a young activity cruise tourism is not among the 7 largest activities. But it shows good potential for the future and investments under way, notably in Istanbul, perfectly address the growing demand.

According to the Tourism Master Plan issued in 2011, 7 new cruise ports (out of which 3 home ports) will be built by 2023.

Table 20 – Cruise tourism: estimated breakdown of the activity between sea basins

Mediterranean Sea	Black Sea
99%	1%

Short-sea shipping

Short-sea shipping is the 4th largest and 7th fastest growing activity but is not among the 7 most future potential activities. Nevertheless Turkey has launched several large projects to increase port capacity and meet the needs of a rapidly increasing freight transportation, especially in the Black Sea. Turkey holds a strategic position at the intersection of East-West and North-South international transport corridors. These elements have led us to include this sector among the most promising and relevant activities.

Table 21 – Short-sea shipping: estimated breakdown of the activity between sea basins

Mediterranean Sea	Black Sea
93%	7%

Yachting and marinas

Ranked 4th (in reality 3rd equal) in the most future potential maritime activities, yachting and marinas is not among the 7 largest nor among the 7 fastest growing activities. This activity seems anyhow to have its place among the 6 most promising and relevant activities for at least two reasons: Turkey has a competitive mega-yacht industry which holds a significant share of the world market and important investments are planned to develop and modernize the marina network.

Table 22 – Short-sea shipping: estimated breakdown of the activity between sea basins

Mediterranean Sea	Black Sea
100%	0%

4.2 Description of the nature of each of the 6 marine and maritime activities and their value chains

Coastal tourism

Turkey has a strong tradition of beach-based mass tourism and coastal tourism is the by far the largest maritime economic activity, providing 125.000 jobs.

Whereas Istanbul, the Aegean coast and the Mediterranean primarily attract foreign tourists (respectively 84%, 76% and 82% of total overnights spent by visitors), the Black Sea is more targeted by Turkish visitors (56% of overnights).

According to current UNWTO data, Turkey ranks sixth worldwide in terms of number of tourists received and ninth for tourism income. In 2011 Turkey has received 43 million visitors (31,5 foreign visitors + 11,6 million Turkish citizens) for total receipts amounting to 16,5 billion EUR. Main origins of international visitors are Germany, Russia and the United Kingdom.

Marine aquaculture

Marine aquaculture is composed by two main segments:

- seabass (47.013 t) and seabream (32.187 T in 2011) in the Aegean Sea,
- trout (7.697 t) in the Black Sea.

The main players are KILIÇ, FJORD MARIN, GÜMÜŞDOĞA and SÜRSAN.

Turkey has the first rank in the Mediterranean basin for seabass farming and the second one behind Greece for seabream.

Turkey has 25% market share in seabass and seabream trade in Europe.

Shipbuilding and ship repair

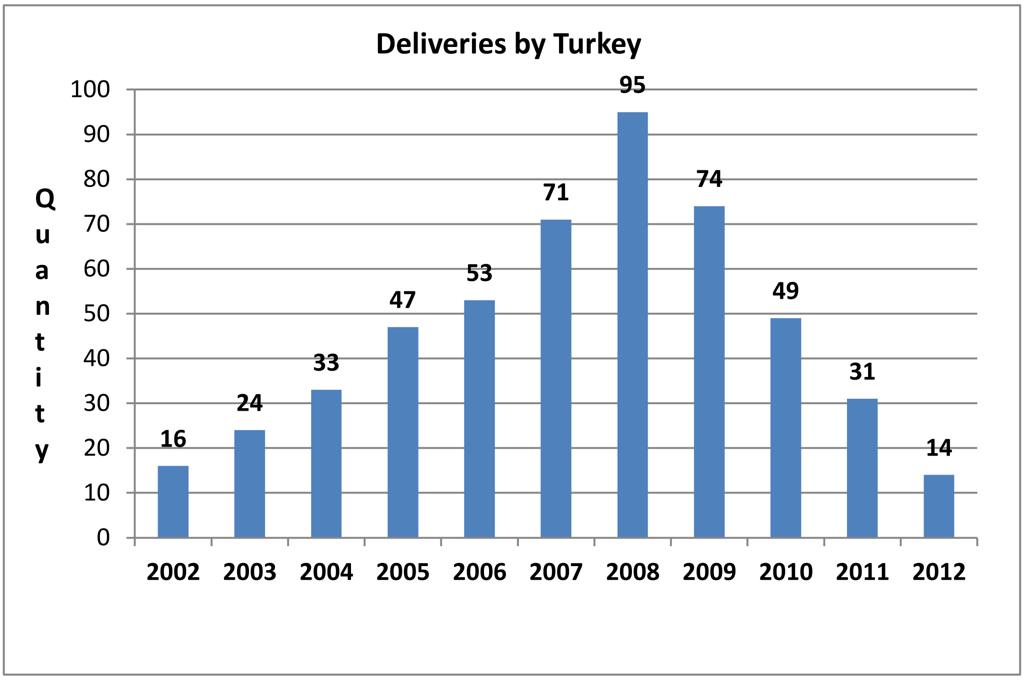
Shipbuilding has evolved in the last twenty years from an old traditional activity to an internationally recognized industry, which has modern quality-certified shipyards that can build ships, yachts, mega-yachts and sailing boats as well as carrying out extensive repair and conversion works. Shipyards are mainly located in the Marmara Region, namely Tuzla, Yalova and Izmit, which have developed into dynamic shipbuilding centers.

There are currently 71 shipyards under operation.

Main shipyards: SEDEF KALKAVAN SHIPYARD (shipbuilding capacity: 650.000 DWT/year), UM SHIPYARD (180.000), ALTINTAŞ SHIPYARD (140.000), TUZLA SHIPBUILDING INDUSTRY (130.000), BEŞIKTAŞ SHIPYARD (120.000).

In the last 5 years (2008-2012) the Turkish shipyards have delivered 263 ships totalling 2.531.000 DWT. The crisis has strongly impacted the sector.

Figure 1 - Number of ships delivered by Turkey in 2002-2012



Source : Turkish Chamber of Shipping

By the end of 2012 orders in the Turkish yards have decreased to 0,5 million DWT. In terms of order books Turkey is at the 13th rank in the world, far behind China (32,9 million CGT) and South Korea (29,2) but close to Italy (1,2) and Germany (1,1), which are the only two EU Member states preceding Turkey. Due to lack of new orders the shipyards are now mostly concerned with repair and maintenance. In 2012 more than 15.000.000 DWT of repair and maintenance have been done.

It has also to be noted that ship breaking and recycling is a significant and fast growing activity. In 2012 Turkish shipbreaking yards recycled 927.000 tonnes of steel. Turkey is today the fourth ship breaking and recycling country in the world, after India, Bangladesh and China.

Cruise tourism

Cruise tourism is one of the new industries in the maritime sector and has emerged as a result of the rising demands for cruising with more modern ships. 21 Turkish ports have received cruise ships in 2012. The most important are [2] in the Aegean Sea.

Three of these 21 ports are in the Black Sea (Trabzon, Sinop and Samsun) but they received only 35 ships (out of a total of 1 587) and 12.913 passengers (0,6% of all transit passengers coming to Turkey by cruise ship) in 2012. The part of the Black Sea in Turkish cruise tourism has even decreased between 2006 (0,74% of cruise passengers) and 2012 (0,62%).

Table 23 - Number of Transit Passengers coming by Cruise Ships in 2012

Port	Ships (number)	Passengers (number)
İstanbul	382	596 027
Kuşadası	464	564 317
İzmir	288	552 764
Antalya	55	159 430
Marmaris	88	110 279
Other ports	310	112 856
Total	1 587	2 095 673

Source : Ministry of Transport

Main cruise operators serving Turkish ports are Silversea Cruises, Celebrity Cruises, Holland America Line, MSC Cruises, Azamara Cruises, Regent Seven Seas Cruises.

Major services providers and port agencies active in the cruise sector include Istanbul Group, Catoni Group, Inchcape Shipping Services, ITS, Karavanmar and Merkez Deniz.

Short-sea shipping

The merchant fleet today includes 649 ships (dry cargo ships, bulk carriers, chemical tankers, containers, oil tankers) and a total of 363 million ton cargo has been handled in Turkish ports in 2011.

274 ships (6,9 million DWT) have been imported and 375 ships (2,4 million DWT) have been built in Turkey. The distribution of the fleet by DWT is the following: 52,9% bulk carriers, 14,3% dry cargo ships, 13,3% oil tankers, 7,1% chemical tankers, 7,1% containers and 5,3% other.

363 million tonnes of freight have been handled in 2011. The major ports are Botas (65 million t handled in 2011), Mersin (25,3) and Iskenderun (24,8) in the Mediterranean Sea, Kocaeli (55,0) and Ambarli (37,6) in the Marmara Sea and Aliağa (34,4) in the Aegean Sea. The largest Black Sea port is Karadeniz Ereğlesi (10,1 million t).

Maritime cabotage (the maritime transportation carried out by Turkish ships, being loaded at the harbours and seaports of Turkey and discharged at the harbours and seaports of Turkey, is defined as maritime cabotage) has transported 36,8 million tonnes in 2012. The first two ports for cabotage are in the sea of Marmara : Izmit and Ambarli.

Main Turkish shipping companies include KAPTANOĞLU, GEDEN LINES, DUNYA SHIPPING, ARKAS/EMES and TURKON.

Yachting and marinas

Yacht and boat building is an important sector with high accretion value and high export ratio. It also provides significant levels of employment.

Yacht building is quite different from the shipbuilding industry because of its concept, scope and technology. In shipbuilding industry long term investments and big coastal areas are needed, while boat and yacht building demands relatively less investments, areas and time.

Yacht building industry is located mostly in Istanbul region (Istanbul, Tuzla), and secondly in some parts of the Mediterranean Sea (around Antalya), the Aegean Sea (Muğla-Bodrum area) and the Black Sea. The yachts which are built in the Aegean and the Mediterranean regions are usually exported to Germany and Greece.

In 2010, the 195 superyachts of 30 m and more delivered in the world have been built in 24 countries. Turkey is in the third place with 25 superyachts (total length 968 m), behind Italy and the Netherlands and ahead of Germany and USA. Turkey has a market share of 12%. The main yacht manufacturers are CMB Yachts, Cobra Yachts, Dunya Yachts, Peri Yachts, Proteksan Turquoise and Su Marine.

Turkey has 42 marinas with 13.847 mooring places (2012). The leading company is SETUR MARINAS with a capacity of nearly 5.000 places. Other major actors are D-MARIN Marina Group (2.410 places in Turkey and 2.480 in Croatia) and MARINTÜRK (1.345 places).

Marinas and berthing facilities are mostly located in the Aegean and Mediterranean regions. There are no marinas or related facilities in operation in the Eastern Mediterranean and Black Sea coasts.

4.3 Description of economic and infrastructural scenario

Coastal tourism

Turkey has made a lot of efforts and investments in the last years for coastal tourism. Many hotel investments have been made in İstanbul, Antalya, Kuşadası and Bodrum.

The number of Turkish beaches and marinas displaying a Blue Flag has significantly increased in the last years. This voluntary eco-label awarded by the Foundation for Environmental Education on the basis of criteria dealing with water quality, environmental education and information, environmental management and safety, was awarded to 174 Turkish beaches and 12 marinas in 2005. In September 2013, 383 beaches and 21 marinas have the right to display it.

According to forecasts made by Business Monitor International arrivals of foreign tourists should rise from 31,5 million in 2011 to 39,5 million in 2017, with tourist expenditures rising from 29,5 billion USD in 2011 to 38,6 billion USD in 2017.

The construction of the third Istanbul airport is set to begin in May 2014. This airport should become operational in 2019, reach its potential of 150 million passengers in the 2030s and bring a lot of additional tourists to Turkey.

Marine aquaculture

The aquaculture industry has experienced an impressive growth in the past decade. From 2002 to 2011 the production of farmed fish in Turkey has grown from 62.500 tonnes to 162.400 tonnes (+160%). The production of marine aquaculture rose from 72.249 t in 2006 to 88.344 t in 2011, i.e. +22%. According to FEAP (Federation of European Aquaculture Producers), the production continued to grow in 2012: by 5.000 t for seabream and 7.000 t for seabass.

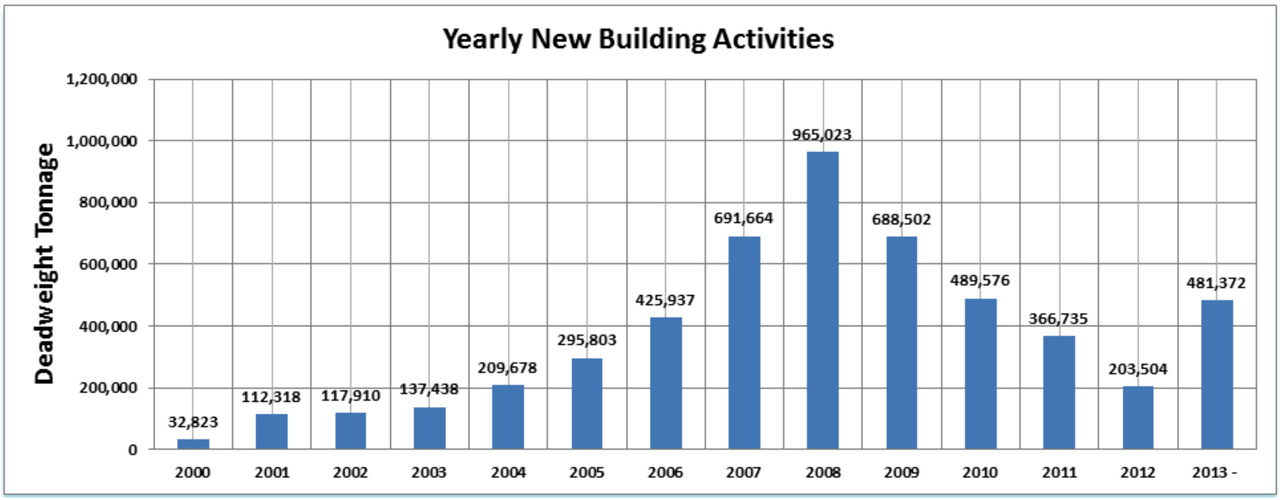
However, along with rapid growth of farmed fish production, the national seafood processing industry is still not fully formed, allowing many prospects for innovative product development and branding. For instance, new product variants, improved packaging, product differentiation and the adaption of quality management systems are some of the ways for the Turkish industry to add value to production.

Ambitious targets have been set: according to the Ministry of Development the aquaculture production of Turkey is planned to reach 600.000 t in 2023 – freshwater production included (188.000 t in 2011) and the exports of aquaculture products should amount to be 1 billion USD in 2023 (compared to about 500 million USD in 2012).

Shipbuilding and ship repair

Although it has suffered significantly from the world economic crisis since 2008, the shipbuilding and repair industry is reacting well and is considered to be one of the most promising industrial sectors in Turkey, especially for chemical tankers, mega-yachts and offshore infrastructures. Between 2008 and 2012 the number of shipyards increased from 58 to 71. And after a four year decrease the building activities substantially picked up in 2013.

Table 26 – Deadweight tonnage of ships delivered between 2000 and 2013

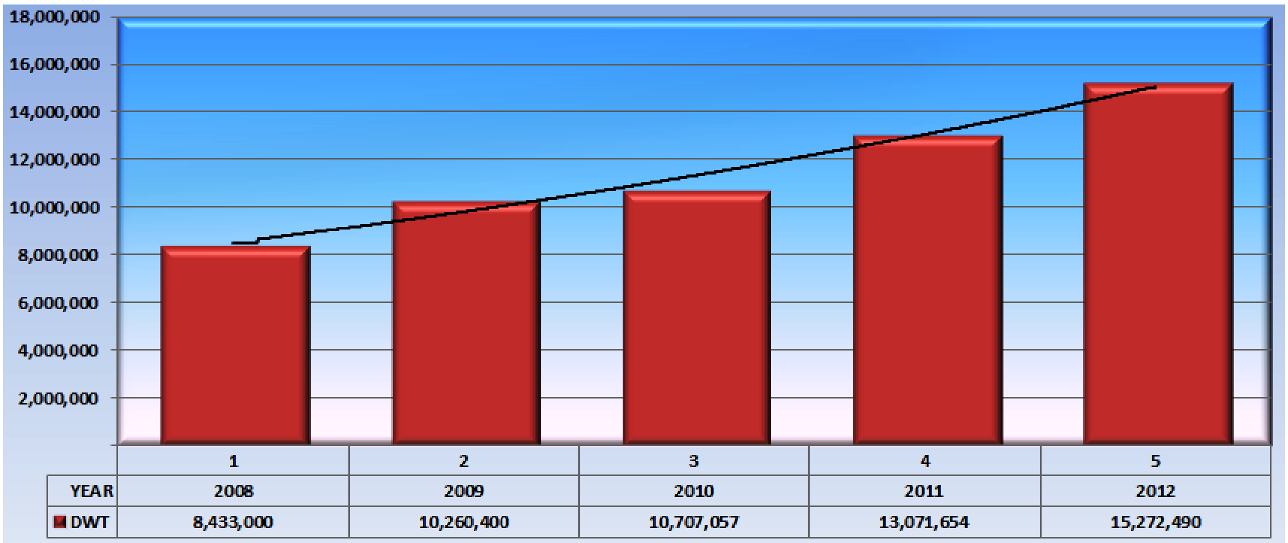


Source : Turkish Chamber of Shipping

The shipbuilding sector also generates a lot of jobs in the sub-industry.

As a consequence of the economic crisis many Turkish yards concentrated on repair/maintenance services and ship repair almost doubled since 2008.

Table 27 – Evolution of Turkish ship repair (deadweight tonnage of ships repaired)



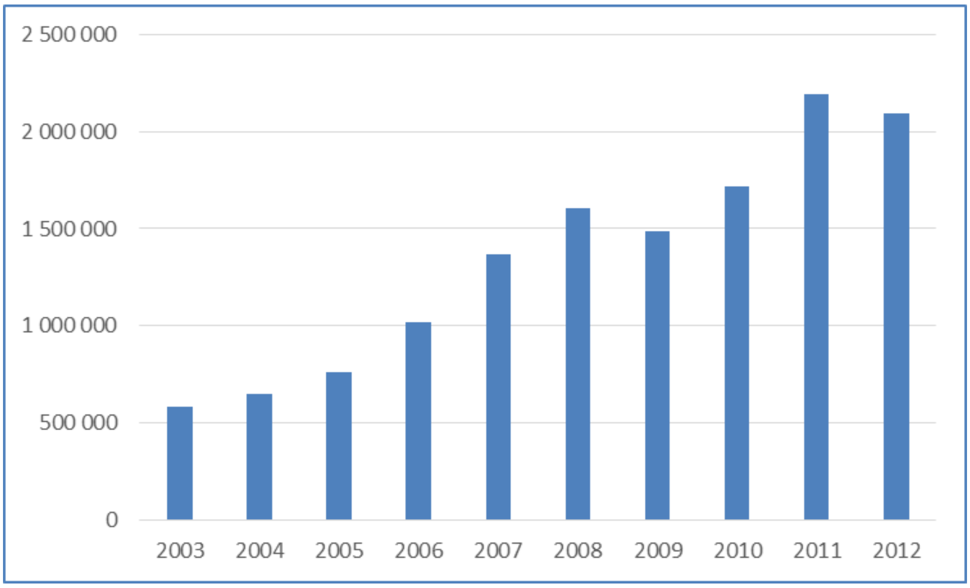
Source : Turkish Chamber of Shipping

In recent years the emerging Black Sea and Mediterranean Regions have increasingly attracted shipyard investments.

Cruise tourism

In the last years the number of cruise ships calling at Turkish ports rose from 1 317 in 2006 to 1 714 in 2012 (+30%) and the number of passengers doubled, from 1.016.000 to 2.096.000. The average size of the ships also grew significantly from 772 passengers in 2006 to 1.223 in 2012 (+58%).

Table 28 – Evolution of the number of cruise passengers arriving at Turkish ports



Source : Turkish Chamber of Shipping

In order to open İstanbul, one of the most important touristic centers of Turkey, to cruise and mega yacht tourism services, great efforts are being exerted to develop the ports of Salıpazarı, Zeyport and Kazlıçeşme. The activities have also been accelerated to open Ataköy Marina to cruise tourism and to transform it in a mega yacht port and recreation area.

As cruise operators are seeking new routes to meet the growing demand for cruise tourism, East Mediterranean and Black Sea ports can be alternatives to the current Western Mediterranean destinations. The statistics of the Cruise Lines International Association (CLIA) confirm that the Mediterranean is an appealing market, with a share of the world market rising from 17,6% in 2008 to 19,9% in 2013.

Short-sea shipping

The shipping sector has grown in the last years.

The Turkish-controlled merchant fleet has grown 244% in the last 10 years and is ranked 13th in the world.

Turkey has set ambitious goals and launched several large projects to increase port capacity and meet rapidly increasing freight transportation. The Filyos Project, in the Black Sea (close to Zonguldak) has started in 2013 : it will become an industrial and logistics base completed with a seaport, loading facilities and industrial zones, covering an area of 5,5 million m² and planning to employ 10 to 15 000 people. The operations of Aegean Gateway Terminal (AGT), in Petkim, are expected to start in 2015: AGT will offer a 15,5 m water depth port and will be a leading container and general cargo terminal.

Additional capacity increase and new port investments generally aim at 2015; in case of realization of these targets Turkey's existing 11,1 million TEU capacity is expected to reach 21,6 million TEU by 2015. Parallel to cargo increase most investments are planned in the Marmara region (6,7 million TEU) and the Aegean Sea (1,6 million TEU).

Turkish ports hold strategic position within the Eastern Mediterranean and Black Sea shipping lines and at the intersection point of East-West and North-South directional international transport corridors. They are in an advantageous position to attract transshipment/transit cargoes. The Mediterranean and Aegean Sea ports have well located to attract Asian-European main shipping lines' cargoes passing through the Mediterranean. Ports in the Marmara Region are important in terms of Turkish connection of trans-European and pan-European transport corridors formed by the EU and extending those corridors to the

East. The importance of Black Sea ports will continue to increase as Black Sea is the most important means of access for trading between the landlocked Central Asian countries and Europe.

Yachting and marinas

With its long and diversified coast as well as its cultural and historical heritage, Turkey has a great market potential for yachts and especially for mega-yacht tourism. According to the stakeholders the inclusion of mega-yacht mooring places in the projects planned in Ataköy and Zeytinburnu (Istanbul) will bring prestige and provide a significant source of income.

When all investments planned are completed, the number of marinas should reach 80 (42 today) and the number of places 25.000. Turkish authorities see the coming development of marinas as being vital to ensuring that the country can compete with other Mediterranean destinations such as France and Italy. The Ministry of Transport and Maritime Affairs foresees a park of 60.000 berths by 2023.

According to Ship and Yacht Exporters' Association the marina industry aims to bring in $ 10 billion in income in the year 2023.

4.4 Regulatory environment

Marine aquaculture

Aquaculture production is governed by the Ministry of Agriculture and Rural Affairs (General Directorate of Fisheries and Aquaculture).

The main regulation is "Aquaculture Regulation" (Regulation 25507), first issued in 2004 and amended in 2005, 2007 and 2009. It sets out rules for:

- Site selection for inland and marine farms
- Application and evaluation procedures for fish farming licenses
- Approving the projects and issuing licenses
- Improving production capacity, species etc., site changes and sales
- Other aquaculture activities (tuna fattening, organic farming, etc.)
- Importing broodstock fish, egg and fry
- Compulsory technical staff employment
- Fish health management
- Environmental impacts and protection
- Monitoring and control of farming activities
- Fish welfare.

Short-sea shipping

Shipping is governed by the Ministry of Transport, Maritime affairs and Communications (General Directorate of Maritime trade).

Cabotage Law n°815 concerns coastal shipping along Turkish shores and performance of trade and business in Turkish ports and territorial waters. It specifies that transportation and trade activities in Turkey's coastal waters are under the sovereignty of Turkish citizens.

Law on Privatization Practices n°4046 stipulates that the foreign capital of a private company operating in the port management sector cannot exceed 49%.

Turkish Commercial Code n°6102, which entered into force in July 2002, brought an increased level of stability and predictability to the conduct of maritime trade. It harmonizes the new Turkish legislation with the EU law by adopting the most recent international conventions that have been adopted or are about to be adapted by the EU Member States.

Turkish maritime law is heavily influenced by German law.

The Regulation for the implementation of ISPS code (178 ports, 599 ships) has been put in force in 2007.

Coastal tourism

Coastal tourism is governed by the Ministry of Culture and Tourism.

Law on Encouragement of Tourism n°2634 includes various investment incentives, among other things:[1]

- Land allocation for tourism investment: public land can be allocated to tourism facilities up to 49 years with relatively economic prices.
- Employment of foreign staff: certified tourism establishments may employ qualified foreign personnel and experts with the approval of the Ministry of Tourism and the Ministry of Interior. Provisions of the law concerning the trades and services to be performed in Turkey by Turkish citizens are not applicable to such personnel. However the total number of foreign personnel employed may not be higher than 10% of the total number of employees. This ratio may be increased up to 20% by the Ministry of Tourism.
- Favourable treatment as exporters: of the certified tourism establishments, those earning foreign exchange in the amounts that are specified annually by the Ministry for this purpose are considered as exporters.
- Tourism loan: The Tourism Bank Inc. of the Republic of Turkey may obtain foreign currency loans from foreign sources for allocation to certified investments in tourism areas and tourism centres.

Shipbuilding and ship repair

Shipping is governed by the Ministry of Transport, Maritime affairs and Communications (General Directorate of Shipyards and Coastal Facilities).
The Turkish government has encouraged foreign direct investment into the economy in general and into the shipbuilding sector in particular. The main legal instrument regulating foreign investment is the Direct Foreign Investment Law n° 4875, which provides for a relatively liberal treatment of foreign investors in Turkey.

Cruise tourism

Regulation on Sea tourism, which came into force in July 2009, regulates ports for cruise ships, types, infra and superstructure characteristics, local and foreign modes of sea tourism, investment and management of means of sea tourism, working principles of managements and navigational basics of cruise ships between Turkish ports.

Yachting and marinas

Law on Encouragement of Tourism n°2634 includes a section dedicated to yachting and marinas.

Article 26 is dedicated to marinas, article 27 to yacht operations and articles 28-29 to the principles of navigation in territorial waters.

Law n°2634 specifies that companies with foreign capital can operate in the yacht ports management sector only if they form a partnership with Turkish citizens.

[1] Link : http://www.kultur.gov.tr/EN,33045/law-for-the-encouragement-of-tourism.html

5. Growth drivers and barriers to growth for the 6 most promising marine and maritime economic activities

Table 24 - Growth drivers and barriers to growth for Coastal tourism

COASTAL TOURISM	Growth drivers	Barriers to growth
Maritime research	Some (limited) maritime research linked to Coastal tourism in universities Specific focus of Tourism Strategy 2023 on R&D	Lack of data that can be used as input in the tourism policy making process
Development and innovation	Unutilised potential R&D encouraged through Tourism Strategy 2023	Insufficient diversification of the tourist offer Environmental problems. Sense and awareness of quality to be developed
Access to finance	Support of government to investments in terms of planning and land allocation Investment incentives via the Law on Encouragement of Tourism	Low access to credit in some regions
Smart infrastructure	Effective port and airport system Third Istanbul airport in project	Infrastructure problems in densely populated and fast growing tourism centers Limited number of airport with developed international connections
Maritime clusters	Marine tourism represented in the Turkish Chamber of Shipping cluster	Coastal tourism actors poorly represented in the cluster
Education, needs in training and skills	Well-trained workforce Tourism and hotel management programmes in several universities	Institutions offering vocational education on tourism need capacity reinforcements with improvements in quality and content of their curricula Need to raise awareness on existence and protection of national tourism assets and resources
Maritime spatial planning	No drivers identified	Holistic legal frameworks for ICZM and institutional mechanisms have not yet been established in Turkey Lack of physical planning practice
Integrated local development	Decentralized approach to tourism development 9 thematic development zones and 10 new “tourism cities” have been described in the National Strategy	SMEs insufficiently involved in development projects Tourism potential not used in a rational manner
Public engagement	Engagement of the government through Tourism Strategy 2023 which aims at boosting the cooperation between public and private sectors of tourism	Lack of technical support personnel Insufficient international cooperation

Table 25 - Growth drivers and barriers to growth for Marine aquaculture

MARINE AQUACULTURE	Growth drivers	Barriers to growth
Maritime research	Significant number of research programs focused on aquaculture Significant know-how and research capacity in aquaculture R&D facilities in private hatcheries	Research capacity not well organised
Development and innovation	Significant aquaculture support services (feed plants, equipment providers/distributors, technical consultants), especially in the West (seabream/seabass farming area) The new "Renting Water and Water Areas for Aquaculture Production in Seas and Inland Water s Regulation" (2011) has shortened the duration of the bureaucratic process and allowed longer lease periods	Insufficient capacity of processing and producing value added products Licensing process still needs to be simplified Prejudiced approach to aquaculture products vs. catch products from domestic consumer Absence of diversification of species
Access to finance	A few large companies, mainly producing seabream/seabass, with investment capacity	Characterization of industry as high risk making insurance costs high
Smart infrastructure	High capacity modern hatcheries Strong ancillary support services (cage, net, tanks, …)	Adaptation to EU laws and standards not completed (traceability, water quality measures, …) Absence of organic aquaculture
Maritime clusters	Effective regional association (Muğla Fish Farmers' Association)	No related maritime cluster
Education, training and skills	13 fisheries faculties and 5 departments at agriculture faculties providing undergraduate and graduate education in fisheries (including aquaculture)	Unavailability of experienced labour (cheap labour highly available when experience is unnecessary)
Maritime spatial planning Integrated coastal zone management	Implementation of coastal zone management is a priority FAO Project for developing a Roadmap for Turkish Marine Aquaculture Site Selection and Zoning Using an Ecosystem Approach to Management New mariculture zones entered into force as part of the overall coastal zone plans and management in 2008	Conflict of users with tourism, summer house owners and small-scale fishermen in Aegean and Mediterranean coasts
Integrated local development	National Marine Aquaculture Development Plan (NMADP) set out to provide stable ground for the future growth of the aquaculture sector	Environmental monitoring of fish farms uncompleted
Public engagement	Government policy of support (export subsidies, free supply of turbot fry to farms, …)	International cooperation limited

Table 26 - Growth drivers and barriers to growth for Shipbuilding and ship repair

SHIPBUILDING AND SHIPREPAIR	Growth drivers	Barriers to growth
Maritime research	Ship model testing laboratory in the Faculty of Naval Architecture and Ocean Engineering (Istanbul Technical University)	Insufficient R&D No direct R&D support to the shipbuilding industry
Development and innovation	Capacity increase in maintenance and repair Largest ship recycler outside Asia	Orderbook in decrease Impact of the 2008 financial crisis China's competition
Access to finance	Export credit assistance provided by the State	Long-term investments needed Some shipyards have suspended or cancelled their modernization or extension projects because of the sanctions applied by the banks
Smart infrastructure	Modern quality-certified shipyards Development in alignment with international rules (sustainability) Facilities of the ship dismantling industry in Aliağa have been named as the most environment-friendly facilities throughout the world Piri Reis University in Tuzla accredited by the BREEAM Certificate Leading position in Europe for ship breaking and recycling activities	Lack of references for offshore platforms, LPG and LNG carriers Insufficient rationalisation of the industry (economies of scale to be found)
Maritime clusters	Shipyards well represented in the Turkish Chamber of Shipping cluster Long-established Turkish Shipbuilders' Association (GISBIR) Ship Recyclers' Association (GEMISANDER) High concentration of shipyards in Tuzla Bay	Lack of international cooperation
Education, needs in training and skills	4 universities with shipbuilding departments Piri Reis University recently established in Tuzla 31 high schools operating ship construction departments	Not enough training vessels Apprenticeship schemes to develop
Maritime spatial planning	----	Holistic legal frameworks for ICZM and institutional mechanisms have not yet been established in Turkey
Integrated local development	----	Shipyards need vast coastal areas
Public engagement	Strategic sector for the government (security, defence, important generator of employment) Investment Encouragement Program Turkish Shipyards Master Plan Orders of the Turkish government (military vessels) Positive impact of EU LeaderSHIP 2020 on Turkey	No barriers identified

Table 27 - Growth drivers and barriers to growth for Cruise tourism

CRUISE TOURISM	Growth drivers	Barriers to growth
Maritime research	Participation to EU-funded projects: e.g. Marmara Research Center participated in MC WAP project, which aimed at the application of Molten Carbonate Fuel Cells (MCFC) technology on-board large ships such as cruise ships	Limited research on cruise tourism No assessment of cruise tourists' expenditures
Development and innovation	Great efforts being exerted to open Istanbul to cruise tourism services The construction of 7 new cruise ports is planned, out of which 3 as home ports	Some worries concerning security on cruise ships Absence of marketing tools or know-how to develop cruise potential of the ports
Access to finance	No drivers identified	----
Smart infrastructure	Suitable region for cruising Development of website to advertise Turkish Cruise Platform abroad and domestically	In Istanbul port quays have to be strengthened in order to become resistant to the potential earthquakes and in compliance with the current earthquake regulations
Maritime clusters	Turkish Cruise Platform brings together institutions and companies of 13 port cities interested in cruise tourism	Lack of coordination and cooperation between ports in coastal regions
Education, needs in training and skills	Vast network of faculties of maritime studies and maritime high schools	Limited dedicated cruise programs at higher level of education
Maritime spatial planning	No drivers identified	No spatial planning policies related to cruise activity
Integrated local development	The decision to implement the project Turkish Cruise Platform has been taken by the general managers of the ports, heads of chambers of commerce, municipality authorities and representatives of the governors' offices in the 13 cities of Turkey	No services to oversee the quality of services provided to cruise ships in the Turkish ports
Public engagement	Tourism Strategy 2023 will allow further strengthening of cruise ports infrastructures Involvement of Turkish Chamber of Shipping and public authorities in the development of the new cruise port in Istanbul	No barriers identified

Table 28 - Growth drivers and barriers to growth for Short-sea shipping

SHORT-SEA SHIPPING	Growth drivers	Barriers to growth
Maritime research	Research in universities (e.g. Piri Reis University in Tuzla) Active participation and contributions regarding shipping in EU-FP7 and Horizon 2020 projects A Centre for Shipping Industry Technology Research & Development will be set up	----
Development and innovation	Very dynamic port sector Large projects launched to increase port capacity Turkish Maritime Centre of Excellence will be established to increase maritime safety	Funds are decreasing due to the economic crisis.
Access to finance	No drivers identified	Ports are in a dynamic development, growth and renewing trend to cover expectations and demands of partners in the system but this trend has come to a halt because of the economic crisis and led some port operators to suspend their investments
Smart infrastructure	50% of the Turkish ports open to international traffic are planned to have a “Green Port” certificate in 2023 Turkish Shipping Sector has established the Turkish Marine Environment Protection Association (TURMEPA) in 1994 in order to contribute to the cleanliness of Turkish seas and to the training of young generations in this field	Development of intermodal infrastructures is missing Rail connections are insufficient/inefficient. Turkish ports should go into an expertising process on certain types of cargoes and/or new port projects for container handling so as to become more competitive in the Mediterranean and Black Sea markets
Maritime clusters	Turkish Chamber of Shipping (TCS) is the main professional institution of the whole Turkish maritime sector TCS is member of the International Chamber of Shipping	----
Education, training and skills	Strong support of Turkish Chamber of Shipping to the maritime education (creation of Turkish Maritime Education Foundation in 1993) Priority given to training of officers and maritime operators	Insufficient number of academicians with seafaring background (lack of officers)
Maritime spatial planning	Turkey involved in PEGASO project UNDP/GEF project to facilitate expansion of the national system of marine and coastal protected areas and to improve its management effectiveness	Legal frameworks for ICZM and institutional mechanisms have not yet been established in Turkey There is no specific law to regulate MSP
Integrated local development	Turkish Chamber of Shipping has representations all over the Turkish cosat (Izmir, Bodrum, Marmaris, Antalya, Iskenderun, Fethiye, Karadeniz Ereğli, …) and covers the Sea of Marmara as well as the Aegean Sea coast, the Mediterranean cosat and the Black Sea coast	Imbalance among the different transport modes
Public engagement	Strong engagement especially through the development of ports operated by the Turkish Maritime Administration	----

Table 29 - Growth drivers and barriers to growth for Yachting and marinas

YACHTING AND MARINAS	Growth drivers	Barriers to growth
Maritime research	R&D in some universities (e.g. Istanbul Technical University)	No barriers identified
Development and innovation	Closeness to international markets Appropriate climate	Long bureaucratic procedures during the registering operations
Access to finance	Compared to shipbuilding industry less investments are needed	High taxes collected from recreational boats
Smart infrastructure	Production quality in accordance with international standards Adequate sub-industry with quality Inclusion of mega-yacht mooring places in the projects planned (especially in Ataköy and Zeytinburnu)	Some marinas need modernization of structures and services
Maritime clusters	Marina operators, ship-yacht builders and ship-yacht equipment and repair service suppliers are members of the Turkish Chamber of Shipping (TCS) TCS is member of TYHA (The Yacht Harbour Association) and ICOMIA (International Council of Marine Industry Associations) DENTUR (Turkish Marine Industry Association) created in 2000 YATEF (Federation of Yacht and Boat Industries) created in 2004	No cluster related to yachting and marinas Projected "Muğla Yacht Building and Yacht Tourism Cluster" not yet in activity
Education, needs in training and skills	Educated and skilled labour	No barriers identified
Maritime spatial planning	Compared to shipbuilding industry less coastal areas are needed Marinas and berthing facilities in Turkey are mostly located in Aegean and Mediterranean regions, there are no marinas or related facilities in operation in Eastern Mediterranean and Black Sea Coasts, where potential exists	Underdevelopment of Yachting and marinas in the Black Sea
Integrated local development	DENTUR has taken an active part in the formation of five regional boat and yacht builders' associations in various parts of the country (Bodrum, Antalya, Izmir, …)	No barriers identified
Public engagement	Tourism Strategy 2023	No barriers identified

6. Analysis of maritime strategies at regional and national level, as well as those under preparation and their links with Smart Specialisation Strategies

The four strategies detected in Turkey will be presented at national level, since the central government is responsible for their development and implementation.

The first one, the “Tourism Strategy of Turkey 2023” provides extensions to management and implementation of strategic planning efforts and boosting cooperation between public and private sectors of tourism. All types of tourism have been encompassed and **coastal tourism** plays a special role as a main recipient of the development of other activities. The enhancement of infrastructural facilities – through the Mediterranean – Aegean Tourism Infrastructure Coastal Management Project – has been strongly supported with the purpose to meet tourism industry’s increasing demand. This includes also other maritime activities connected with coastal tourism as **yachting and marinas**, **cruise** and **passenger ferry services**. Strong efforts can be surveyed also as regards marketing and promotional activities and tourism diversification, which directly connect the strategy and this specific objective towards the Blue Growth objectives: “Maritime, coastal and cruise tourism”.

The “Turkish Industrial Strategy Document 2011-2014” emphasises the Turkish significant amount of renewable energy sources, especially hydraulic, wind, solar, geothermal and biomass, whose total production comprises around 11% of the primary energy supply. To this regards, the development of **offshore wind** plants and other **offshore renewable sources** (e.g. biomass) could play a pivotal role in Turkish energy supply in the future, especially taking into account the length of coastline and abundance of space. These activities are directly linked to BG objective “Blue energy”.

The Ninth Development Plan 2007-2013 is aimed – among other tasks - at enhancing **ports’ infrastructural facilities** for the purpose of boosting the development of **short sea shipping** and **deep-sea shipping,** strengthening also intermodal connections among different transportation modes. The same axis (“Increasing competitiveness”) provides overall support to the development of manufacturing industries, among which also **shipbuilding** is included.

The Transport Operational Programme 2007-2013 has for main objective the integration of Turkey into the Trans-European Transport Network (TEN-T). It encompasses the **construction of new ports** which will be nodal points of entry within international transport corridors, will create environment friendly cost effective transport means and should greatly enhance the development of **short-sea shipping**.

Specifically as regards links to Smart Specialisation Strategies, no links have been identified.

Table 30 - Policies/interventions towards most promising marine and maritime activities and the Blue Growth objectives

Level	Strategies	Objectives	Most relevant and promising maritime activities	Links to BG Objectives	
National	Tourism Strategy of Turkey 2023	Includes 16 strategies for strengthening the tourism industry: - planning - investment - organization - domestic travel - research and development - transportation and infrastructure - marketing and promotion - education - service quality - city branding - tourism diversification - regions to host rehabilitation efforts for tourism areas - tourism development zones - tourism development corridors - tourism cities - ecotourism zones	**Coastal tourism**	Healthy environment, Diversification of coastal communities activities, Increase the attractiveness of coastal areas	Maritime, coastal and cruise tourism
			Cruise tourism		
			Yachting and marinas		
			Passenger ferry services		
National	Turkish Industrial Strategy Document 2011-2014	Policy Area 6 : Infrastructure sectors Action 6.2 Electrical Energy Sector Action 6.4 Transportation - construction of container terminals - master plan for coastal structures - identification of available renewable energy sources	**Shipbuilding**	Provider of mass-market products High added value specialized products	
			Water projects	Increase the growth potential of activities Increase the attractiveness of coastal areas	Maritime, coastal and cruise tourism
			Offshore wind	Enhance efficiency of harvesting the European energy resources Minimize land-use requirements of the power sector Reduce the European greenhouse gas emissions	Blue energy
			Ocean renewable energy		
National	Ninth Development Plan 2007-2013	Development Axis 1: Increasing competitiveness Priority 1.5 : improving the energy and transportation infrastructure	**Shipbuilding**	Provider of mass-market products High added value specialized products	
			Water projects	Increase the growth potential of activities Increase the attractiveness of coastal areas	Maritime, coastal and cruise tourism
			Short-sea shipping	Provider of mass-market products High added value specialized products	
National	Transport Operational Programme 2007-2013	Priority 2 : Improvement of port infrastructure Measure 2.1 : Construction of new ports on future TEN-T with necessary multimodal hinterland connections	**Water projects**	Healthy environment Increase the growth potential of activities	Maritime, coastal and cruise tourism
			Short-sea shipping		

Sources and references

This Country fiche has been compiled according to a common methodology adopted in the framework of this Study and more specifically in Task 2.

A "Country fiche Guide" and a detailed methodology ("*Methodology for identifying and estimating Maritime Economic Activities using NACE and other data*") are available at http://www.cogeaspa.it/blue-growth-study/country-fiches/?lang=en

Sources

EUROSTAT, http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/

Ministry of Transport, Maritime Affairs and Communication, (2013), Maritime policy developments in Turkey, https://webgate.ec.europa.eu/maritimeforum/system/files/Maritime%20Policy%20Developments%20in%20Turkey_Turkey_M.%20Karabiyik.pdf

Turkish Chamber of Shipping, (2013), Maritime sector Report 2012.

Ministry of Agriculture and Rural Affairs (2012) : Turkish Fisheries 2011

TÜIK (Turkish Statistical Institute, or TurkStat) :

- Statistical Yearbook 2012 (2013), http://www.turkstat.gov.tr/Kitap.do?metod=KitapDetay&KT_ID=0&KITAP_ID=1
- Tourism Statistics 2012 (2013), http://www.turkstat.gov.tr/Kitap.do?metod=KitapDetay&KT_ID=14&KITAP_ID=69
- Summary statistics on Transportation 2011 (2012), http://www.turkstat.gov.tr/Kitap.do?metod=KitapDetay&KT_ID=15&KITAP_ID=74

GISBIR (Turkish Shipbuilders' Association), www.gisbir.org

GFCM (General Fisheries Commission for the Mediterranean), http://www.gfcm.org/gfcm/en

TÜDAV (Turkish Marine Research Foundation), (2012), The state of Turkish Fisheries, http://www.ilkyaz.eu/doc/ilkyaz_2012_2.pdf

GEMISANDER (Turkish Ship Recyclers' Association), http://www.gemisander.com

OECD, (2011), The Shipbuilding Industry in Turkey, http://www.oecd.org/turkey/48641944.pdf

Journal of Naval Science and Engineering, (2010), Wave energy and technical potential of Turkey, http://www.dho.edu.tr/enstitunet/dergi/022_Mustafa_Saglam.pdf

Standing Committee for Economic and Commercial Cooperation of the Organisation of the Islamic Cooperation (COMCEC) : Tourism Outlook 2013,
http://www.comcec.org/UserFiles/File/WorkingGroups/Tourizim/Tourism%20Outlook%202013.pdf

Innovation Norway (2010), Leisure boats in Turkey,
http://www.arenafritidsbaat.no/seminar/2010_11_04_eksportdag/turkey_final.pdf

YEGM (General Directorate for Renewable Energy) : Energy efficiency strategy paper 2012-2023,
http://www.eie.gov.tr/verimlilik/document/Energy_Efficiency_Strategy_Paper.pdf

Piri Reis Maritime University (2011), Maritime Education and Training in Turkey and throughout the world

Okan Yardimci (Energy Market Regulatory Authority) (2013), An outlook for gas supply in the Black Sea region by 2020.