Mediterranean Action Plan Coordinating Unit
Barcelona Convention Secretariat

Proposal for new industrial emissions indicators in support of the achievement of Objective 2 of the H2020 Review and Monitoring Group Work Programme (2015-2020)

Webinar on the implementation of the Shared Environmental Information System (SEIS) principles and practices on the ENP Sought region" (ENP-SEIS)

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Aim and purpose

- In support of the achievement of Objective 2 of the "H2020 Review and Monitoring Group Work Programme 2015-2020," the purpose of this presentation is to present the methodology and proposal for a set of indicators on industrial emissions that:
  - Are complementary to other existing indicators (H2020, IMAP, NAP, Regional Seas, MSSD, SCP, SDG, etc.)
  - Can be linked to investment projects; hence informing the H2020 work programme where funding should go.
  - Provide a link to key environmental issues identified in the updated list of hotspots (2015).
- In short, the aim is to present indicators that help to build the H2020 story for the upcoming period 2015-2020.

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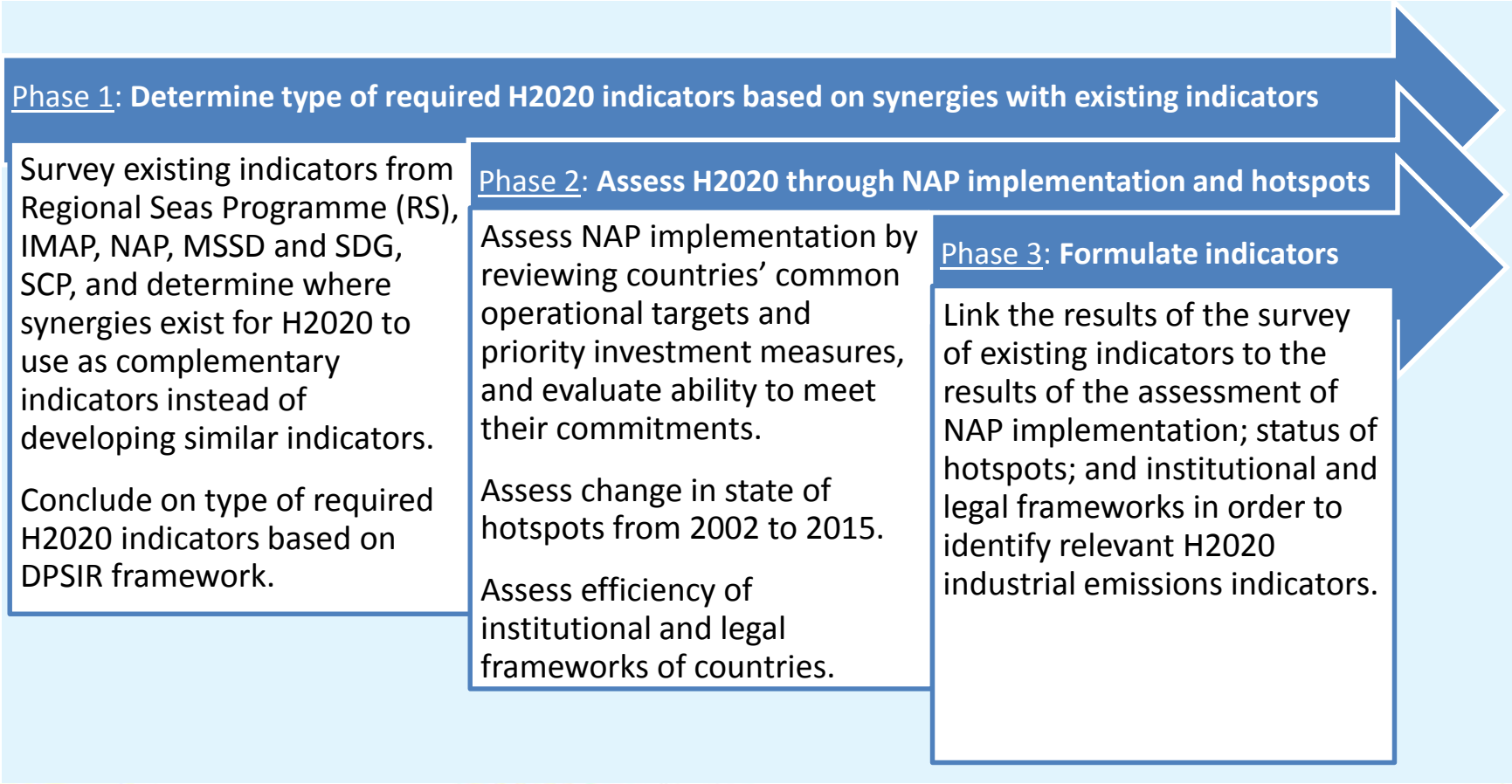
Methodology for developing the industrial emissions indicators



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Phase 1: Survey of existing indicators

1) H2020 2) Regional seas indicators 3) IMAP indicators 4) NAP indicators 5) MSSD indicators 6) SDG indicators	A. Indicators on the state/impact on the marine environment
	B. Indicators on pressures/response related to management of industrial wastes

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State/ impact indicators on marine environment

Indicators related to industrial emissions	by
Trends for selected priority chemicals including POPs and heavy metals	Regional seas
Concentration of status of selected pollutant contamination in biota and sediments and temporal trends	Regional seas
Number of pollution hotspots	Regional seas
Actual levels of contaminants that have been detected and number of contaminants which have exceeded maximum regulatory levels in commonly consumed seafood	IMAP
Concentration of key harmful contaminants in the relevant matrix (biota, sediment, seawater)	NAP
Occurrence, origin (where possible), and extent of acute pollution events (e.g. slicks from oil, oil products and hazardous substances) and their impact on biota affected by this pollution	IMAP
Share of contaminated sites with toxic, persistent and liable to accumulate substances in the coastal area which have been closed/remediated including spills from industrial accidents	NAP

Pressure/ response indicators on marine environment

Indicators related to industrial emissions	by
Waste generated and treated by type of waste and treatment type	MSSD
The amount of hazardous wastes environmentally soundly managed or exported by Y categories and by disposal/recovery operation (D- disposal, R- recovery, as well as treated in waste to energy facilities)	NAP
Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment	NAP
Hazardous wastes generated per capita and proportion of hazardous wastes treated, by type of treatment	SDG
Release of toxic substances and nutrients from industrial sectors	H2020
Number of substances covered by national standards (ELV), for point source discharges into water or air	NAP

Conclusions (1)

- Survey of existing indicators shows that:
  - The H2020/NAP set of indicators provide information on pressure reduction and prevention, and on response measures.
  - The MSSD as well as the SDG indicators provide also information on pressure reduction and response.
  - The Regional Seas (RS) and IMAP indicators provide information on the state of the marine environment and impacts of land based sources of pollution.
- Therefore:
  - There is a good set of indicators addressing marine pollution state under the MAP system. The H2020 can use them as complementary instead of developing similar state or impact indicators of its own.
  - The new H2020 indicators should focus on pressure reduction and pollution prevention at source, as well as on response.

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Phase 2: Assessing the progress of H2020 through NAP implementation and hotspots status

A.	Operational targets, including ability of countries to meet deadlines set by SAP-MED/ legally binding requirements
B.	Priority investment measures, including ability to meet deadlines set by SAP-MED/ legally binding requirements
C.	Extent to which project fiches in NAPs address emissions from industrial facilities/ activities
D.	Change in status of pollution hotspots from 2002 to 2015, and key environmental emissions issues
E.	Capacities of the current institutional and legal structures in the countries

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Assessing progress of achievement of operational targets

Common operational targets mentioned by at least 7 countries in the NAPs	Albania	Algeria	Bosnia and Herzegovina	Egypt	Montenegro	Israel	Jordan	Lebanon	Morocco	Palestine	Tunisia
- Reduce by XX% of BOD discharged to water bodies [2018 to 2021]	■	■		■		■	■		■	■	
- Reduce discharge of hazardous substances from industrial plants (apply BAT/BEP) by XX% or dispose in a safe manner [2020 to 2025].	■	■	■	■	■		■	■	■	■	■

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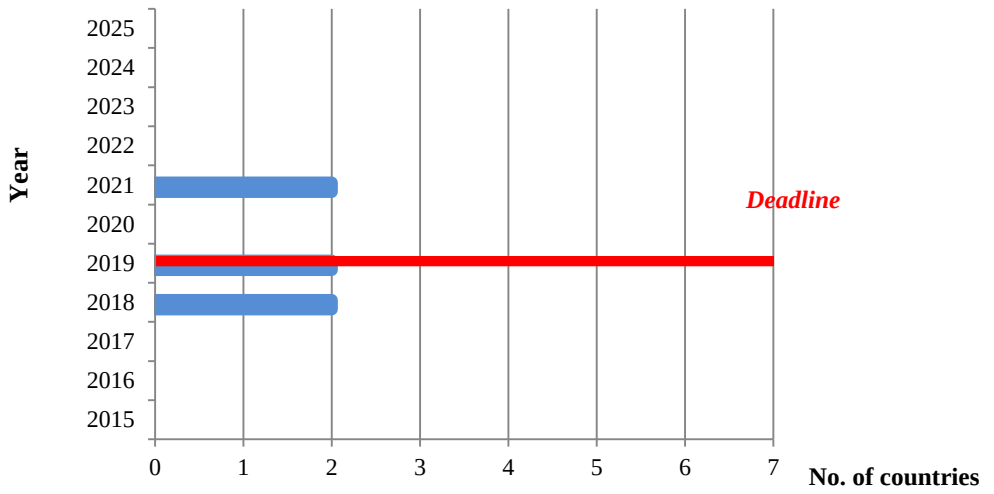
Timeline for completion of operational targets

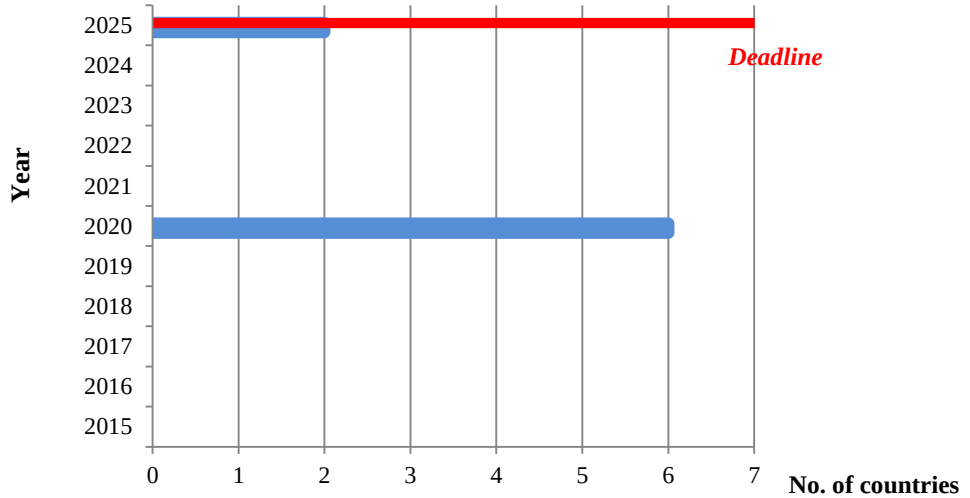
Reduce by XX% of BOD discharged to water bodies by 2018 to 2021

67% of countries will meet regional plan deadline requirements for regional plan for reduction of BOD from urban wastewater



Reduce discharge of hazardous substances from industrial plants (apply BAT/BEP) by XX% or dispose in a safe manner by 2020 to 2025

100% of countries will meet SAP-MED deadline requirements



Assessing progress of achievement of priority investment measures

Priority investment measures presented by at least 7 countries	Albania	Algeria	Bosnia and Herzegovina	Cyprus	Egypt	France	Israel	Jordan	Lebanon	Malta	Monaco	Montenegro	Morocco	Palestine	Spain	Tunisia
- Build/ expand/ upgrade IWWTP	■		■		■	■	■	■								■
- Build/ expand/ upgrade hazardous waste landfill facility	■		■		■		■	■						■		■
- Remediate contaminated industrial sites	■	■	■		■		■					■				■

Extent to which project fiches in NAPs address industrial emissions activities

Common priority investment measures	Common operational targets	Albania	Algeria	Bosnia and Herzegovina	Egypt	Montenegro	Israel	Jordan	Lebanon	Morocco	Palestine	Tunisia
- Reduce by XX% of BOD discharged to water bodies [2018 to 2021]	- Build/ expand/ upgrade municipal wastewater treatment plants	2	4	4	4			1	4	1		
- Reduce discharge of hazardous substances from industrial plants (apply BAT/BEP) by XX% or dispose in a safe manner [2020 to 2025]	- Build/ expand/ upgrade IWWTP		2		3	1	3					4
	- Build/ expand/ upgrade hazardous waste landfill facility	1			2		1			1	1	
	- Remediate contaminated industrial sites	1	4		1	2			2			3
Total number of investment measures	**52**	**4**	**10**	**4**	**10**	**3**	**4**	**1**	**6**	**2**	**1**	**7**

Status of pollution hotspots (2002)

- In 2002, the Mediterranean had 120 pollution hotspots in 18 countries
- In response to this situation, the H2020 response pipeline indicated:
  - 86 investment projects, out of which 51 were financed and 35 are not (H2020 pipeline)

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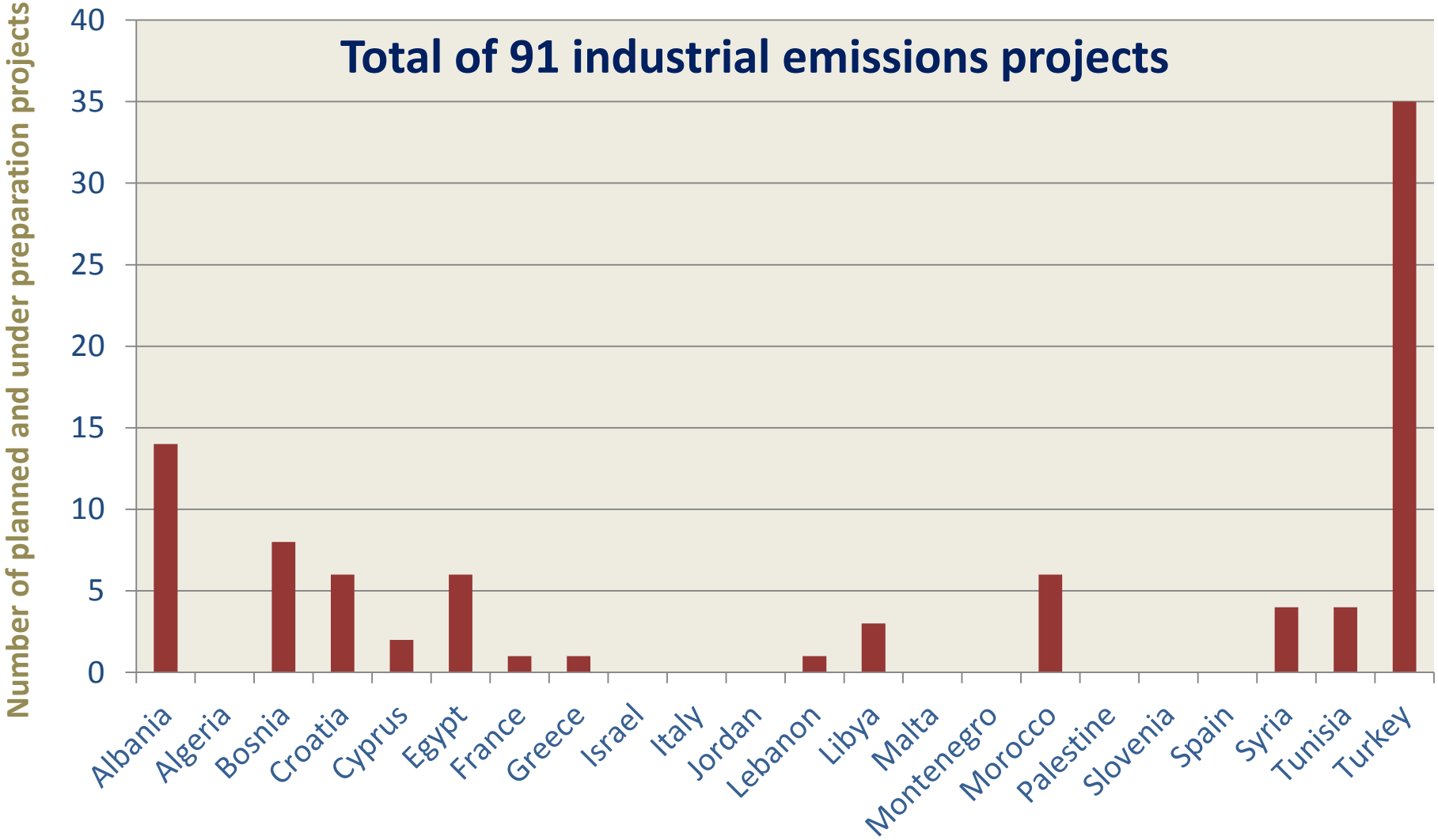
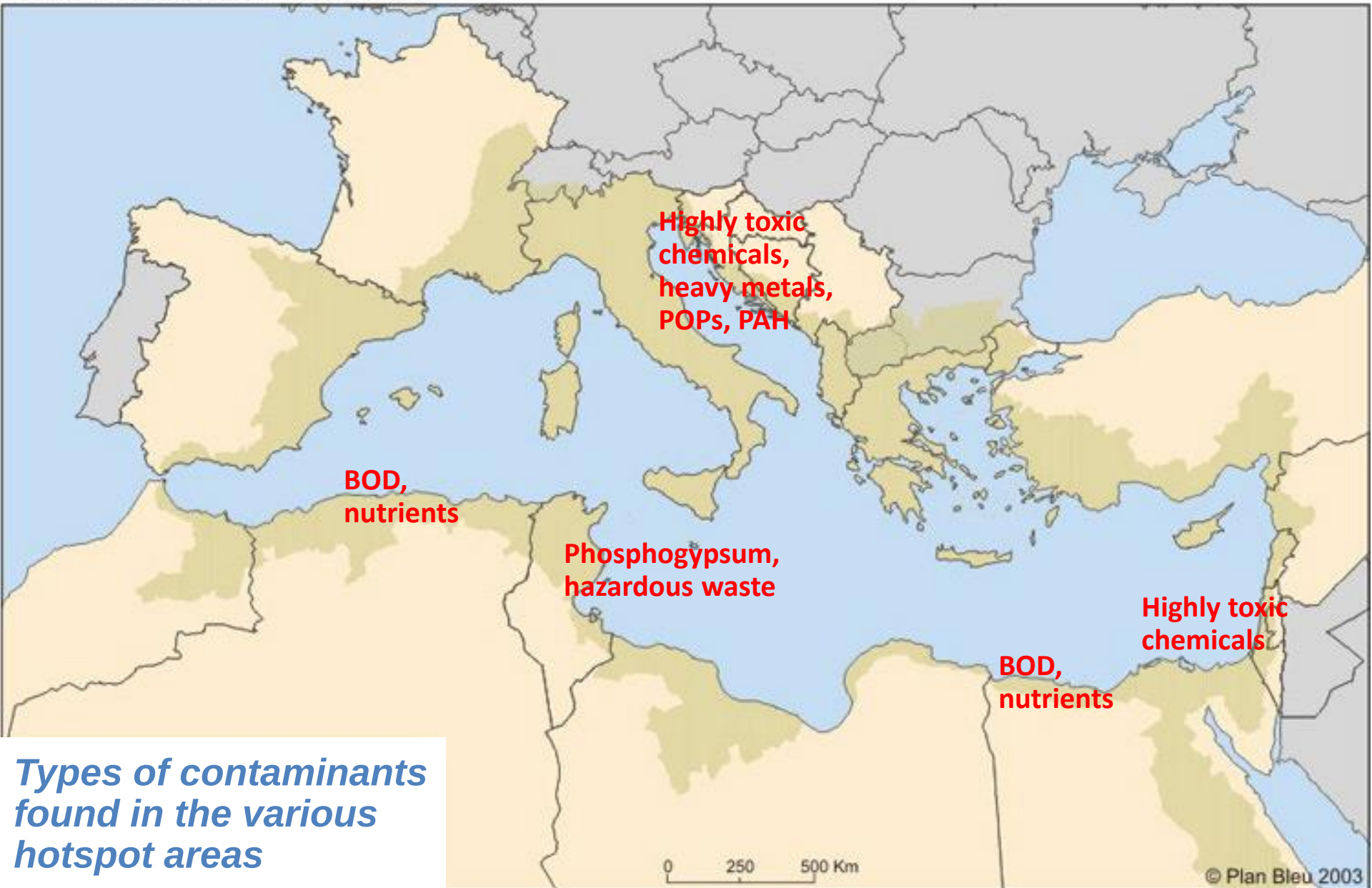
Status of pollution hotspots (2015)

Country	Hot spot	High risk area	Sensitive Area	Principal environmental issues for EO9 (contaminants)	EO9
Albania	2	4	10	Mainly industrial consisting of highly toxic chemicals, heavy metals, POPs	✔
Algeria	7	0	0	Hotspots represent almost 65% of the length of the coastline	✔
Bosnia and Herzegovina	4	0	0	Areas facing population pressure, wastewater pollution, solid waste problems, marine litter	✔
Egypt	3	2	1	Lake Maryut, Abu Qir Bay, Lake Manzala, El-Mex Bay, Lake Burullus and Port Said	✔
Israel	0	3	14	Shafdan WWTP, EIL Factory, Agan Factory	✔
Jordan	1	1	0	Densely populated areas, with no access to Sea	✔
Lebanon	8	14	1	Cities/towns suffering from high outflow of pollutants and marine litter	
Montenegro	1	6	4	Industrial contamination with heavy metals, POPs, PAHs, and hazardous materials	✔
Morocco	0	0	2	Tetouan and Tangier: sensitive areas attributed to the pollution caused by industrial facilities	✔
Palestine	1	4	1	Cities/towns suffering from high outflow of pollutants	✔
Tunisia	1	6	3	Industrial pollution particularly phosphogypsum and other hazardous pollutants	✔
Total	**28**	**40**	**36**		

Number of country projects uploaded in the database of the UfM pollution reduction projects' regional selection tool (2016)



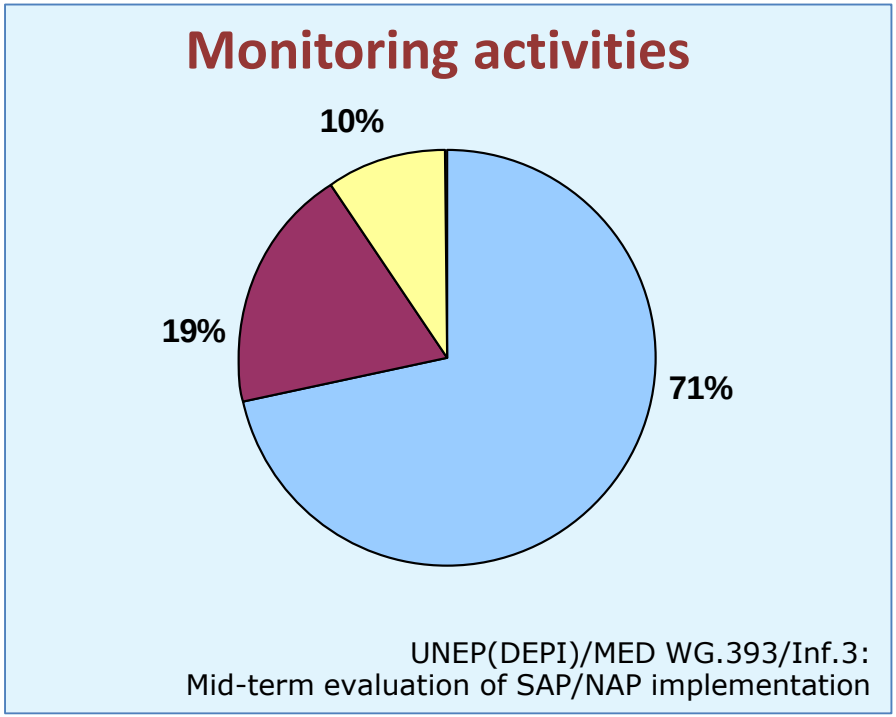
Principal environmental issues in industrial hotspots



Types of contaminants found in the various hotspot areas

Capacities of the current institutional and legal structures in the countries

- Over 85% of national laws support monitoring, permitting, inspection and application of sanctions; however, supporting institutional structures for enforcement of permitting and compliance are only found in 57% to 71% of the countries.
- 71% of southern Mediterranean countries fulfil requirements of monitoring activities to a large extent, compared 19% to some extent, (10% with no evidence).



UNEP(DEPI)/MED WG.393/Inf.3:
Mid-term evaluation of SAP/NAP implementation

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Conclusions (2)

- Operational targets:
  - At least 7 southern and eastern Mediterranean countries and the Balkans targeted:*
    - Reduction of BOD whereby two thirds of countries will meet regional plan deadline (2021).
    - Reduction of discharge of hazardous substances from industrial plants. All countries will meet SAP-MED deadline (2025).

* UNEP(DEPI)/MED WG.393/Inf.3:
Mid-term evaluation of SAP/NAP implementation

Conclusions (2)

- <u>Priority investment measures:</u>
  - At least 7 southern and eastern Mediterranean countries and the Balkans plan to:*
    - Build/ expand/ upgrade IWWTP; 33 project fiches presented in updated NAPs.
    - Build/ expand/ upgrade hazardous waste landfill facilities; 6 project fiches were presented in the updated NAPs.
    - Remediate contaminated industrial sites; 13 project fiches were presented in the updated NAPs.
  - Number of country projects uploaded in the database of the UfM pollution reduction projects' regional selection tool (2016) for under industrial emissions is 91 projects.

* UNEP(DEPI)/MED WG.393/Inf.3:
Mid-term evaluation of SAP/NAP implementation

Conclusions (2)

- Hotspots:*
  - Number of hotspots went down from 120 in 2002 to 28 hotspots and 40 high risk areas in 2015.
  - Principal environmental issues in the updated hotspots (2015) of industrial nature are BOD and nutrients for southern countries; phosphogypsum and hazardous wastes in Tunisia; highly toxic chemicals in Israel, heavy metals, POPs and PAHs in the Balkans.
- Institutional and legal environment:*
  - Over 85% of national laws support monitoring and inspection; however, supporting institutional structures for enforcement of compliance are only found in 57% to 71% of the countries.
  - 71% of southern Mediterranean countries fulfil requirements of monitoring activities to a large extent, compared with 19% to some extent.

* UNEP(DEPI)/MED WG.393/Inf.3:
Mid-term evaluation of SAP/NAP implementation

Phase 3: Formulation of industrial emissions indicators

Survey of existing indicators and results of assessment lead to formulation of industrial emissions indicators which:

1) Distinguish between nutrients and hazardous substances;
2) Address all types of discharges to the marine environment in the three media (industrial solid waste, aqueous effluents and air emissions);
3) Characterized as “pressure/ response” indicators;
4) Complement “state/ impact” indicators of the MAP system;
5) Focus on preventive measures prior to occurrence of pollution;
6) Address contaminated industrial sites requiring mitigation;
7) Address key operational targets and priority investment measures included in the NAPs;
8) Contribute to the development of countries’ capacities to perform data collection and handling; and
9) Help informing about H2020 progress and in framing the post 2020 horizon (investment is part of it, but more strategically all paths toward transition).

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Proposed H2020 industrial emission indicators

No.	Details of indicators	D	P	S	I	R
IND 6-1	BOD amounts discharged to sea from point sources (industrial facilities) and diffuse sources (agriculture and horticulture).		✔			
IND 6-2	Toxic substances amounts discharged to sea from industrial facilities (point sources).		✔			
IND 6-3	Number of industrial plants generating hazardous substances which are upgraded (BAT/BEP) and/or decommissioned in an environmentally sound management.					✔
IND 6-4	The amount of hazardous wastes environmentally soundly managed or exported by categories and by disposal/recovery operation , as well as treated in waste to energy facilities.					✔
IND 6-5	Share of contaminated sites in the coastal area with toxic, persistent and liable to accumulate substances which have been closed/remediated including spills from industrial accidents.					✔
IND 6-6	Share of enforced Emission Limit Values (ELV) to those adopted in national legislation for priority substances impacting the Mediterranean marine environment.					✔

Proposed sub-indicators and participants' requests in the May 2017 workshop

Requests of workshop participants	Proposed indicators
Refine existing H2020 IND 6, splitting it into two: • IND 6. Release of toxic substances from industrial sectors • IND 7. Release of nutrients from industrial sectors	*Two indicators are proposed in this domain:* ✓ BOD amounts discharged to sea from point sources (industrial facilities) and diffuse sources (agriculture and horticulture). ✓ Toxic substances amounts discharged to sea from industrial facilities (point sources).
Use Core NAP indicator 6 as sub-indicator to IND 6: • Number of substances covered by national standards (ELV), for point source discharges into water or air	*Indicator is stated as follows:* ✓ Share of enforced Emission Limit Values (ELV) to those adopted in national legislation for priority substances impacting the Mediterranean marine environment.
Use Core NAP indicator 10 as sub-indicator to the IND 6 or as a new separate indicator (IND 8): • Share of contaminated sites with toxic, persistent and liable to accumulate substances in the coastal area which have been closed/remediated including spills from industrial accidents	*Two indicators are proposed in this domain:* ✓ Share of contaminated sites in the coastal area with toxic, persistent and liable to accumulate substances which have been closed/remediated including spills from industrial accidents. ✓ Number of industrial plants generating hazardous substances which are upgraded (BAT/BEP) and/or decommissioned in an environmentally sound management

Conclusions (3)

- Six core indicators are proposed:
  - Two indicators address discharge of nutrients and toxic substances (pressure indicators).
  - One indicator addresses management aspects of industrial hazardous waste (response indicator).
  - Two indicators address actions taken to remediate contaminated sites and upgrading/decommissioning industrial facilities (i.e. mitigation and prevention) – (response indicators).
  - One indicator deals with the legal and institutional contexts related to ELV adoption in national legislation and enforcement on the ground.
- The indicators reflect the Mediterranean context and are fully substantiated by assessment of SAP-MED/NAP implementation.
- The indicators reflect the status of the hotspots.
- Assessment of findings indicate there may be a need for capacity building on the country level to collect data and carry forward the monitoring programme.

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Thank you

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