

Israel

National webinar

EEA-UNEP/MAP Horizon 2020 assessment

Main conclusions

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European neighbourhood policy activities – Mediterranean
Area cooperation*



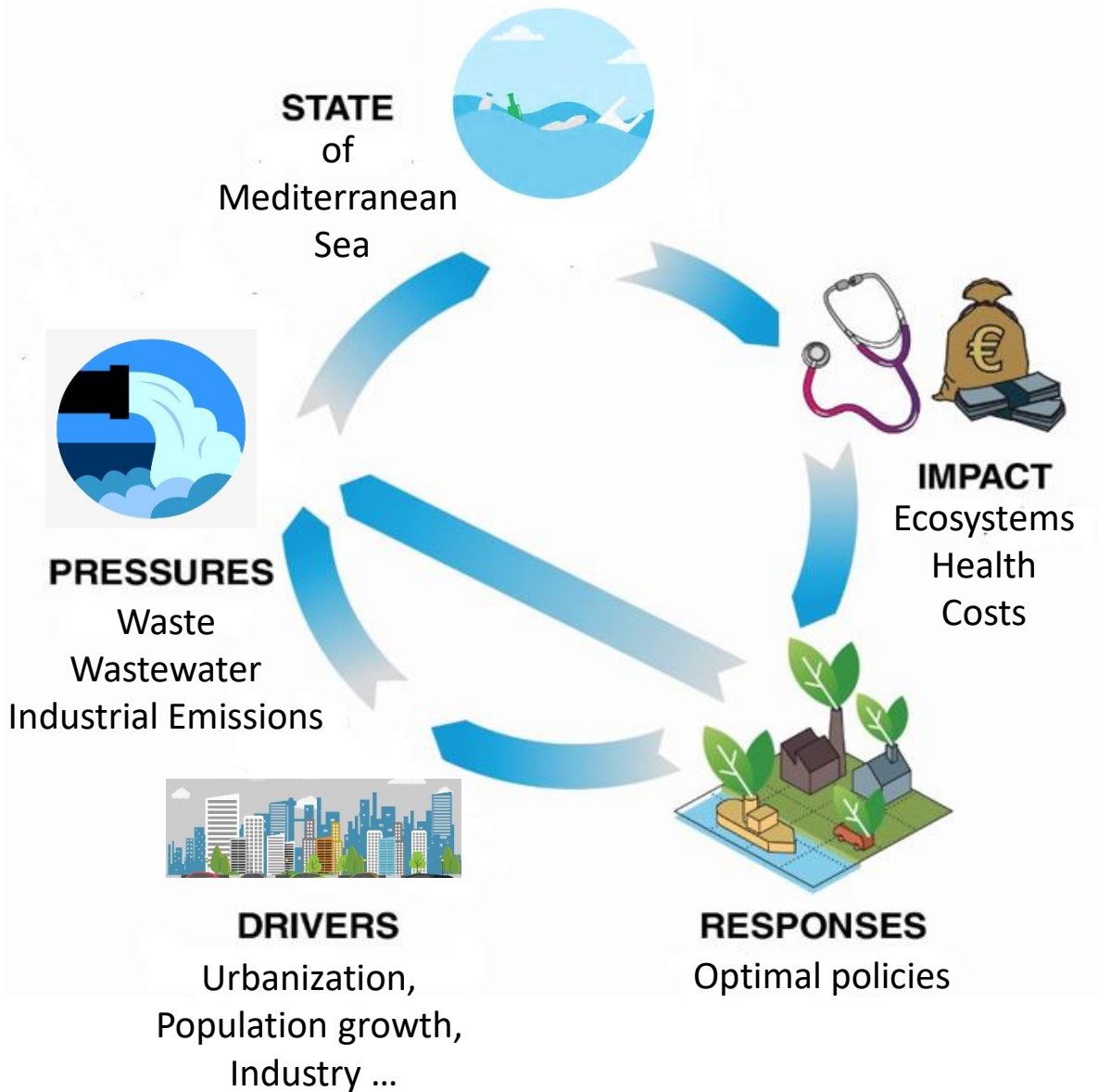
This project is funded by the European Union



European Environment Agency



Coordinated process to deliver evidence-based analysis



Based on data delivered by countries, using indicators and all necessary available data and information (SoED, QSR, SoER, thematic reports, etc)

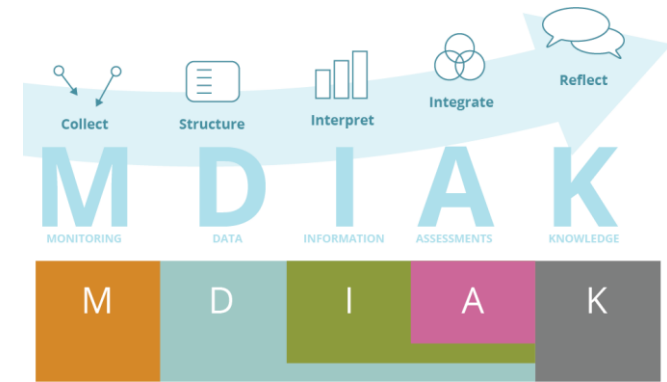
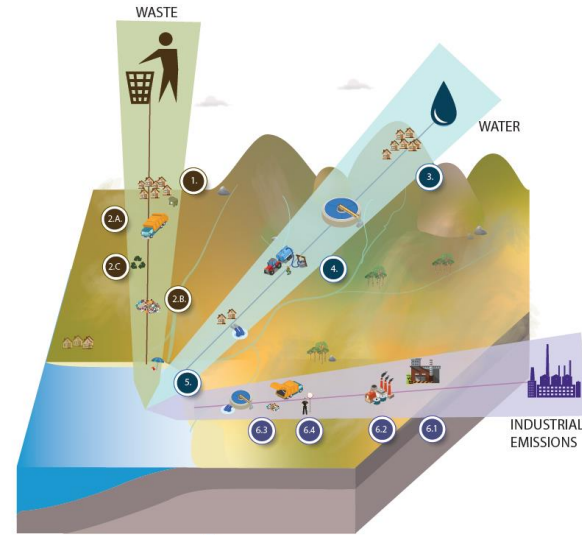
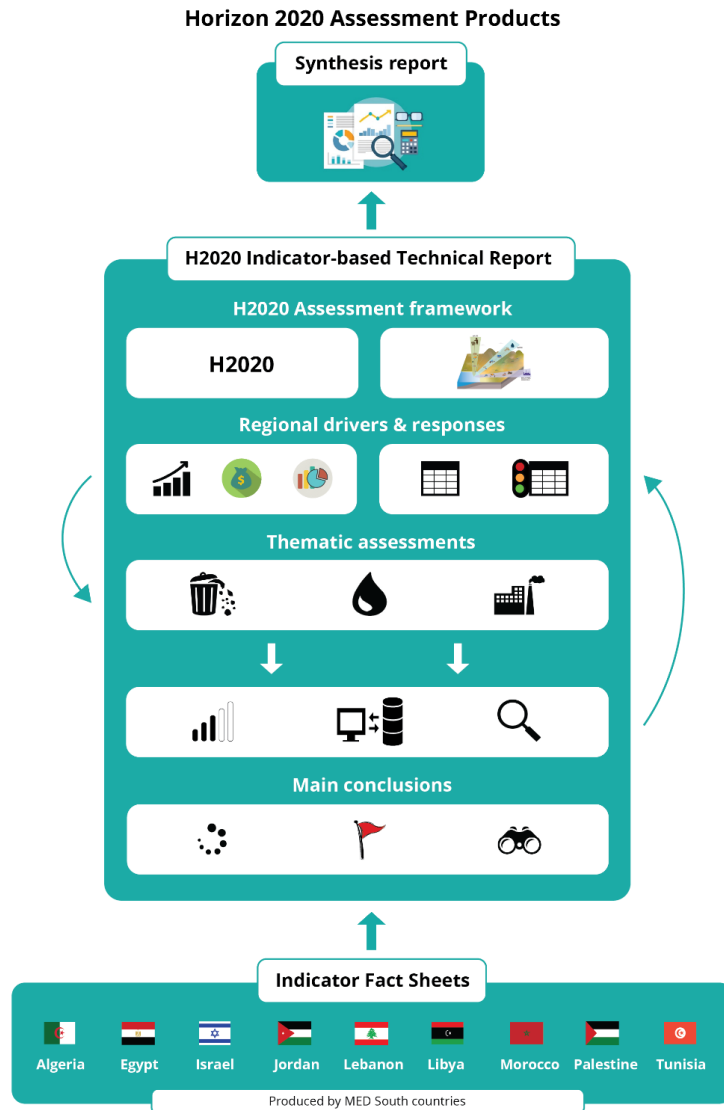
Reporting tools and infrastructure developed

Strong governance – H2020 RM brought value added to the initiative / Importance of coordination

Full commitment to complete the data work and fulfill the request

The Horizon 2020 2nd Indicator-based assessment

Products of the second H2020 Mediterranean assessment



Mediterranean divided into 3 sub-regions:

- i. MED EU
- ii. MED South
- iii. MED Balkans & Turkey

Israel - 91 hits in the H2020 Indicator-based Technical Report

What drives change?

- ✓ **SoED 2020:** State of the Environment and Development in the Mediterranean report
- ✓ **MED 2050:** A strategic foresight to 2050 (to be developed by 2021)
- ✓ **MedECC 2020:** The first Mediterranean Assessment Report on the current state of play and risks of climate and environmental change in the Mediterranean



Whereas the nature of the drivers of change did not change markedly in the last 30-40 years (with some exception – e.g. COVID-19 pandemic), it is their **persistence over time, intensity, acceleration and cumulative effects** which currently drive the change in the region. Those persistent environmental and sustainability challenges are inextricably linked to economic activities and lifestyles.

WASTE	MED South				MED EU				MED Balkans & Turkey			
	Years			Outlook	Years			Outlook	Years			Outlook
	2003	2014	2020	2030	2003	2014	2020	2030	2003	2014	2020	2030
H2020 Waste Indicators												
Waste generation		↘	↘	↘		↘	↘	↘		↘	↘	↘
Plastic-waste generation per capita		↘	↘	?		↘	↘	↗		↗	↘	↗
Waste collection coverage		↗	↗	↗		↗	↗	↗		?	?	↗
Waste collected by formal system		↗	↗	↗		↗	↗	↗		?	?	↗
Waste treatment		↗	↗	↗		↗	↗	↗		↗	↗	↗
Waste that goes to uncontrolled dumpsites		?	?	?		?	?	↗		?	?	?
Plastic-waste recycling		?	?	↗		↗	↗	↗		?	?	↗

WATER	MED South				MED EU				MED Balkans & Turkey			
	Years			Outlook	Years			Outlook	Years			Outlook
	2003	2014	2020	2030	2003	2014	2020	2030	2003	2014	2020	2030

H2020 Water Indicators												
Access to sanitation		↗	↗	↗						↗	↗	↗
Urban wastewater treatment		↗	↗	↗		↗	?	↗		↗	?	↗
Reuse of wastewater		↗	↗	↗		?	?			?	?	
Release of nutrients from urban wastewater		?	?			?	?			?	?	
Nutrients enrichment		?	?			?	?			?	?	
Bathing water quality		?	?	↗		↗		↗		?	↗	↗

INDUSTRIAL EMISSIONS	MED South				MED EU				MED Balkans & Turkey			
	Years			Outlook	Years			Outlook	Years			Outlook
	2003	2014	2020	2030	2003	2014	2020	2030	2003	2014	2020	2030

H2020 Industrial Emissions Indicators												
Release of nutrients from industrial sectors		↘	↗	↗	↗	↗	↗	↗		↘	↗	↗
Release of toxic substances from industrial sectors		↘	↗	↗	↗	↘	↘			↗	↘	↘
Disposal of industrial hazardous waste		↘	↗	↗	↗	↗	↗			↗	↗	↗
Compliance measures to reduce or eliminate pollutants from industrial sectors		↘	↗	↗	↗	↗	↗			↗	↗	↗

Note: rating of MED South is attributed considering the situation in most countries in the sub-region

Data and information management at the core

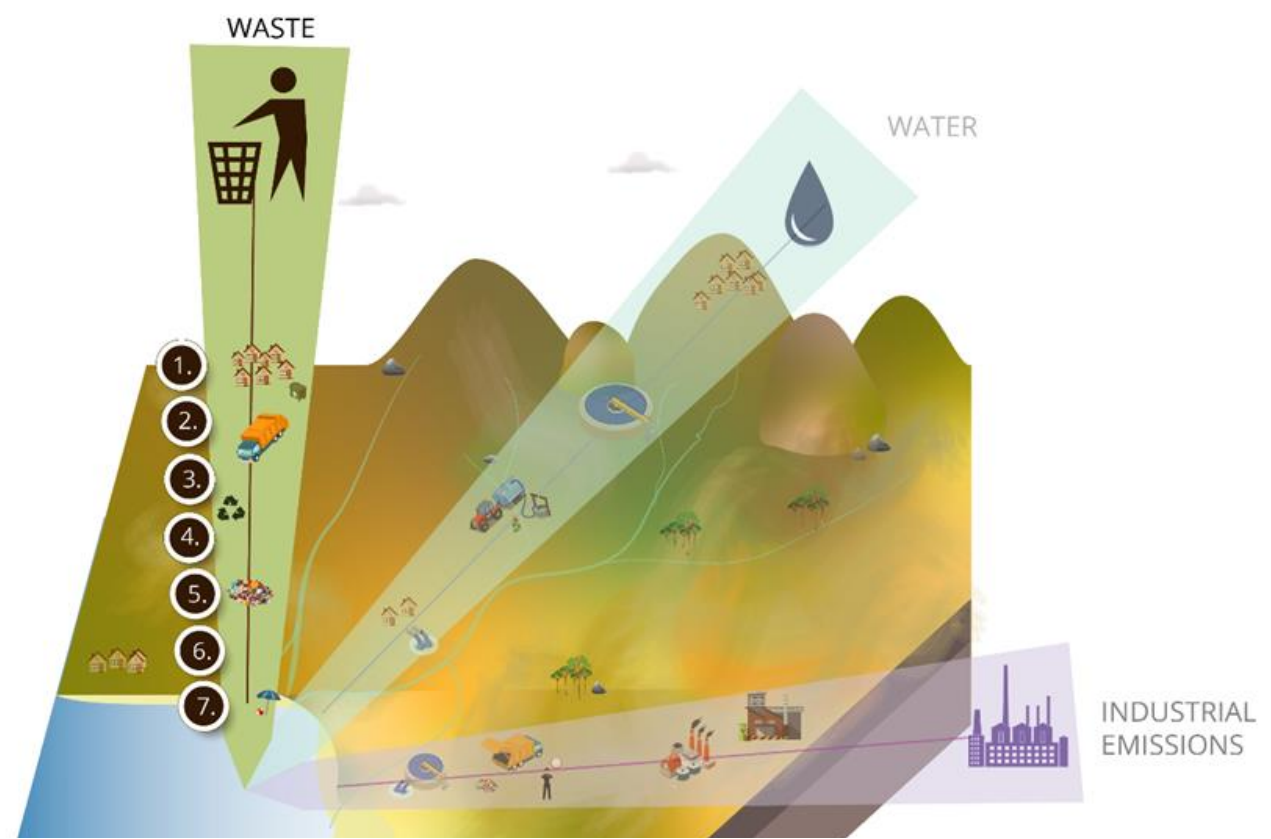
Activity	Algeria	Egypt	Israel	Jordan	Lebanon	Libya	Morocco	Palestine	Tunisia
1. Data monitoring, production, collection <small>*normalization (in case 1 indicator is not produced by any country)</small>	Waste Water Industrial emissions ↗	Waste Water Industrial emissions ↗	Waste Water Industrial emissions ↗	Waste Water Industrial emissions -	Waste Water Industrial emissions -	Waste Water Industrial emissions ↗	Waste Water Industrial emissions ↗	Waste Water Industrial emissions ↗	Waste Water Industrial emissions -
2. Data reported to InfoMAP	Waste Water Industrial emissions -	Waste Water Industrial emissions -	Waste Water Industrial emissions ↗	Waste Water Industrial emissions ↗	Waste Water Industrial emissions ↘	Waste Water Industrial emissions ↗	Waste Water Industrial emissions -	Waste Water Industrial emissions -	Waste Water Industrial emissions -
3. Data accessibility / external dissemination	Waste Water -	Waste Water Industrial emissions -	Waste Water Industrial emissions ↗	Waste Water Industrial emissions -	Waste Water Industrial emissions -	Waste Water Industrial emissions ↗	Waste Water Industrial emissions -	Waste Water Industrial emissions -	Waste Water Industrial emissions -
4. Information Systems	Waste Water Industrial emissions -	Waste Water Industrial emissions -	Waste Water Industrial emissions ↗	Waste Water Industrial emissions ↗	Waste Water Industrial emissions -	Waste Water Industrial emissions ↗	Waste Water Industrial emissions -	Waste Water Industrial emissions -	Waste Water Industrial emissions -
5. Use of H2020/NAP indicators for national assessments, State of Environment etc.	Waste Water Industrial emissions	Waste Water Industrial emissions	Waste Water Industrial emissions	-	Waste Water Industrial emissions ↘	Waste Water Industrial emissions ↗	Waste Water Industrial emissions -	Waste Water Industrial emissions -	Waste Water Industrial emissions -
6. H2020/NAP indicators adopted as part of national indicator set	Waste Water Industrial emissions	Waste Water Industrial emissions -	Waste Water Industrial emissions -	Waste Water Industrial emissions ↗	Waste Water Industrial emissions -	Waste Water Industrial emissions ↗	Waste Water Industrial emissions -	Waste Water Industrial emissions -	Waste Water Industrial emissions -
7. Data sharing agreements / regular data sharing	Waste Water Industrial emissions -	Waste Water Industrial emissions -	Waste Water Industrial emissions ↗	Waste Water Industrial emissions ↗	Waste Water Industrial emissions ↗	Waste Water Industrial emissions ↗	Waste Water Industrial emissions -	Waste Water Industrial emissions -	Waste Water Industrial emissions -
8. Inter-institutional coordination/national team-committee, thematic cooperation & data sharing	↗	↗	↗	↗	↗	↗	↗	↗	↗

LEGEND

- red – not acceptable/poor progress;
- orange – reasonable progress but not sufficient;
- green – satisfactory/good progress;
- ↘↗ - deteriorating/improving
- "-" not possible to assess

Note: This classification should be regarded as a “perceived progress” based on the yearly monitoring of progress made the H2020 RM group and expert judgement. It covers progress monitored over the last 4 years and provides a snapshot at the time of preparation of this report.

Key Messages Waste & Marine Litter



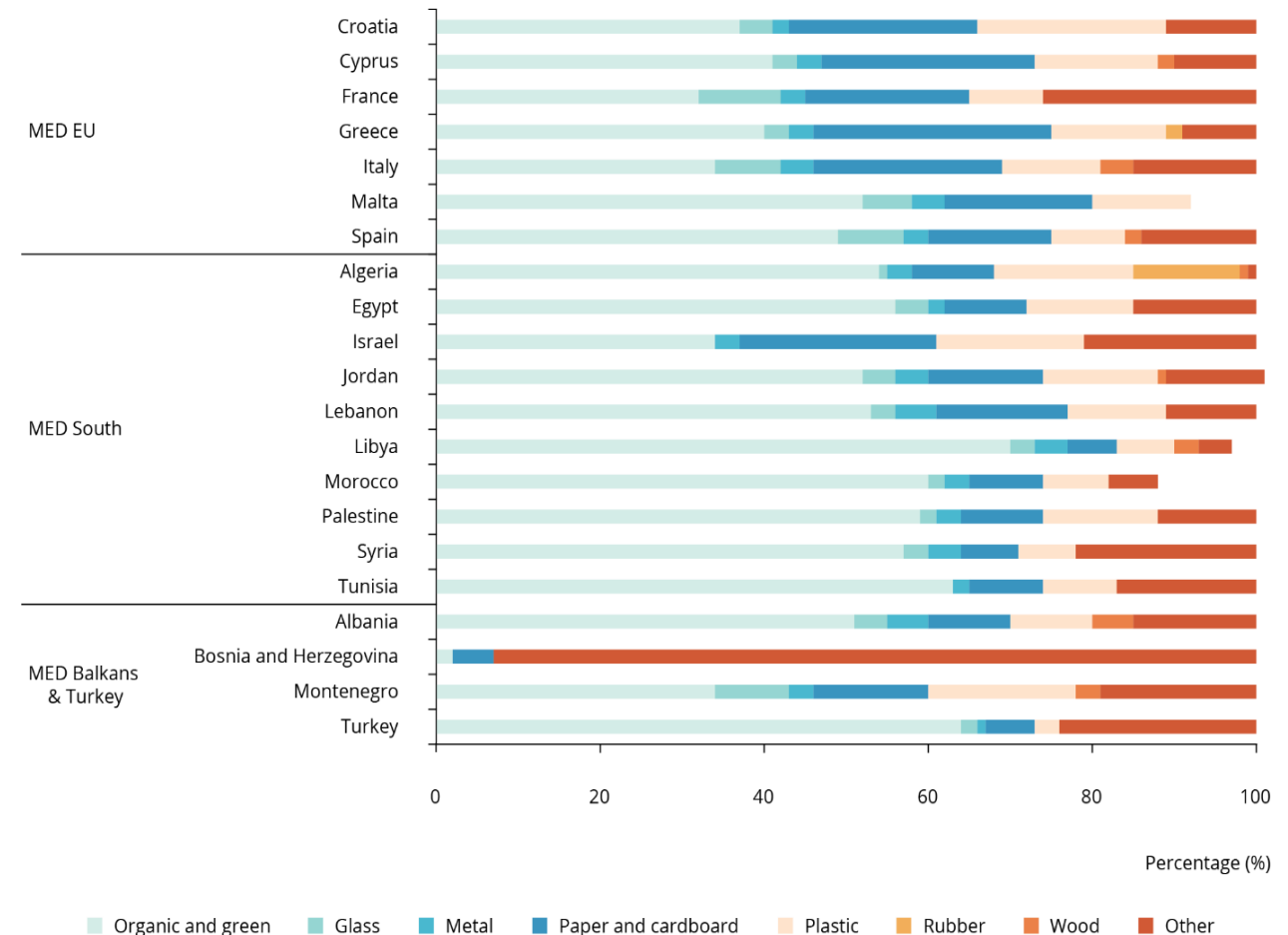
1. Municipal solid waste generation has been increasing across the whole region since 2014, a trend which is expected to continue in the absence of any evidence of decoupling from economic growth
2. Plastic fraction of municipal solid waste generated varies widely within the region and seems to be increasing
3. Coastal population and tourism, associated with take-make-waste economic models, are the main drivers of plastic waste and marine litter generation

4. Landfill remains the main means of disposal of municipal solid waste across the region although data only includes the formal sector
5. Landfill remains the main means of disposal of municipal solid waste across the region although, in some MED South countries most of the waste ends up in open dumps
6. No trends can be derived for marine litter although the growing trend in waste generation, together with insufficient waste management efforts, would probably lead to more inputs and accumulation of litter in the sea
7. Capacity to monitor and enforce the implementation of waste legislation remains an issue in MED South countries

Waste & Marine Litter – key facts and figures (1)

- In MED South countries, a steadily increasing trend in waste generation per capita has been recorded, which is expected to continue in the future (+29 % in 2030 and +50 % in 2050; World Bank, 2018) as a result of population growth and the predominant linear economic paradigm shared by the rest of the region;
- As it would be expected from OECD nations, **MSW generation per capita is higher in MED EU countries** (average of 498 kg/year/capita in 2017) **and Israel** (753 kg/year/capita*) than in the other MED South countries. * *figure includes mixed waste*
- On average, the **plastic fraction** comprises 10 % of MSW in MED Balkans & Turkey, **12 % in MED South** and **13 % in MED EU countries**, although this fraction varies widely between countries (3 % in Turkey and 23 % in Croatia). **Even though the data available for MED South countries are limited**, in general there seems to be an increasing trend in the fraction of plastic generated in waste

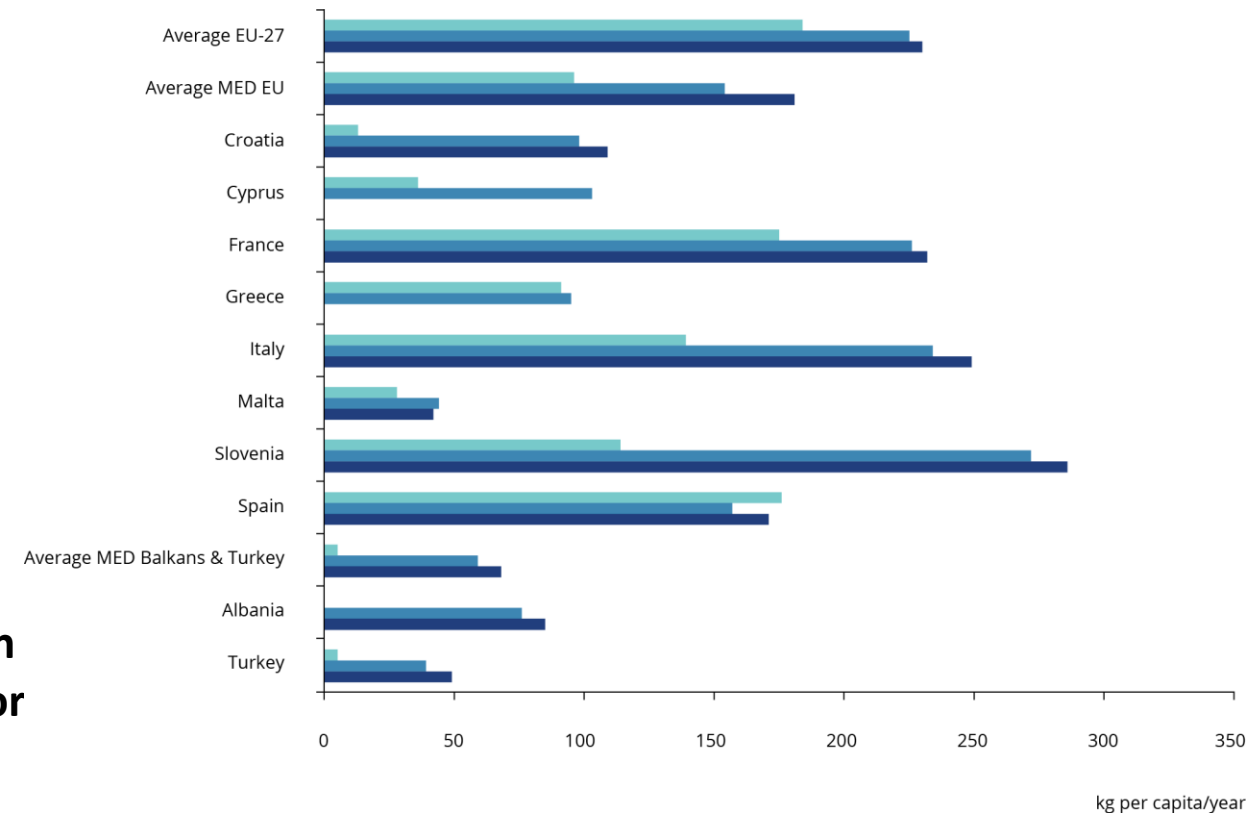
Waste composition in the Mediterranean countries.
Latest year available (%)



Waste & Marine Litter – key facts and figures (2)

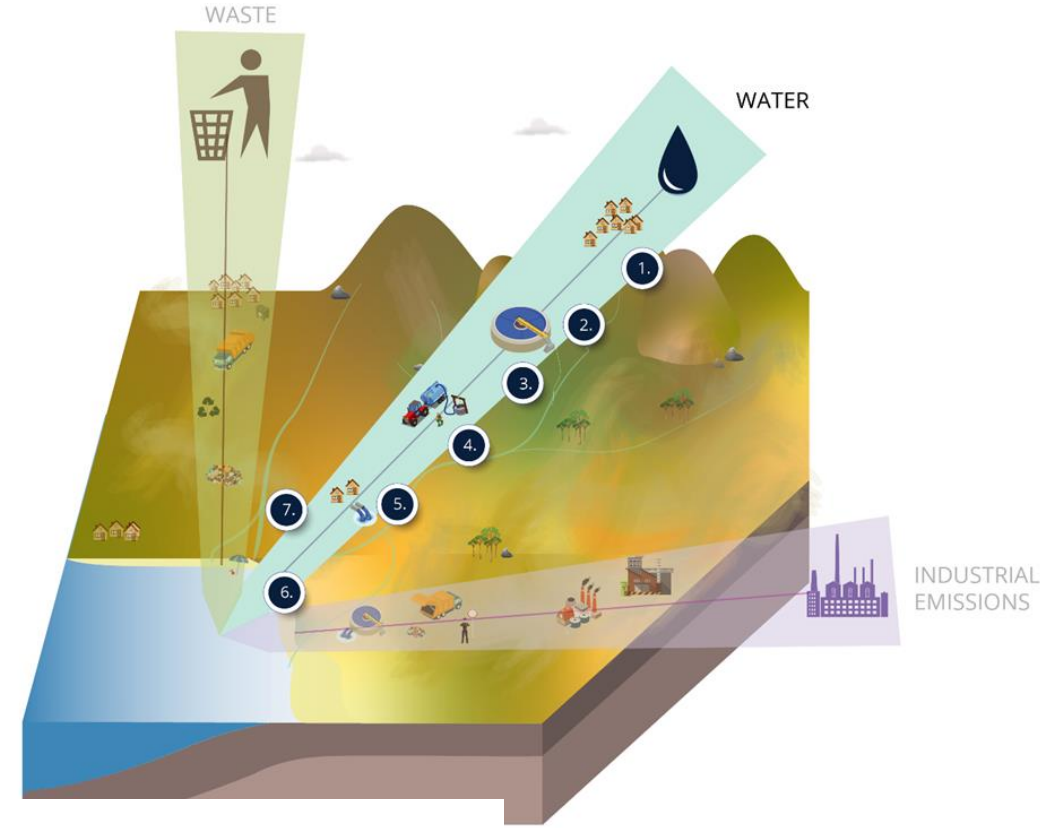
- Despite important significant improvements in over the last decade, **MSW collection remains a significant issue in most MED South countries**, where only a few countries succeed in reaching full waste-collection coverage;
- The **disposal of waste into landfills and sanitary landfills** declined in the period 2014-2017 in MED EU countries, remained stable in MED Balkan countries, but **increased in MED South countries**;
- **Waste recycling** is increasing across the whole Mediterranean, although at varying rates. **Data coverage and reliability is limited in MED South countries**, which is also due to the **informal sector's** role in the collection of recyclables
- **The capacities of public authorities need to be enhanced in MED South countries**, in particular their **capacity to monitor and enforce the implementation of waste legislation**, and to combat littering and illegal dumping activities, which are regarded as crucial for the protection of the environment and human health.

Quantity of municipal solid waste recycled per capita in MED EU and MED Balkans & Turkey (kg per capita/year)



The average MSW recycling rate in MED South countries is only 4 % (UNEP, Africa, 2018). In Israel, 24 % of MSW were recycled in 2017.

Key Messages Water

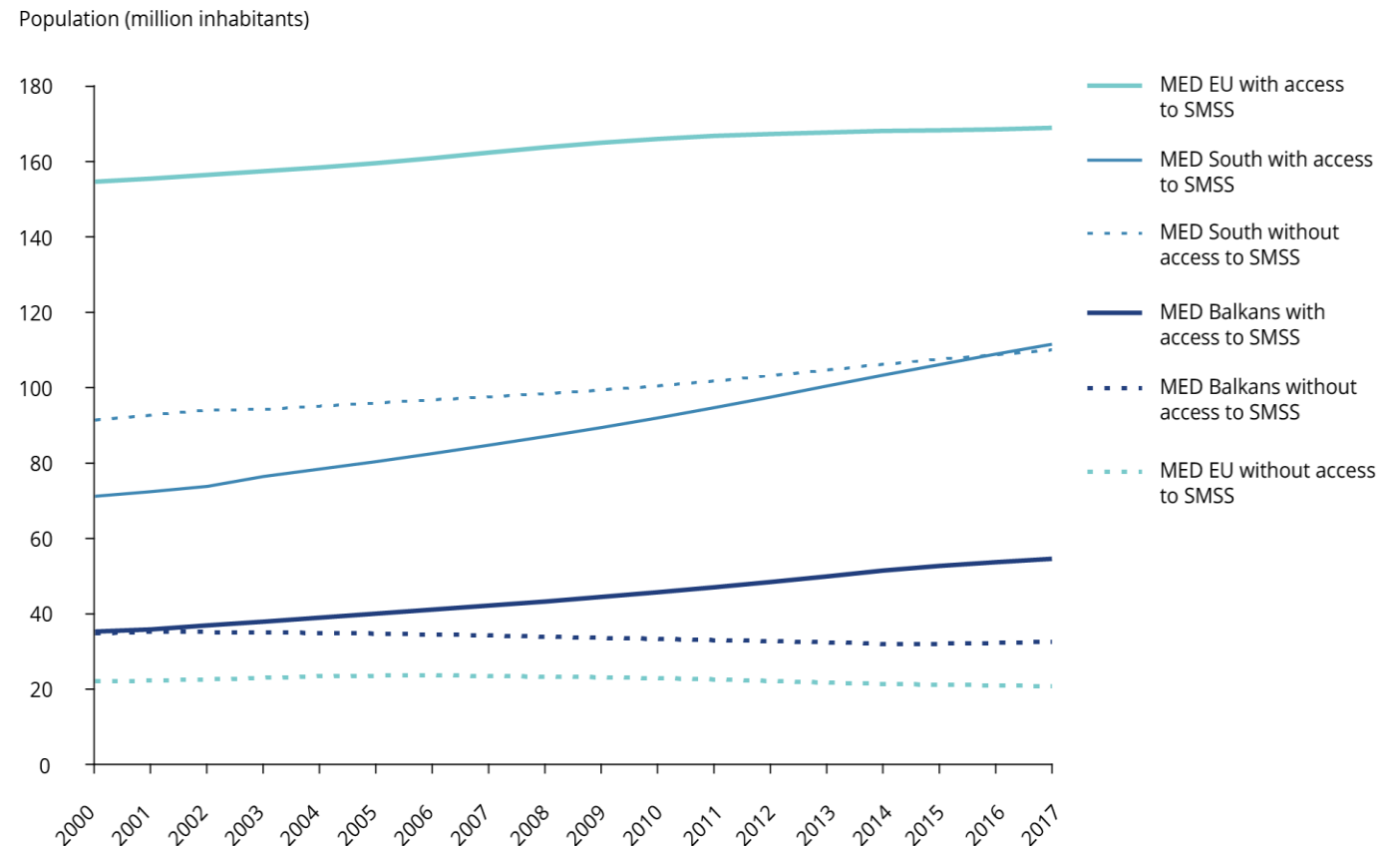


1. Access to safely managed sanitation has increased in the region but efforts in the MED South subregion are unable to keep up with population growth sufficiently
2. Treatment of municipal wastewater is improving but in some MED South countries most of the wastewater generated is discharged untreated into the Mediterranean
3. The level of treatment has improved significantly. In particular in the MED EU, but tertiary treatment is lagging behind in three subregions
4. Reuse of wastewater is on the rise, with a few countries across the Mediterranean reusing a significant part of their treated wastewater
5. Nutrient inputs from wastewater largely originate from urban effluents. There is limited in situ monitoring data but eutrophication hot spots are well documented
6. Bathing water quality is improving in the region with the MED EU exceeding the EU average and monitoring in some MED South countries showing clear progress
7. While the importance of nature-based solutions is largely recognised, their application remains limited. This is mainly due to space limitations, their unique design, issues related to acceptability and adequate funding

Water– key facts and figures (1)

- More holistic assessment of the water issue in a region characterised by two challenging facets: limited quantities of water (water scarcity) and water quality degradation; the so-called **water quantity-quality nexus** (Gunda et al., 2019);
- In general, a **positive trend in populations with access to safely managed sanitation services (SMSS)** has been observed in the Mediterranean over the last 20 years. Yet, in most MED South countries, the actual population without access to SMSS has been on the rise since 2003 in line with the significant increase in the overall population;

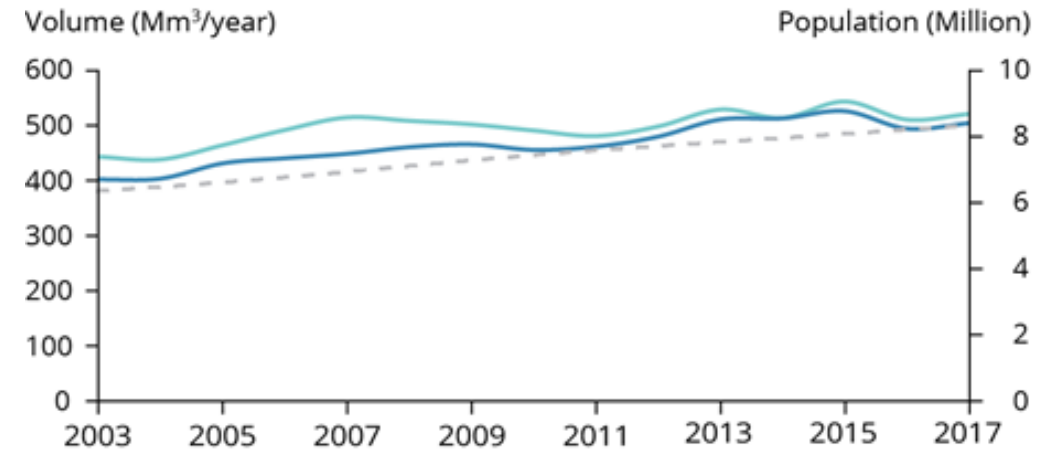
Population with/without access to safely managed sanitation systems in the three sub-regions between 2000 and 2017 (million inhabitants)



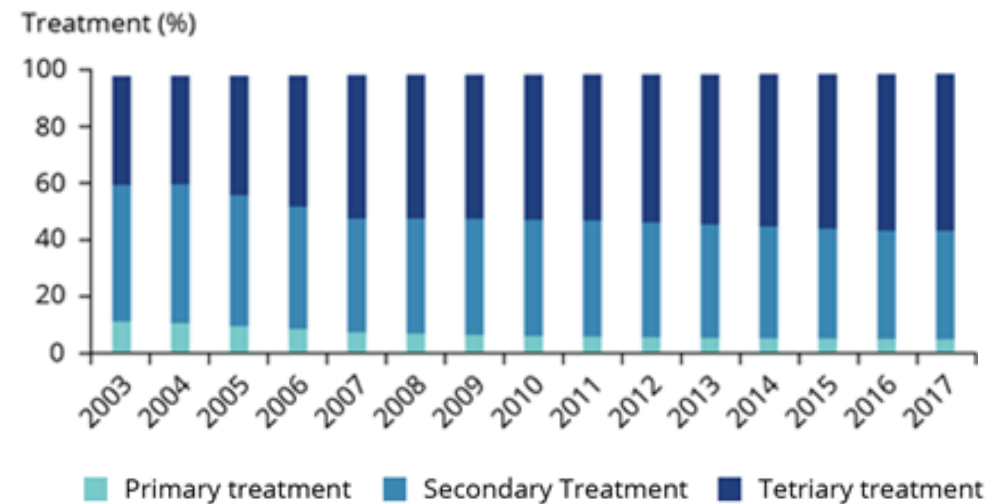
Water– key facts and figures (2)

- **Progress has been made in wastewater management** in specific countries in the MED South which have reported under H2020. While the volume of wastewater generated is on the rise, concurrent with the steady growth in population, in general, **the amounts of wastewater collected and treated are also increasing;**
- When it comes to treatment type, **a shift towards tertiary treatment** is observed over time for all reporting countries. **In Israel, the tertiary treatment fraction has been increasing over the years reaching 55 % in 2017;**
- Despite continuous efforts and investments to improve wastewater management in the region, **the political, financial and institutional crisis faced by certain countries, notably in Lebanon, Libya and Syria, has hit the wastewater sector hard**

Israel: wastewater collected and treated



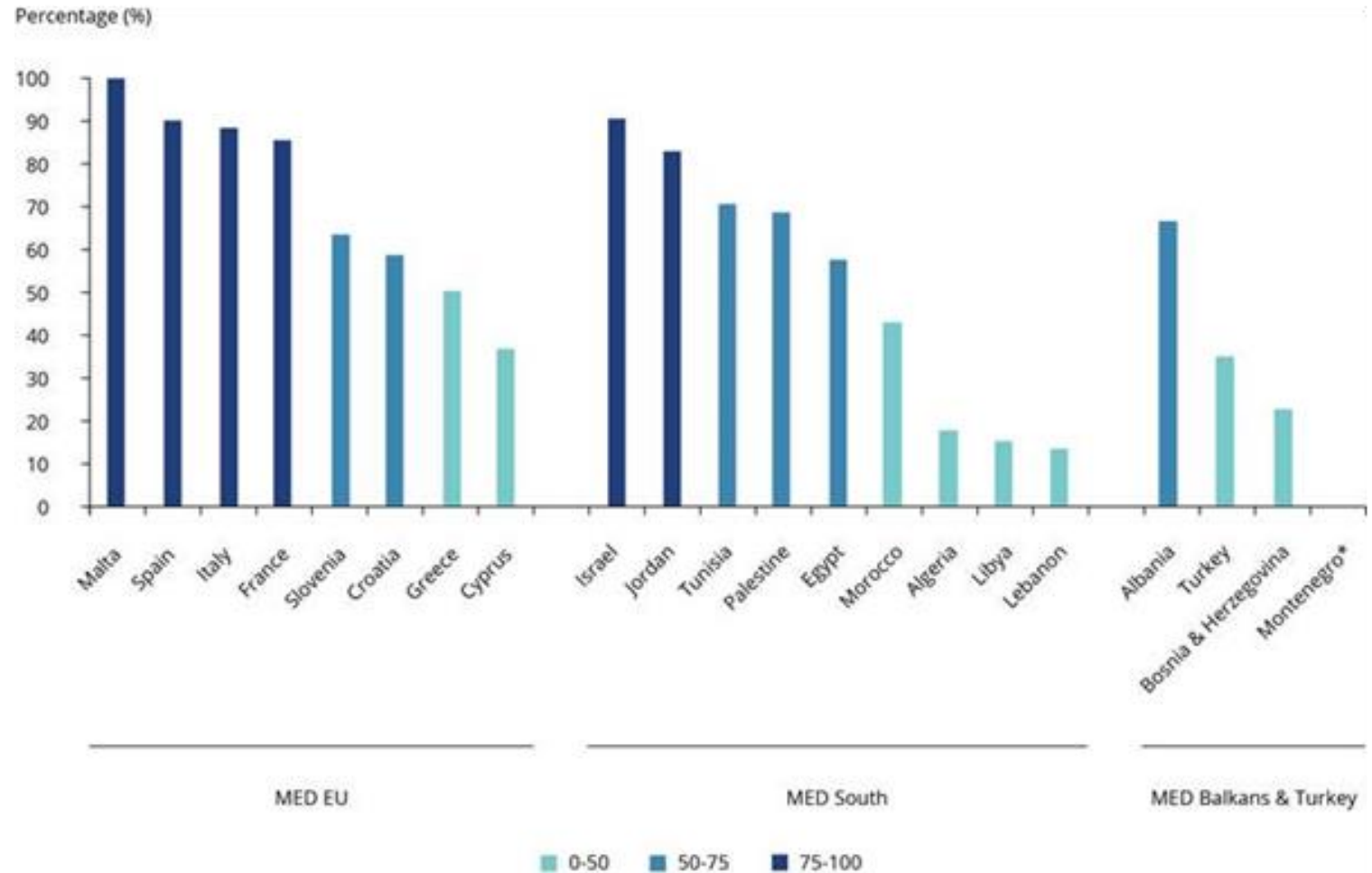
Israel: wastewater treatment level



Water– key facts and figures (3)

SDG 6.3.1 – proportion of wastewater safely treated in Mediterranean countries in 2018 (%)

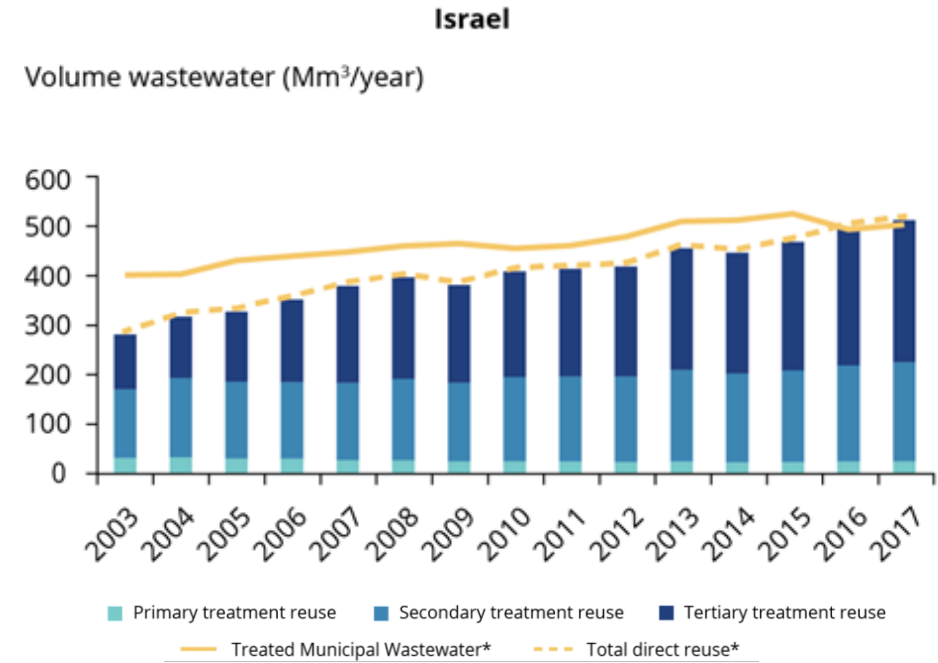
- The level of treatment varies between the three sub-regions and from country-to-country



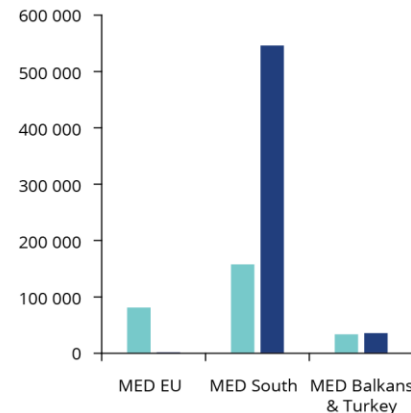
Data source: UNSTATS, 2020

Water– key facts and figures (4)

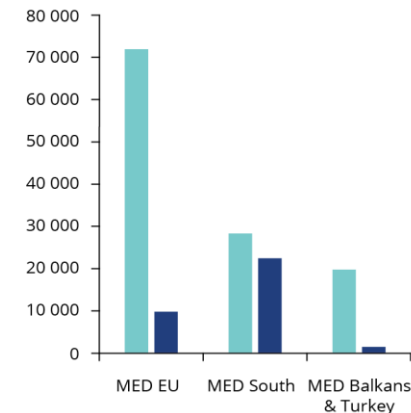
- **Water reuse is on the rise**, with a few countries making significant advances driven by a higher demand for water and lower water availability. In particular in **Israel**, direct reuse as a percentage of the treated volume increased **from 72 % in 2003 to 100 % (103 %!) in 2017**;
- **Nutrients releases from municipal wastewater treatment plants** in the Mediterranean coastal areas show that the contribution of UWWTPs to nitrogen discharges is as high as 90 %, with the remaining 10 % attributed to industrial discharges;
- Analyzing the trend in **bathing water quality** for the whole Mediterranean region is challenged by the centralized and regular reporting in the MED South sub-region, despite some countries having excellent national bathing water quality monitoring programmes in place;
- Despite the **great potential of using alternative data products for nutrient assessments**, more efforts are needed to tailor products such as CMEMS to be readily applied in policy-related assessments.



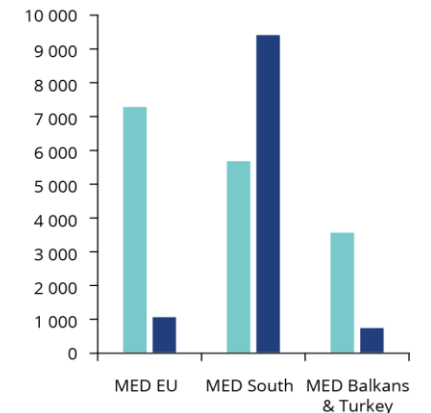
BOD loads (tonnes/year)



TN loads (tonnes/year)



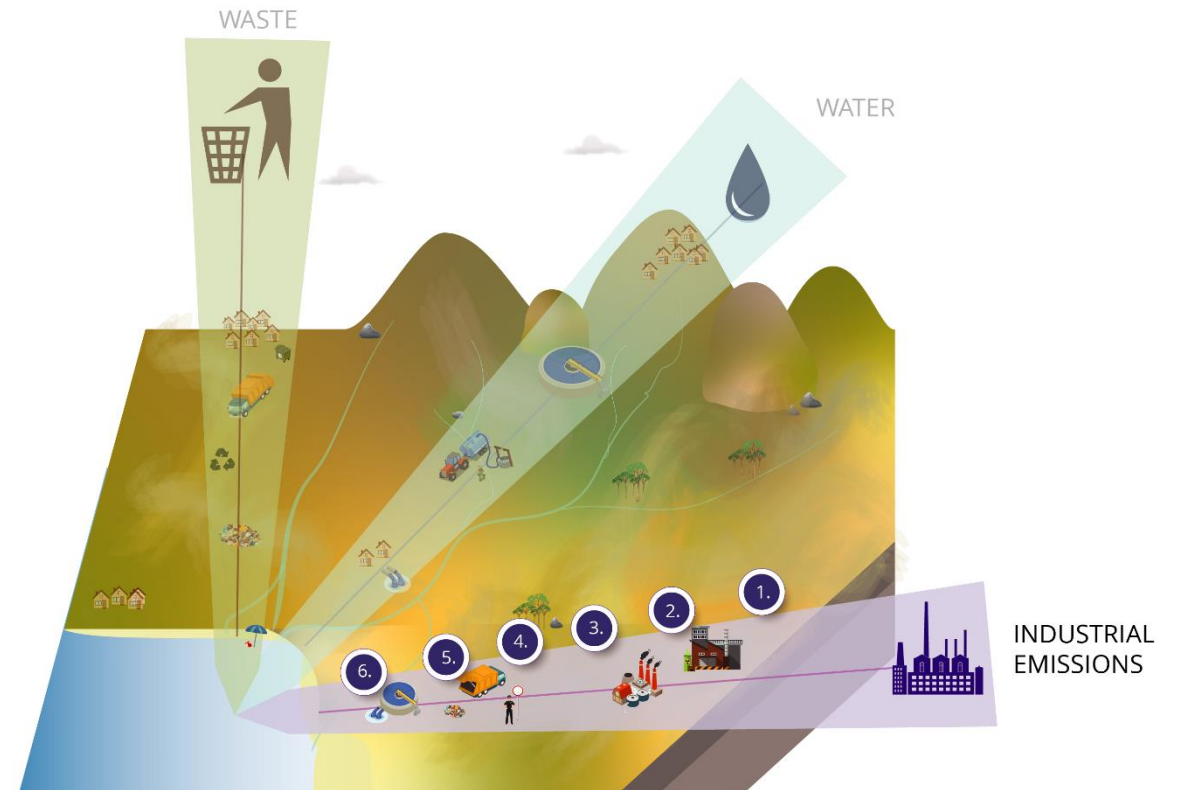
TP loads (tonnes/year)



Wastewater treatment Other industries

Key Messages

Industrial Emissions



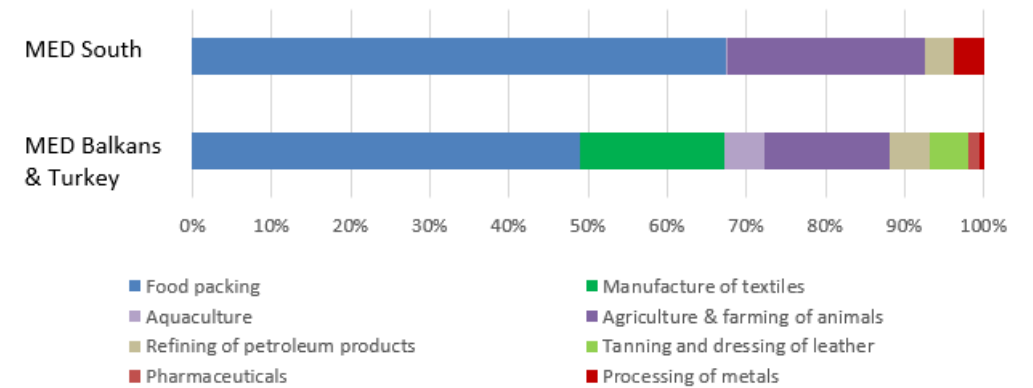
1. There has been a slight fall in the release of BOD, including nitrogen and phosphorus, although not enough
2. In the MED South, over half of the BOD loads are discharged by the food-processing and beverage industries, followed by agriculture and animal farming
3. The main industrial sources of releases of heavy metals include oil refineries in the MED South, MED Balkans and Turkey, energy production and the manufacturing of metals in the MED EU countries

4. The manufacturing sector still needs further investment in cleaner technologies in order to retrofit the industrial production processes which would lead to resource efficiency and sustainable production
5. Only a few Mediterranean countries report on disposal of hazardous waste. Disposal facilities are limited in capacity. Most of the hazardous waste is exported and/or disposed of in unsafe ways
6. Measures to combat industrial pollution exist but enforcement remains a big challenge in the region

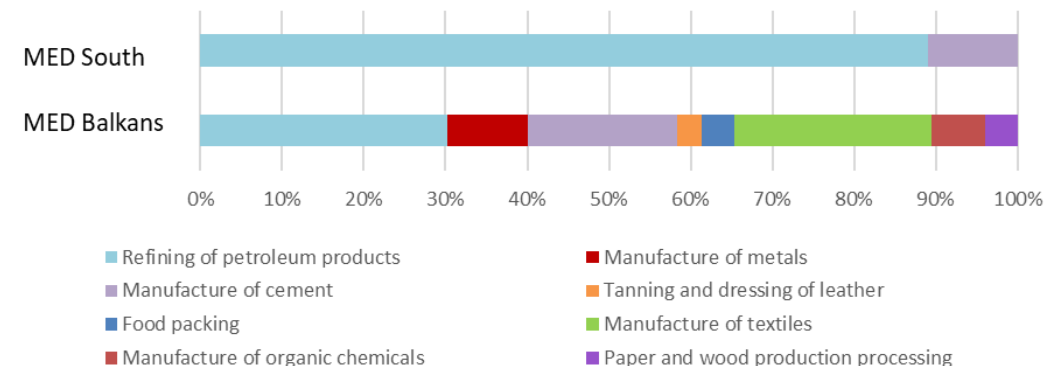
Industrial Emissions– key facts and figures (1)

- Analysis based on MEDPOL (**NBB reports**) and **E-PRTR** reported data
- Industrial activities (including construction) in the Mediterranean countries still **contribute significantly to national economies**
 - from 25 to 30 % of GDP in the MED South countries;
- Analysis of industrial emissions was carried out in **three categories**:
 - i. releases of nutrients
 - ii. releases of toxic substances (heavy metals, etc.) from industrial sectors
 - iii. hazardous waste, complemented by an evaluation of compliance measures
- For the MED South countries, the predominant sector discharging more than **half of the BOD loads is the food-processing and beverage industry** followed by agriculture and animal farming;
- For the MED South countries, predominant sector for releases of **heavy metals** remain refining of **petroleum products**
 - Almost 90 % of the release of heavy metals;

Releases of BOD/TOC in the Mediterranean Basin

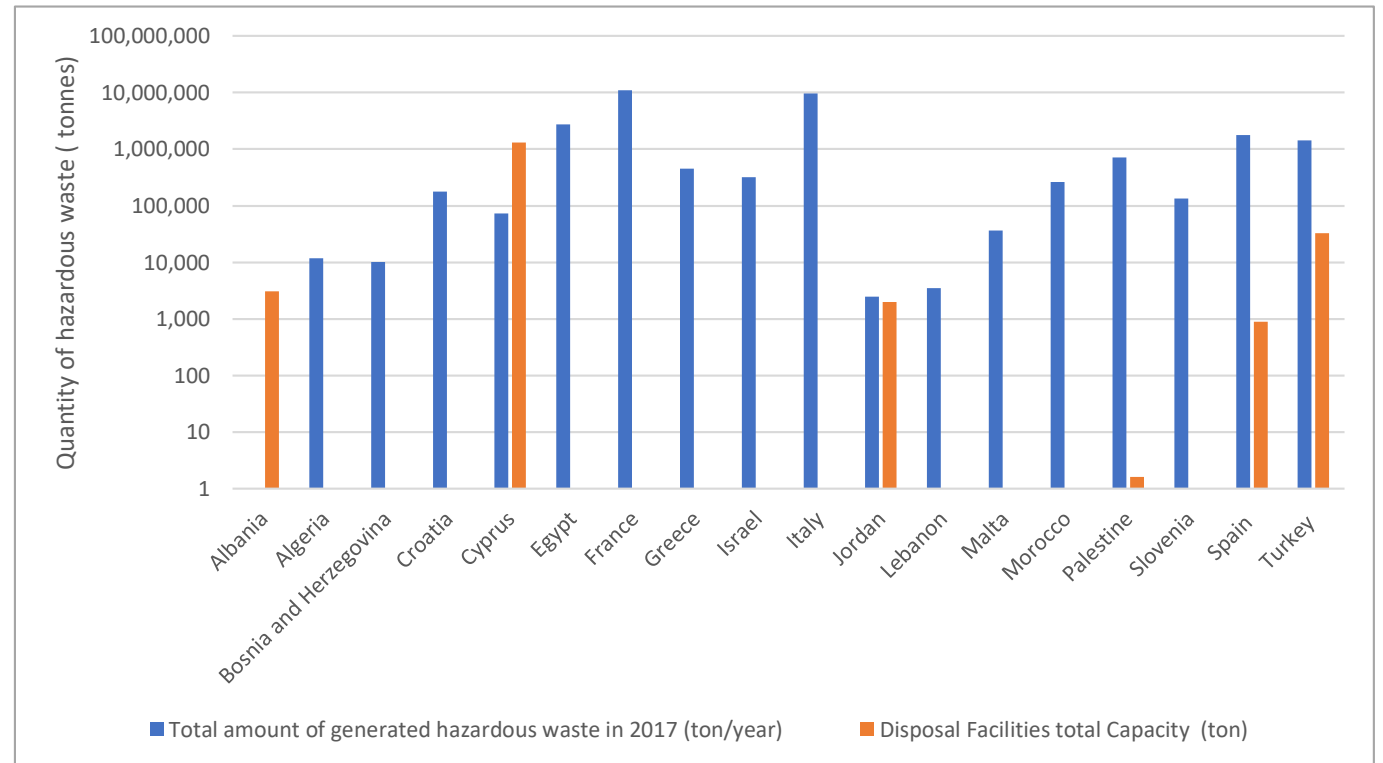


Releases of Heavy Metals in the Mediterranean Basin



Industrial Emissions– key facts and figures (2)

- Only one third of the Mediterranean countries reported on **disposal aspects** in their national reports to the Basel Convention;
- Difficulties faced by countries in collecting information from industrial installations to **improve data management and processing at the central level.**



Industrial Emissions– key facts and figures (3)

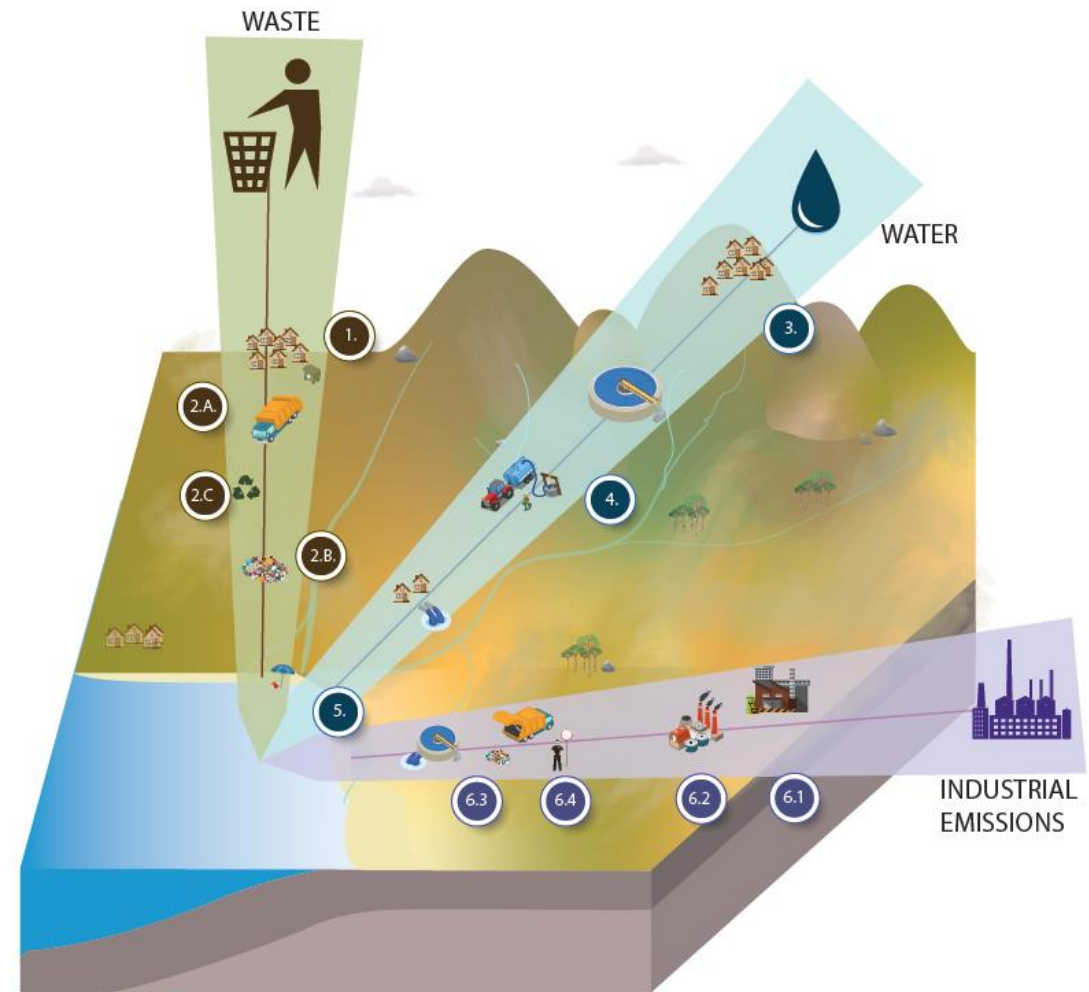


- All Mediterranean countries have developed **measures** to combat industrial pollution, such as the promulgation of regulations to **set emission limit values (ELVs)**, and to specify methods of management and treatment of industrial waste;
- Yet, in most countries, **decentralised infrastructure to monitor and implement the adopted regulations is limited**;
- Some countries have limited resources for **reference laboratories** which are not proportional to the number of industries under routine inspections.
- Another major challenge facing industries in the MED South and Balkan countries is the **need for investment in innovative and cleaner technologies and their continuous maintenance and control by qualified staff**



Key Messages from regional assessment

- Main progress mostly in terms of **pollution prevention at source**
- **Data and knowledge at hand are not sufficient** to provide an affirmative evidence-based response to the policy question – *What is the progress towards a cleaner Mediterranean?*
- Interventions put in place provide **effective actions to keep up with increasing pressures, but not to curb the situation overall**
- Clear disparities in progress between MED South, MED EU and MED Balkans
- **Further reduction of key pressures, such as waste and marine litter, wastewater and industrial emissions is required** in order to achieve a cleaner Mediterranean and “Good Environmental Status” of the Mediterranean Sea
- Despite the need to increase **systemic knowledge** for more informed policy-making and investments, duly systemic actions to tackle pollution should not be further delayed



Ensuring enforcement and compliance have never been more urgent....



H2020 Mediterranean policy overview

Policy	H2020 Thematic areas		
	Waste	Water	Industrial emissions
The Long-Term Strategy and Initiative (LTS) Proposal of the European Commission, 2018	Applies across H2020 Thematic areas in particular Article 5 (Action plans, programmes and measures to pollution), Article 6 (Inspection), Article 8 (Monitoring programmes), Article 23 (Adoption of regional air and programmes) and Annex	By the year 2020, to phase out municipal and domestic wastewater in conformity with the provisions of the IRE-Proposal	Second targets for the year 2020 point source: Conformity with Protocol on International protection Phase out leaks of PMs and emissions and losses of CO ₂ In conformity with EU and international conventions, wastewater from industrial and household sector. In a safe environmentally sound manner And to diffuse sources: Reduce nutrient inputs, from and appropriate practices in where these inputs are still produced.
Strategic Action Programme (SAP-MED)	By the year 2020, to phase out municipal and domestic wastewater in conformity with the provisions of the IRE-Proposal	By the year 2020, to phase out municipal and domestic wastewater in conformity with the provisions of the IRE-Proposal	By the year 2020, to phase out municipal and domestic wastewater in conformity with the provisions of the IRE-Proposal
Regulated Action Plans on 2020 including IRE-Proposal (RE-2017 and 2018.2)		Provision Limit Values, Compliance Monitoring of discharges from municipal WWTP, measures for enforcement	Target for year 2020: phase out municipal and domestic wastewater from industrial and household sector related discharges
Regulated Action Plan on Mercury (IAP-MED) (IAP-MED)			By 2020, phase out mercury from the activity of Chlor-alkali production of new Chlor-alkali plants National Emission Limit (NEL) by 2020 and 2025 for enforcement Monitor releases of mercury in and out
Regulated Action Plan on POPs (IAP-MED) (IAP-MED)	Prohibit and/or take legal and administrative measures necessary to minimize the production and use, import and export of POPs and their wastes		Prohibit and/or take legal and administrative measures necessary to minimize the production and export of POPs and their wastes Application of POPs and their wastes environmentally sound waste POPs Take appropriate measures to collect, transport, store and environmentally sound waste POPs, including prohibition of open burning waste
Regulated Action Plan on Marine Litter (IAP-MED) (IAP-MED)	Reduction of fraction of plastic packaging waste that goes to landfill or incineration (Article 5, Timetable 2020) Adopt appropriate measures to minimize inputs of waste in the marine environment (Article 5, Timetable 2020) Close to the source, suitable and/or (Relevant) waste (Article 5, Timetable 2020)	Phase out municipal and domestic wastewater in conformity with the provisions of the IRE-Proposal	Phase out municipal and domestic wastewater in conformity with the provisions of the IRE-Proposal
Regulated Action Plan on Sustainable Consumption and Production in the Mediterranean (IAP-MED) (IAP-MED)	Enable Manufacture: Adoption of measures to implement the waste management hierarchy: reduce, reuse, recycle, recover, and environmentally sound disposal Enable Manufacture: Adoption of measures to implement the waste management hierarchy: reduce, reuse, recycle, recover, and environmentally sound disposal Enable Manufacture: Adoption of measures to implement the waste management hierarchy: reduce, reuse, recycle, recover, and environmentally sound disposal		Enable Manufacture: Adoption of measures to implement the waste management hierarchy: reduce, reuse, recycle, recover, and environmentally sound disposal
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Being geographically located at the crossroads between Europe, Northern Africa and Middle East, the Mediterranean is subject to a **complex and heterogeneous policy landscape**



Political commitment needs to be translated to the operational level, through updating national environmental legislation in line with regional decisions, policies and establishing a mechanism to ensure **enforcement and compliance**

Policy overview shows a **broad range of instruments**, with ambitious visions and objective



Enforcement of policies and laws remains a key **bottleneck**

Outlook



Data and information:

Action towards coherent development and reporting of data. Invest massively in structuring required information for evaluation of progress. Better use of knowledge through monitoring for action.



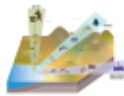
Use of new data for policy needs:

Combining existing data with “new data” retrieved from novel scientific approaches, to address policy or assessment needs. Significant disparities between the 3 sub-regions related to unlocking new data.



Policy visions and implementation processes:

Close the gap, both at regional and national level



Enhance integrated and systemic approaches:

Break the “silo effect” created by thematic/sectoral approaches



Enable operational application of Ecosystem Approach:

Including terrestrial, coastal and marine dimensions.



Regional commitment on four priority areas:

i. Marine litter; ii. Strengthening and expanding Marine Protected Areas (MPAs) network; iii. responding to challenges from climate change; iv. supporting sustainable Blue Economy and ecological transition for our region.



Common reference framework:

provided by 2030 Agenda and Europe’s Green Deal to ensure full integration of Sustainable Development Goals.



Thank you for your attention!



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